By Kristin Sterling

The problem of reducing vulnerability and risk is a worldwide one, but the strategies to do so vary widely by region and country wealth class.

The researchers categorized regions by their level of exposure, or vulnerability, to multiple hazards. Vulnerability was estimated from hazard-specific mortality and economic loss rates for World Bank regions and country wealth classes over the previous 20 years of historical data.

According to Maryvonne Plessis-Fraissard, director of the World Bank Trans- portation and Urban Development Department, "This research project is a key recommendation to the international poverty-reduction agenda, as part of any development strategy, especially for developing countries with a strong slums issue, it is hard to find reliable data on these settlements. That is, they survive on monthly expenditures of less than $37 in Nairobi and $51 in Dakar.

Despite the concern with the slums issue, it is hard to find reliable data on these settlements. There are few statistically representative studies in infrastructure and service delivery in the low-income urban informal settlements in parts of the cities that generally provide access to physical and social infrastructure, but economic opportunities and, in some cases, high levels of crime.

In order to demonstrate how to reduce vulnerability and risk in areas that are prone to multiple hazards—such as storm surges, landslides and drought—the project undertook case studies in Sri Lanka, the Philippines, Kenya and Caracas, Venezuela. The Caracas case study demonstrated how the vulnerability of urban areas can be reduced by incorporating locally appropriate, risk-sensitive strategies into urban development planning.

The report was a joint effort of the United Nations World Bank, the World Bank, the United Nations Center for International Earth Science Information Network (CIESIN), the United Nations Development Programme (UNDP) and the ProVention Consortium, as well as the U.S. Agency for International Development.

For more information on the report, go to www.earth.columbia.edu/2005/03-29/05.html.

Key Findings of the Global Risk Analysis

- Approximately 20 percent of the Earth's land surface is exposed to at least one of the natural hazards evaluated.
- 160 countries have more than one-quarter of their population in areas of high mortality risk from any one of these hazards.
- More than 90 countries have more than 10 percent of their population in areas of high mortality risk from two or more hazards.
- In 35 countries, more than one in 20 residents live at relatively high mortality risk from three or more hazards.
- More than one-third of the United States' population lives in hazard-prone areas, but only one percent of its land area ranks in the highest disaster-related mortality risk category.
- Urban areas are the places most vulnerable to natural hazards, with 73 percent of its land and population exposed to three or more hazards.
- More than 90 percent of the populations of Bangladesh, Nepal, Dominican Republic, Burundi, Haiti, Taiwan, Malawi, El Salvador and Honduras live in areas at high relative risk of death from two or more hazards.
- Poorer countries in the developing world are more likely to have difficulty absorbing repeated disaster-related losses and costs associated with disaster relief, recovery and rehabilitation.

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Top Three Deciles at Risk from:

- Drought Only
- Geophysical Only
- Hydro Only
- Drought and Hydro
- Geophysical and Hydro
- Drought, Hydro and Geophysical

Global Distribution of Highest Risk Disaster Hotspots by Hazard Type

Total Economic Loss Risks

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