



# Disasters and Bank Strategy

*Vulnerability to disasters is “largely dependent on development practices that do not take into account susceptibility to natural hazards.”<sup>1</sup>*

Data available to the Bank on natural disasters have historically been vague and fragmented, constrained by a shortage of reliable sources in some countries, a relatively short history of data collection, and inconsistent methodologies.

Reports typically presented a static view of disasters, focusing on the number of people killed and affected and on estimated disaster damage. Disaster was rarely considered an ongoing development challenge. The lack of information, together with the perception that disasters are random and unpredictable, limited the Bank’s strategic planning for them. Hence, the Bank had no overall strategy for disasters. But if disasters are predictable, then planning for them should be a normal part of development work.

## Predictability of Disasters

The preceding chapter showed that some Bank borrowers frequently confront disasters brought on by natural events. Two recently completed studies on natural disaster risks confirm this pattern and dispel much of the uncertainty and unpredictability surrounding such events. An understanding of the main messages of these reports can broaden and deepen the understanding of the Bank and borrowers, and together with the results of this review, culminate in a significant shift in strategic thinking regarding recurrent natural disasters.

In February 2004, the United Nations Development Program (UNDP) report *Reducing Disaster Risk: A Challenge for Development* described

the global trends in exposure, risk, and vulnerability to natural disasters. From an international development perspective, the report was significant for two reasons. First, it featured a disaster risk index (DRI), which measured and compared physical exposure levels to four natural hazard types,<sup>2</sup> vulnerability, and risk among some 200 countries. Second, the report identified signs of vulnerability associated with development activities under way that could lead to higher disaster risk.<sup>3</sup> The statistical approach of the report allowed the UNDP to draw comparisons between a particular country’s vulnerabilities and the different natural hazards.

*Natural Disaster Hotspots: A Global Risk Analysis* (World Bank 2005) identified countries prone to experiencing a high frequency of natural disasters according to single or multiple disaster variables. The

*The exposure, risk, and vulnerability of countries to natural disasters are known.*

*Disasters frequently recur in the same countries.*

ProVention study on which it was based presented a set of data on the risks of mortality and economic losses associated with six major natural disaster types<sup>4</sup> and determined the prevalence of natural disasters using a common geospatial unit of reference in all countries. In addition, the report ranked countries in terms of highest risk potential in order to influence risk mitigation investments and to better inform the Bank on how to manage its future emergency lending. The remainder of this chapter incorporates the analysis detailed in the *Natural Disaster Hotspots* report.

Both studies identify areas likely to be affected by severe events and then determine where disastrous impacts are likely to occur because of the risks attached to the density of human occupation. At some point in any analysis of vulnerability, the event needs to be uncoupled from human actions, at least until risks are understood as distinct from being inherent in the event itself. Such thinking should be the foundation for any strategic approach to disaster assistance.

### Planning Implications for the World Bank

A significant number of the Bank's disaster loans and credits can be characterized as ad hoc responses to what all involved parties considered unforeseeable acts of nature. Yet it is only necessary to look at which countries have borrowed the most for disasters in the past (table 2.2) to know with considerable certainty which ones will borrow the most in the future.

Most natural disasters are *foreseeable* to the extent that it is possible to predict generally where an event is likely to occur at some time in the near future (but not precisely when or its magnitude). It is also possible to know the fragility of the built environment and the likelihood that the siting of a given human settlement will expose it to potentially destructive natural events. Therefore, disasters should be anticipated as more predictable events, with human and financial risks calculated in advance, and Bank

*Reallocations are highly concentrated in the most vulnerable countries.* policy and practices need to provide a supportive framework for such an approach.<sup>5</sup>

In terms of strategic thinking and policy formulation, the Bank can go beyond acknowledging the general existence of natural disasters and identify with relative precision the geographic “hotspots”—the countries most vulnerable to natural disasters—anticipate the foreseeable human and economic risks, and then encourage borrowing targeted at reducing risks, in line with these calculations, ahead of the disaster event.

