

On the Need to Increase the Resilience of the Dominican Republic Towards Earthquakes.

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The Dominican Republic has no choice but to increase its resilience towards earthquakes. 34% of its GDP is threatened by seismic risk. The most vulnerable areas concentrate in a few urban centers and coastal areas.

Located in the same trajectory of hurricanes and sitting on the tectonic plate of the Caribbean, the Dominican Republic belongs to one of the riskiest regions in the world.

President Leonel Fernández, after responding promptly to the Haitian earthquake of 12th January 2010, requested an evaluation of the readiness of the Dominican Republic for dealing with seismic risk. Prof. Jeffrey Sachs duly obliged and as a result this report has been prepared by a team of experts from Columbia University's Earth Institute.

For about one year, starting in March 2010, the team worked in coordination with the Permanent Mission of the Dominican Republic to the United Nations in New York, where I served as Permanent Representative between May 2009 and July 2011.

Funding, air and land transport as well as logistical facilities were provided by the Ministry of Public Works. Meetings with government and civil society experts took place over three missions for field research between April and August 2010, with two more visits for a seminar later that month as well as for a presentation of the first draft of this report to President Fernández in the National Palace in May 2011, with the presence of Public Works Minister Víctor Díaz Rúa.

The question posed by President Fernández to the team of experts through the Permanent Mission was this: is the Dominican Republic ready to face an earthquake such as the devastating one that hit Haiti? If not, what are the pending tasks ahead to improve its readiness in such a way as to increase its resilience?

Available data, field research and consultations with Dominican and international experts confirm the institutional, legal and technical steps already taken by the Dominican Republic to implement the Hyogo Framework on Disaster Risk Reduction since 2005.

An institutional coordination mechanism exists in the National Council on Disaster Prevention, Mitigation and Response and its subsidiary bodies (ISDR, 2010). Legal mandates exist in the form of Law 147-02 on risk management and its supporting guidelines. By the time this report was presented in draft form to President Fernández, a new building code had been adopted by the Ministry of Public Works.

New offices had been established in the Santiago City Council to deal with seismic risk and to assist in setting up new zoning regulations that would steer new constructions away from the riskiest—albeit still the most coveted—neighborhoods of Santiago.

More important for the long term has been the incorporation of the objective of reduced vulnerability to natural disasters into the National Development Strategy presented for adoption by law to the Dominican Congress, which embodies the consensus policies to be pursued until 2030 (MEPyD, 2011).

Urgent: Cultural Change.

Haiti was hit by a magnitude 7.2 earthquake in the Richter scale. More than 240 thousand Haitians perished during and after this tragic event. Moreover, this poorest of Latin American and Caribbean countries had to endure economic losses amounting to about 120% of GDP, the almost complete destruction of its governance structures and a severe dislocation of its capacity to function as a society.

Barely a few weeks after the Haitian earthquake, however, both Chile and New Zealand were hit by earthquakes of even greater intensity without experiencing any of the effects observed in Haiti.

If the existing Dominican institutions and the policies in place are consistent with the provisions of the Hyogo Framework, what in the findings by the Columbia experts as presented in this report will guide Dominican policy-makers towards ensuring that future earthquakes would result in outcomes such as those observed in Chile and New Zealand?

The evidence examined by the Columbia experts indicates that Dominican institutions and human resources have been effective in *responding* to natural disasters in general and to earthquakes in particular.

But damage to public and private infrastructure as well as to productive activities; and loss of human lives can be further minimized at much lower cost if *prevention and mitigation strategies* were to be adopted on a decentralized basis in the cities and coastal areas that concentrate most of the risk: Santo Domingo, the capital city; Santiago, the largest city in the Northern Cibao region, where most of the foodstuffs are produced; the Northern coast of Puerto Plata and Samaná; and the Eastern coast of La Altagracia.

Decentralizing prevention and mitigation requires clear strategies by sectoral ministries dealing with the education, health, irrigation/hydropower and transportation infrastructure, such that both human and physical resources under their supervision are able to withstand the impact of the earthquakes to come.

Moreover, the urban nature of the vulnerability requires that the steps taken already by the Santiago City Council be replicated in Santo Domingo and in the cities located in the major fault lines, such as Puerto Plata, San Francisco de Macorís, Moca and La Vega.

And since the historical record demonstrates that tsunamis have hit Dominican shores several times since colonial days, the Tourism Ministry needs to work with coastal communities where the hotel infrastructure is located to ensure that adequate procedures are in place for advance warning and evacuation.

Decentralizing prevention and mitigation requires, however, even stronger mechanisms for coordination between all relevant institutions, businesses and civil society experts.

Information channels need to be set up, relaying data from existing and new sensors located in the key fault lines.

Clear procedures need to be set up for informing the public and the international community.

And the sectoral strategies to be developed need to be mutually consistent, such that they become a part of an integrated whole.

Now that the Economic Development Strategy includes disaster risk reduction among its cross-cutting objectives, it is to be hoped that the cultural change from disaster response will be made, so that all Dominicans, in the public and private sectors, in academia, schools and hospitals, in their houses and their jobs, will know what to do next time an earthquake hits.

Because preventing and mitigating its effects will always be more affordable if loss of life is avoided and economic costs are minimized (World Bank/United Nations, 2011).

So that living standards, exceeding an average yearly growth rate of 6% since 1991, should continue to increase and the efforts at overcoming our inherited patterns of income inequality are able to bear the desired results.

So that progress made in complying with Millennium Development Goals won't be reverted (UNDP, 2010).

And so that our more coordinated efforts become part of the emerging regional approach to disaster prevention, with a priority for building stronger linkages with our Haitian neighbors.

Cultural change is usually slow. Disasters, however, don't wait. Especially earthquakes arising from tensions accumulated over several centuries.

If the evidence presented in this study by the Columbia experts proves to be as accurate as it was for Haiti, we must all heed President Fernandez's concerns with the safety of all Dominicans by following up on this report. Because there has never been more public awareness about these issues, as can be verified just by glancing at the widespread reactions to the earthquake of 5.2 degrees in the Richter scale in San Juan de la Maguana, Dominican Republic, this past 5 January 2012.

References

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