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# Political Calculus in the Engagement with a Disaster Risk Reduction Agenda: The Case of the Post-2010 Earthquake and Tsunami in Chile

Gabriela Hoberman

*Florida International University*, [ghoberman@gmail.com](mailto:ghoberman@gmail.com)

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# **Political Calculus in the Engagement with a Disaster Risk Reduction Agenda:**

## **The Case of the Post-2010 Earthquake and Tsunami in Chile**

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Gabriela Hoberman, Ph.D.  
Disaster Risk Reduction Program  
Florida International University

Local and national governments face important challenges when deciding to implement disaster risk reduction (DRR) strategies in political and economic agendas. These constraints often include problematic flows of information and knowledge management, deficiencies in decision-making processes and a systemic lack of enforcement. Such conditions result in severe short and long-term implications for local and national authorities. This situation leads to a principal QR research question: Why do so few governments at any level engage in effective disaster risk reduction policies and programs? The current paper examines the situation following the Chilean earthquake and tsunami of February 2010, analyzing the impact of the event in engaging local and national authorities in a DRR agenda. The methodology for this research includes a collection of electronic media news on disaster risk reduction efforts carried by officeholders, following the February 27, 2010, event. Data will be gathered with a careful understanding of the ideological spread of media in Chile, gathering information from the main left, center, and right media outlets available. To complement this analysis, content analysis will be used to examine behavioral constraints, drivers, and incentives in order to explain why it is still challenging for officeholders to implement a DRR agenda for a post-disaster environment. This research is significant for both theoretical and practical reasons. First, it proposes a framework to examine and analyze the political and economic contexts; within the specific realities of disaster risk reduction. Second, it advances efforts to develop practical frameworks in the area of disaster research by looking at drivers and constraints for the successful development, implementation, and enforcement of a DRR agenda. Finally, if we consider that disaster risk reduction strategies are critical for reducing levels of vulnerability and risk – focusing on susceptibility, exposure, and resilience—, engaging in a DRR agenda should become an unquestionable goal.

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## Introduction

It has been widely acknowledged that disaster events pose significant challenges to all levels of government, including local, state and national levels. Such decisions have significant implications for decision making processes; as a result, they become overtly “political.”

The political dimension of disasters has been broadly acknowledged by the literature on disasters (Cohen and Werker 2008; Olson 2000; Blaikie et al. 1994; Albala-Bertrand 1993; Cuny 1983). Utilizing a political-economy model to examine disaster prevention, Cohen and Werker (2008) noted that “natural disasters occur in a political space.”<sup>1</sup> As such, the decision to engage in a DRR agenda appears to have the necessary incentives to carry out the relevant strategies in the aftermath of a disaster event. Yet, very few governments engage in a sustainable and effective disaster risk reduction strategy. It appears that government officials have scant incentives and few rewards with regard to public perception to warrant a sustainable commitment to a comprehensive DRR agenda. This assumption appears to hold true for both “catastrophic” events (e.g. Haiti’s earthquake) and “disaster events” (e.g., the earthquake and tsunami in Chile in 2010).

Some answers to this shortcoming have been focused on stakeholders’ inability at the local, national, and international levels to convince government officials of the benefits of moving more to preparation and mitigation efforts to better overcome the effects of natural disasters. Other possible answers to this conundrum involve the need to shift our target for action, with more active participation of both the private sector and non-governmental organizations in DRR strategies. This study advocates for a broader understanding of disaster

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<sup>1</sup> Charles Cohen and Eric D. Werker, “The Political Economy of “Natural” Disasters,” *Journal of Conflict Resolution*, 52, no.6, December (2008), 795.

research, embracing a political economy framework, to analyze specific constraints and drivers of disaster risk reduction efforts as well as oversight and enforcement mechanisms.

The paper focuses on the aftermath of the disaster event and reconstruction efforts of the Piñera administration with an emphasis on drivers, constraints, and incentives to embrace a DRR agenda and improve resilience in affected communities.

### **Background about the Event**

Chile was struck with a devastating 8.8 magnitude (Mw) earthquake and tsunami at 3.34 a.m. on February 27, 2010. The earthquake was the second strongest earthquake to ever hit the country,<sup>2</sup> and ranked among the top five worldwide events in terms of intensity.<sup>3</sup> The epicenter was just off the coast of the Maule region, approximately 115 kilometers north-northeast of Concepción, Chile's second largest city.<sup>4</sup> This destructive event, affected Talcahuano, Arauco, Lota, Chiguayante, San Antonio and Cañete.<sup>5</sup> In addition, an international alert was activated through the tsunami alert that involved 53 countries in the Pacific basin.