Based on the list of hotspot countries in *Natural Disaster Hotspots*, 50 of the Bank's borrowers are at relatively high risk from two or more hazards; 47 of these actually borrowed during the period analyzed. Though these countries received 46 percent of all Bank lending projects, they accounted for 56 percent of the natural disaster projects and 62 percent of the reallocated project loans.

The countries that experience extreme events with the greatest frequency, therefore, also experience the most interruptions to non-disaster lending, which can increase the impact of disaster and impede their overall development (box 3.1). Because many reallocations occur in these countries, it also suggests that neither the Bank nor its borrowers are planning sufficiently for potential disasters in the places they are most likely to occur. This is borne out by analysis of disaster planning in the two main strategy documents used by the Bank and its borrowers: Country Assistance Strategies (CASs) and Poverty Reduction Strategy Papers (PRSPs).

### Disaster Planning in Poverty Reduction Strategies

The PRSP is a product of borrowing country governments that is intended to improve the poverty impact of external partner lending and the effectiveness of technical advice. Given the effect major and recurrent disasters can have on the life of the poor, disaster mitigation and prevention might be expected to be featured in these documents, especially in highly vulnerable countries.

Instead, of the 59 PRSPs<sup>6</sup> prepared to date, only 9 have incorporated aspects of hazard risk management.<sup>7</sup> Of those 9, only 3—Honduras, Nicaragua, and Vietnam—are highly vulnerable

**Box 3.1: Disaster Damage Undermines Development Progress**

Two examples illustrate the enormous brake that disasters place on economic development and how easily hard-won gains can be lost.

The World Bank has been helping Honduras to build its highway system since 1955, when it was estimated that it had 2,500 kilometers of roads. In the course of seven transportation projects (totaling \$120 million in commitments) between 1958 and the mid-1990s, the Bank financed construction of 1,270 kilometers of highways and feeder roads. By the time Hurricane Mitch hit in 1998, there

were approximately 10,000 kilometers of roads in the country. The hurricane destroyed 6,000 kilometers of the better roads—almost five times what the Bank had helped to build. In addition, more than 163 bridges were damaged or destroyed. Estimates of the damage to roads from the hurricane were on the order of \$454 million.

Disasters have also taken a development toll in Mozambique. Bank lending financed the construction of 487 schools. Just the most recent disaster, the floods of 2000, damaged or destroyed about 500 primary schools as well as 7 secondary schools.

countries (see Appendix E, table E.2a). This suggests that not only is hazard risk management rarely addressed in PRSPs, but that the PRSPs that do address it tend not to be in countries with a relatively high economic risk from multiple hazards.

### Disaster Planning in Country Assistance Strategies

Since the CAS is a planning document, evidence that the country and Bank have given some thought to disaster prevention might also be expected in that strategy. Often, however, natural disasters get no attention in the CASs. Of current CASs for countries that have already received Bank support for work related to natural disasters, 44 percent did not mention natural disasters (table 3.1). Even in the 40 countries that have had 4 or more disaster projects, one-third of the CASs did not mention disaster. And, for the subset of countries that

had an extensive history with disasters (more than 8), about a third did

not mention disasters at all. Moreover, CASs for countries that are prone to repeated disasters of the same type do not include those disasters in their planning (box 3.2) (IEG 2005d).

All CAS documents contain a one-page matrix titled “CAS Summary of Development Priorities” that lists country and Bank priorities. Priorities are rated as high, moderate, or low, and the main issues are identified. The CASs for three countries—Bangladesh, India, and Mozambique—flag natural disasters in the Development Priorities Matrix. For these three countries, both the Bank and the country rated it as a high priority. In addition, the Turkey CAS includes natural disasters among its major issues, though it does not flag it separately in the priorities matrix.

