



REDUCING RISKS FROM TSUNAMIS: DISASTER AND DEVELOPMENT

On December 26, 2004, a tsunami catalyzed by a series of strong earthquakes (the highest rating 8.9 on the Richter Scale) in the area of the western coast of Northern Sumatra, Andaman Islands and Nicobar Islands, swept over the South and South-East Asia region reaching the shores of East Africa. Within minutes, many lives were lost (confirmed numbers of deaths are now reaching 150,000), populations were displaced, livelihoods, homes and infrastructures were destroyed, and hard-earned development gains were set back decades. As surviving victims obtain access to food aid and water provided by a far-reaching international humanitarian relief effort, many are raising questions: Why did this happen? What could we have done to prevent it? What will the impact be? And what can we do to help countries recover? These are not new questions. Nor are they questions without answers. The key lies in understanding the relationship between disaster and development. While the occurrence of natural phenomena like earthquakes, cyclones, drought, and tsunamis may ultimately be unavoidable, the magnitude of the resulting disaster is directly linked to prior development choices made by governments, local communities, and international actors.

Focusing all our resources on trying to predict the likelihood of another tsunami in the Indian Ocean would be a mistake: not only are tsunamis a rare occurrence but the earthquakes and ocean slides which catalyze them are very difficult to predict. Rather, in addition to investing in early warning systems, a significant portion of our resources should be spent on understanding and seeking to counter the driving process behind the current devastation: an accumulation of disaster risk world-wide. Various dynamics associated with globalization are responsible for this increase in the frequency and magnitude of disaster occurrence. They include: rapid urbanization with impoverished settlements increasingly located in ravines, on steep slopes, along flood plains, on unprotected coastlines, along tectonic fault lines, or near dangerous industrial facilities; environmental degradation caused by harmful agricultural and industrial practices; climate change leading to rising seas, coral reef deterioration; increases in cyclones and droughts; economic trends that are forcing the rural poor to focus on monoculture practices and seek to cultivate marginal land; and violent conflict which has led to the destruction of forests and wetlands, poisoning of the environment, and dislocation of peoples.

While detailed analyses of the risks and vulnerabilities of the eleven countries hit by the December tsunami have yet to be conducted, there are two key factors that appear to have substantially increased the vulnerability of the population across the region: global tourism and the absence of an early warning system at either the regional or, more importantly, local level.

The large hotel chains that hug the coastlines in Asia and elsewhere are part of the problem. In order to provide visiting tourists with beachside rooms, mangrove trees and other vegetation that could protect the sand from erosion and absorb some of the impact of high volume waves have frequently been destroyed. The hotels and tourists become "growth

poles,” attracting locals who find tourist-related employment. Many are poor and are forced to construct makeshift dwellings that provide little protection from natural hazards. The overpopulation of the coastlines, in turn, increases the strain on already vulnerable lands. Thus, when a disaster strikes such an area, it is not only the tourists but also the large local population that makes a living in tourist-related activities that suffer the largest losses.

It is now widely recognized that the adoption of a tsunami early warning system (EWS) in the Indian Ocean like the international tsunami warning system that covers the Pacific Ocean, could have saved thousands of lives if it had been operational. However, a regional system will only work if it is under girded by local warning and emergency response systems that ensure that the warning is received, communicated and acted upon by the potentially affected communities. Without these local measures being in place, a regional EWS will have little impact. While developing regional mechanisms it is also cost effective to focus on the local level to help communities take simple disaster mitigation measures and then put into place a very elementary early warning system consisting of basic communication chains that could ensure that information reached the people. As the example of Samiyarpettai village in Cuddalore district shows, such a strategy is very effective in saving lives. Villagers from Samiyarpettai had received training under a UNDP funded Government of India District Disaster Management and Mitigation Project which included survival skills, the establishment of rescue teams, mock drills, and general disaster awareness training. Only 22 lives were lost in the disaster as compared to a similar neighboring village, Pudukuppam, where death tolls reached 102. Pudukuppam had not been involved in the program.