The devastation in Chile was discussed in the National Reconstruction Program in Housing in the Ministry of Housing and Urbanism (Government of Chile) report entitled "*Chile Unido Reconstruye Mejor*," which described the extent and magnitude of the disaster event; Five cities with more than 100,000 inhabitants, 45 cities of more than 5,000 inhabitants, and

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<sup>2</sup> The strongest earthquake ever registered corresponds to the 1960 Valdivia earthquake, also in Chile.

<sup>3</sup> Comisión Económica para América Latina (CEPAL). (2010). "Recomendaciones para una Estrategia de Reconstrucción y Recuperación del Terremoto de Chile del 27 de febrero de 2010," *United Nations*, May 17, 2010,

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<sup>4</sup> Ibid

<sup>5</sup> Ibid, 5-6

more than 900 rural and coastal communities were affected, with 90% of the destruction affecting “adobe-constructed” houses.<sup>6</sup>

In the aftermath of the event, the national communication network ultimately collapsed, resulting in the exacerbation of the failure to coordinate the emergency response by national technical agencies and a deficient governmental response that set the pace for social unrest, which ultimately had to be controlled by the national armed forces.

The disaster featured a historical political transition that shifted from the long-time governing party “*the Concertación*” to a marked economic-driven agenda promoted by incoming president Piñera. President Piñera was elected president as the head of the “*Coalition for Change*,” which united the center-right of the political spectrum in Chile. Piñera built his campaign to deal with the two major issues in the country: inequality and job creation. Yet, his agenda shifted inevitably to an urgent reconstruction effort after the massive disaster event that struck the country just days before his inauguration.

## **Methodology**

The research question driving this study is: Why do so few governments at any level engage in effective disaster risk reduction policies and programs? This paper analyzes the impact of the studied event in engaging local and national government officials in a DRR agenda and examines why it is still challenging for officeholders to implement and enforce a DRR agenda in the aftermath of a disaster.

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<sup>6</sup> Government of Chile, Ministerio de Vivienda y Urbanismo, “*Chile Unido Reconstruye Mejor*,” Plan de Reconstrucción MINVU, [http://www.minvu.cl/opensite\\_20111122105648.aspx](http://www.minvu.cl/opensite_20111122105648.aspx) (accessed on February 15th, 2012)

This study utilizes a collection of print media from a diverse ideological spectrum that discussed the impacts and results of the earthquake and tsunami during the reconstruction process. Content analysis was utilized to determine the introduction of DRR efforts beyond immediate reconstruction and retrofitting to include a more comprehensive agenda deeply involved in a political economy approach, to understand and examine disaster events and deal with the incredible accumulation of disaster risk stemming from not only natural hazards, but also societies.

Collected data included but were not limited to information from two of the major newspapers in Chile: *El Mercurio* and *La Tercera*, as well as other media sources. Content analysis was used to examine and analyze the data, supplemented by national and international institutional and technical reports on the reconstruction phase.

### **Response Bias and Coordination Deficiencies**

Today, two years after the event, the Chilean earthquake and tsunami of 2010 was undoubtedly a devastating event. The 8.8 Mw earthquake and ensuing tsunami affected a range of 700 kilometers, with the regions of O'Higgins (VI), Maule (VII), and Bío-Bío (VIII) being the most affected.

Hence, the Piñera's administration, - in every effort to detach from the chaotic response that marked the disaster event around the tsunami alert and mainly the misunderstandings

between ONEMI<sup>7</sup> and SHOA<sup>8</sup> and the government's ensuing response (or lack of response)-, framed his government as the "government of the reconstruction."<sup>9</sup>

During the event and its immediate aftermath, Bachelet's administration encountered many challenges and critiques, especially with regard to the delay in the government's initial response to the disaster event (both the earthquake and tsunami). In particular, controversy emerged about the lack of coordination between emergency response agencies and the reluctance to promptly allow the armed forces on the ground to control the situation. Members of Parliament also criticized the lack of effective national emergency plans, and pointed out serious deficiencies in inter-agency communication.