*Few countries anticipate disasters in their PRSPs.*

*Few CASs consider the possibility of disruptions from natural disasters.*

**Table 3.1: Many CASs That Should Discuss Natural Disasters Do Not**

Number of disaster projects in a country	Number of countries with this count	Number of their CASs with no discussion of disasters	Percent
More than 8 disaster projects	16	5	31
4 to 7 disaster projects	24	8	33
2 to 3 disaster projects	33	15	45
1 disaster project	24	15	62
<b>Total</b>	<b>97</b>	<b>43</b>	<b>44</b>

Source: IEG data.

### Box 3.2: To What Extent Do CASs Develop Disaster-Specific Strategies Appropriate to Prevailing Hazards?

Of the 43 countries that have received Bank financing for flooding, only 4 CASs mentioned either the development of an early warning system or land use planning. Only three mentioned development of a disaster-appropriate legal framework.

Of the 13 countries with earthquake projects, only 3 CASs mentioned seismic strengthening of critical facilities such as hospitals, schools, and the like. In El Salvador, for example, seismic-resistant design and the reconstruction of 594 destroyed or severely damaged schools was envisaged in the CAS.

Of the 27 countries affected by drought, 8 of the CASs mentioned food security or removing drought-related impediments to growth in agriculture. Strengthening the safety net was discussed in seven. Targeting of interventions for orphans and vulnerable persons was addressed in four CASs, and one CAS mentioned creation of off-farm income opportunities.

Source: IEG data.

*Borrowers can and should be classified by their disaster vulnerability.*

Bank support for disaster work clearly reflects the importance of including this topic in strategy documents. IEG research also found that

including disaster in the CAS affected its inclusion in projects prepared under the CAS. The average number of Bank-supported projects for highly

*Specific, differentiated plans of action can be developed within projects for the more vulnerable groups and regions.*

vulnerable countries that mention disaster in their CAS is 7.9. In contrast, the average number for the highly vulnerable countries that do not mention disasters in their

CASs is only 2.4. Not taking disaster into account in the CAS has an opportunity cost in that it may lead to significant under-investment in risk management and prevention.

### *Categorizing Borrowers According to Disaster Risk—An Illustrative Approach*

When formulating country lending programs, the Bank needs to elevate the importance of disasters, especially for highly vulnerable countries. To do this efficiently, borrowing countries would have to be divided into categories according to their disaster risk levels.<sup>8</sup>

Using the list of hotspot countries in the *Natural Disaster Hotspots* study as a starting point, 35 countries have a high vulnerability, because 50 percent or more of their GDP is classed as being at risk from natural disasters in the report. Fifteen countries have a medium vulnerability to natural disasters because natural disasters could place between 30 and 50 percent of their GDP at risk. The remaining borrowing countries have been classed as having a low vulnerability level, because natural disasters are a relatively small risk.

Based on a working hypothesis of a country's level of vulnerability—and subsequent events can and will change understanding and improve the accuracy of any categorization scheme—the Bank needs to develop and adopt specific plans of action. For example, countries of all vulnerability levels would consider disaster risks systematically along with their consideration of macroeconomic and other threats in the risks identification section of relevant Bank documents.

For countries with medium and high vulnerability levels, both disaster-related and regular lending for infrastructure, technical assistance,

**Table 3.2: Natural Disaster Risk Can Be Mainstreamed in the Bank's Lending**

Vulnerability level	Disaster-contingent line of credit in CAS lending program	Bank loans to incorporate disaster-resilient designs and/or environmental restoration	Bank documents to consider disaster risks
High (>50% of GDP)	X	X	X
Medium (30–50% of GDP)		X	X
Low (<30% of GDP)			X

and institutional development would include disaster preparedness and mitigation. Projects financed by the Bank would incorporate disaster-resilient design considerations into infrastructure and housing activities, in the regions of each country most at risk, and nationwide when appropriate.

For highly vulnerable countries, the Bank

would emphasize disaster preparedness and mitigation in each country's CAS and set aside a certain portion of the CAS lending program for a disaster contingency. If the designated amount was not used for emergency-related activities during a particular CAS period, it would be rolled over into the new CAS lending program, rather than disappearing.