It is important to underline that the tragedy in Asia is not one disaster but many disasters linked to a single event: the earthquake and consequent aftershocks. This distinction has important implications not only on the analysis of the overall impact on different countries but also on the type of relief and recovery assistance that is needed. In countries like the Maldives, Sri Lanka and Thailand, the nature of the disaster is linked to the consequences of a non-ecologically friendly tourist industry that spurred the over-development of coastal areas; whereas in India, Sumatra, and North-East Sri Lanka it is not over-development but rather under-development with accompanying pockets of inaccessible impoverished local communities that is shaping the character of the disaster.

The likely ramifications of the tsunami on the future development of the affected countries also varies significant, depending among other factors on variations in the size of the economy, the nature of the economy, and the proportion of the land mass affected by the waves. This is obvious when you compare the macroeconomic impact of the tsunami on India with its impact on the Maldives. Even though India experienced much larger death rates than Maldives, the consequences for the country's future national development are likely to be much smaller than the latter. India with its large diversified economy will be able to absorb the damage that affected its coastal areas. In contrast, the waters almost entirely covered the landmass of Maldives, devastating a fragile economy based primarily on fishing and tourism. Unlike India, the Maldives capacity for self- renewal and internal absorption of the damage is virtually nil. Future economic recovery will be heavily dependent on external assistance.

Notwithstanding this insight, assessing damage in terms of macroeconomic impact may not be the best way to analyze the consequences of the disaster. The fact is that across all regions, it was the poor—those least able to help themselves—who suffered disproportionately. Without adequate assistance in recovery (be it from the affected countries' governments or from external donors) regional disparities and inequities will be exacerbated and poverty will be deepened.

What external assistance is given and how it is given is equally important to how much assistance is given. While humanitarian relief is of utmost importance in the immediate aftermath of this disaster, it is essential that adequate attention and assistance be given to the reconstruction and recovery effort as soon as possible. The first challenge is to help local populations get back on their feet by providing them with a means of immediate livelihood. This means providing immediate assistance that helps local populations and national governments help themselves: encouraging local participation in the planning of recovery efforts, using local materials for reconstruction, engaging the local workforce in the reconstruction effort, and providing equipment, training and micro-credit for kick-starting local industries, farming, fishing and small businesses. Waiting six months for large inter-governmental processes to provide loans and comprehensive national recovery plans before starting any recovery activities would not be the right approach. Nor is it advisable to rely on international contractors to do the work as this deprives the local population of needed employment. Similarly, importing expensive materials from abroad when local materials for reconstruction are available is not good development policy.

The second challenge is to make sure that risk management is made an integral component of any recovery strategy that is adopted by national governments. Adopting strategies that are not limited to addressing the threat of a tsunami but are designed to deal with a variety of regional hazards including cyclones and floods will be essential. As the experiences of the effectiveness of the local early warning system in La Masica (Honduras), the implementation of the Bangladesh Cyclone preparedness plan, and the experiences of Cuba in disaster preparedness and evacuation planning have recently shown—these measures work.

The third challenge is to reorient how development is done: serious decisions must be made on how to reduce risk to acceptable levels. These decisions must then be reflected in the reconstruction and recovery strategies that are adopted. Some of the risk reduction measures that can be taken include: carefully planning land-use based on local assessments of risks and vulnerabilities, adopting changes in how tourist infrastructures are sited, and implementing environmental protection measures and appropriate building standards.

As the experiences of the last two centuries have shown, development and the choices that are made about how development should proceed are integrally tied to the degree to which disasters are successfully prevented and/or mitigated. If global progress is not achieved in reaching the development goals identified in the Millennium Declaration and confirmed in the Monterrey Consensus, all the vulnerabilities associated with poverty will continue to accentuate the impact of disasters world-wide, leading to a steady increase in the accumulation of risk over time. At the same time, however, progress in development will not guarantee a reduction in disaster unless disaster reduction measures are integrated into development strategies. Without this important change in policy and behavior, development gains that have been achieved will be wiped out—as they have been in many parts of Asia and Africa affected by the most recent tsunami.