The two institutions that shouldered the burden of criticism regarding the failures related to the tsunami alert were ONEMI and SHOA.<sup>10</sup> According to the Attorney General's office, no tsunami warning was issued in time to evacuate the affected areas. In addition, an alert that was subsequently issued was later deactivated and only re-activated when it was too late.<sup>11</sup>

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<sup>7</sup> The National Emergency Office of the Ministry of Interior and Public Security is the technical agency of the Chilean state in charge of coordinating the National System of Civil Protection.

<sup>8</sup> The SHOA is the Chilean Navy Hydrographic and Oceanographic Service.

<sup>9</sup> Daniel Estrada, "Piñera ante el desafío de reconstruir," IPS, <http://ipsnoticias.net/nota.asp?idnews=94867> (accessed on December 11, 2011)

<sup>10</sup> The critique mainly focused on how the tsunami alarm given by the PTWC center in Hawaii (3.48 a.m.) was disregarded by Chilean technical agencies; therefore, many lives were lost to the tsunami as people did not evacuate. See Paula Escobar Chavarría, "Two Years After 8.8 Earthquake in Chile: Lessons from a Disaster," Huffington Post, Latino Politics, February 27, 2012, [http://www.huffingtonpost.com/paula-escobar-chavarría/the-golden-era-of-mestizo\\_b\\_1277014.html](http://www.huffingtonpost.com/paula-escobar-chavarría/the-golden-era-of-mestizo_b_1277014.html), (accessed on February 27, 2012)

<sup>11</sup> Denis McClean, "Chile Still Living with Quake Effects," *United Nations International Strategy for Disaster Reduction* (UNISDR), February 27, 2012, <http://www.unisdr.org/archive/25366> (accessed on March 1, 2012)

The lack of inter-agency coordination and communication ultimately led to the replacement of ONEMI's director, Carmen Fernández, and the destitution of SHOA's chief as well as the restructuring of its agency.

Two years after the disaster event, prosecutor Solange Huerta continues to investigate, the negligence of government agencies (i.e. ONEMI and SHOA), and nine authorities will have to appear before the judicial system in 2012.<sup>12</sup>

After the event, newspapers such as *El Mercurio* highlighted the structural failures of the Chilean state, such as the collapse of most of the country's communication systems, lack of civil—military coordination, and delays in providing urgent assistance to affected communities. The event highlighted a series of misunderstandings between president Bachelet and the military officers in the immediate aftermath that is hard to overlook. The main critique was oriented at the lack of preventive and mitigation measures as well as a surprising delay in reaction by government authorities. One of the hypotheses raised at that time, asserted that the declaration of a state of catastrophe would hurt the image of outgoing president Bachelet. Others included that the government resisted granting the military the operative control of the impacted communities to avoid political costs in the final days of the Bachelet administration.

Following the initial lack of inter-agency coordination in the aftermath of the event, a much broader discussion included the lack of experts and necessary equipment to engage in sustainable seismic awareness in Chile. The discussion revolved around the insufficient enforcement of the structural and seismic norms. In this regard, it is worth noting that nine

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<sup>12</sup> Paula Escobar Chavarría, "Two Years After 8.8 Earthquake in Chile: Lessons from a Disaster," Huffington Post, Latino Politics, February 27, 2012, [http://www.huffingtonpost.com/paula-escobar-chavarría/the-golden-era-of-mestizo\\_b\\_1277014.html](http://www.huffingtonpost.com/paula-escobar-chavarría/the-golden-era-of-mestizo_b_1277014.html), (accessed on February 27, 2012)

studies since 1999 have noted the need to follow a careful land use planning along with enforcement measures and oversight of construction practices in an unstable soil.<sup>13</sup>

LAPOP's<sup>14</sup> study of the post-2010 earthquake and tsunami environment in Chile, as part of the study "Cultura Política de la Democracia en Chile, 2010," found that the bulk of political responsibility for the response in the aftermath of the event fell to political and institutional actors.<sup>15</sup> However, all kinds of discrepancies arose between different government agencies (e.g. Moneda, ONEMI, Ministry of Interior); in addition, officials sought to treat both the earthquake and tsunami as a single event in regard to the victims.

ONEMI, a unit within the Ministry of Interior with the responsibility to respond to national emergencies, was found to be especially ineffective in its handling of the aftermath.<sup>16</sup>

Although no disaster event can be predicted with an exact date and time, and even when the country is often praised internationally for its level of preparation for seismic events, the 2010 earthquake and tsunami in Chile proved to be extremely challenging not only for government agencies dealing with emergency response, but also for civil society who experienced a political transition that marked a profound ideological shift in the country. This transition implied the move from a longstanding political prevalence of "*the Concertación*" to a

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<sup>13</sup> Patricio González, "Concepción. Nueve estudios advirtieron desde 1999 necesidad de subir exigencias constructivas en Constitución," Terremoto en Chile 2010 – Archivo de prensa acerca del terremoto y reconstrucción como hecho social y asunto de políticas públicas, April 5, 2010, <http://prensa.politicaspUBLICAS.net/index.php/terremoto/2010/04/05/concepcion-nueve-estudios-advirtieron-desde-1999-necesidad-de-subir-exigencias-constructivas-en-concepcion> (accessed on January 6, 2012)

<sup>14</sup> The Latin American Public Opinion Project (LAPOP) of Vanderbilt University is a consortium of academic institutions located throughout the Americas, with its headquarters in Vanderbilt University.

<sup>15</sup> Latin American Public Opinion Project (LAPOP), "Cultura Política de la Democracia en Chile, 2010, El Chile Post – Terremoto," Barometer of the Americas, Capítulo VIII, 165

<sup>16</sup> Ibid. Worth noting is the fact that some municipal governments had lower evaluations –even lower than the national government.

coalition of center-right forces that led to the election of president Piñera, featured by a center-right oriented agenda.

In the midst of this political transition, the effects of the disaster event rapidly uncovered. The failure in the early warning system as well as the evident lack of inter-agency coordination in the response led to a general discontent. In this climate, the weaknesses of the institutional framework and bureaucracy mechanisms became evident.

### **The Government's Reconstruction Plan**

Just twelve days after the earthquake struck Chile, Piñera was inaugurated as the new president. To detach his administration from the chaotic response that marked the disaster event, especially the misunderstandings between ONEMI and SHOA and the government's ensuing response (or lack thereof), Piñera framed his government as the "government of the reconstruction."<sup>17</sup>

The new administration delineated a very ambitious plan that attempted to involve all sectors affected. However, the extent of the damages was not easy to address.

At first glance, Piñera's reconstruction plan appeared to be a well-designed comprehensive approach for dealing with the immediate disaster response and reconstruction, with critical sectors considered in a multi-sector agenda. The government was quick to launch its reconstruction plan, with specific timelines based on ensuring a clear-cut organizational structure and inter-agency coordination. Whereas Piñera's administration claimed that a

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<sup>17</sup> Daniel Estrada, "Piñera ante el desafío de reconstruir," *IPS*, March 11, 2010, <http://ipsnoticias.net/nota.asp?idnews=94867> (accessed on December 3, 2011)

reconstruction for such a disaster would require at least a decade, it established a timeline for a complete recovery and reconstruction within approximately four years. Acknowledging the total failures of the early warning system, the Piñera administration also proposed a major reform of the country's early warning system, in consultation with other countries facing similar hazards.

The government's response can be assessed by looking at different stages within the recovery period. The first stage is the immediate emergency period, which usually implies the restoration of basic services (water, food, shelter, electricity), the restoration of public safety, and attention to victims. On several occasions the government expressed that these challenges were addressed during Piñera's first thirty days in office.<sup>18</sup> The second stage has been described by the government as the "winter emergency," which focused on making 200,000 emergency shelters available before the winter season. The third stage focused on the health emergency system; the Piñera administration needed to deal with the damages and destruction of 79 hospitals, as well as restore the private health sector system.<sup>19</sup>

In reference to these three stages of analysis, the period of the immediate emergency was featured by the significance of the political transition and seriously affected by the evident failures of the early warning system. The second stage which referred to the "winter emergency," became one of the most contested issues between the Piñera administration and the opposition. The government strategy in this regard has been widely criticized by the Chilean society, including major political actors, grassroots groups and opposition forces, who criticized

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<sup>18</sup> The Brookings Institution, "After the Chilean Earthquake: Rebuilding our country better than it was before," (Washington, D.C.: Brookings Institution, 2010), 6.

<sup>19</sup> Ibid

the way in which government's subsidies, did not translate into permanent and safer housing for the affected population. Two years after the event, this remains one of the main points of controversy. Finally, media analysis reveals a positive public perception regarding the third stage that aimed at restoring the public and private health systems.

As previously mentioned in this paper, the main critics of the government's handling of the reconstruction process have focused on its inability to provide permanent housing. The government, instead, emphasized the speed of the administration in restoring infrastructure and connectivity networks. On February 27, 2012, President Piñera affirmed that two thirds of the reconstruction has been completed, although hundreds of Chileans are still waiting for a permanent solution to the housing problem.<sup>20</sup>

Representatives of the opposition parties, such as Osvaldo Andrade, president of the Socialist party, recognized the significant progress that has been made in certain affected areas during the reconstruction process, including ensuring and improving connectivity services, and infrastructure; however, he pointed out the need to speed up the process of housing solutions for displaced or affected communities.<sup>21</sup>

Today, at two years after the devastating event, public perception of the disaster response and reconstruction is showing mixed reactions to the government's plan. The effort has been widely criticized by opposition forces and civil society organizations in all stages of the

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<sup>20</sup> La Tercera, "Piñera por aniversario 27/F: Nos hemos esforzado en reconstruir, porque sentimos que ese es nuestro mejor homenaje," *Politics Section*, February 27, 2012, <http://www.latercera.com/noticia/politica/2012/02/674-433963-9-presidente-pinera-por-aniversario-del-27f-nos-hemos-esforzado-en-reconstruir.shtml> (accessed on February 27, 2012)

<sup>21</sup> La Tercera, "Presidente del PS y avances en reconstrucción: no hay problema en reconocer las cosas que se han hecho bien," *Politics Section*, February 27, 2012, <http://www.latercera.com/noticia/politica/2012/02/674-433923-9-presidente-del-ps-y-reconstruccion-no-hay-problema-en-reconocer-las-cosas-que-se.shtml> (accessed on February 28, 2012)

reconstruction plan focusing especially on the slowness of the process, the delay in providing permanent housing,<sup>22</sup> the emphasis on subsidies instead of new infrastructure development, and the bias toward certain regions.

### **A Narrow Focus on Disaster Events**

As we move forward into the twenty-first century, with increasing levels of vulnerability and exposure across regions, we realize that disasters need to be approached from a multidisciplinary agenda that includes a variety of actors and stakeholders. A post-event damage assessment is not sufficient if we are going to raise awareness about levels of risk facing affected communities. We need to work on how to identify and reduce disaster vulnerabilities while developing resilience in the disaster pre-event, calling attention to local, national, and international players in a sustainable DRR agenda.

Indeed, disasters create significant economic burdens for affected communities; that require high-profile decision-making processes involving all levels (local, state, national), solutions or remediation of urgent social needs, and a reconfiguration of socioeconomic conditions to improve levels of resilience in disaster-prone areas. Consequently, there is an imperative need to change the lens through which we examine disasters.

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<sup>22</sup> According to recent reports, the conundrum of how to solve the housing problem involves 220,000 houses that have been damaged or destroyed throughout the fifteen regions affected, where 80% of the Chilean population lives. See *Infobae*, "Chilenos recuerdan el devastador sismo de 2010," February 27, 2012, <http://america.infobae.com/notas/45177-Chilenos-recuerdan-el-devastador-sismo-de-2010> (accessed on February 27, 2012). The same article emphasizes that the government's report on the reconstruction process indicated that 72,000 houses have been delivered out of 136,000 still in construction. As mentioned elsewhere, the reconstruction of infrastructure networks has almost been 100 percent completed. Some critics from opposition parties as well as from higher education institutions have emphasized the mismatch between government data and reality, indicating for example that the progress that aims at solving the housing crisis is really at 10 percent and that the difference stems from the fact that the government does not discriminate between new and retrofitted housing.

In a recent study carried out by the Latin American Public Opinion Project (LAPOP) on the political and behavioral effects of the mega-earthquake of February 27, 2010, the findings indicated that the greatest level of damage in neighborhoods corresponded to the seventh region (Maule, with 40% in average), followed by the eighth region (Bio-Bio, 29.9%) and the sixth region (O'Higgins, 29.3%).<sup>23</sup>

Interestingly, this LAPOP study surveyed behavioral perceptions in regard to the possibility of a new earthquake in the future; -in a disaster-prone country—, historically affected by earthquakes and tsunamis. In a recoded scale ranging from 0 to 100,<sup>24</sup> the findings revealed an average number of 68.2 for the variable assessing Chile's potential to suffer another great earthquake, similar in magnitude to the disaster event of February 27, 2010.<sup>25</sup>

It cannot be stressed enough how the media in Chile played a key role in setting the public agenda during the reconstruction process. The media predominantly engaged in addressing blame-assignment perception regarding the deficiencies of Chilean technical agencies in activating the tsunami alert system as well as a delay in the government's declaration of state of emergency and decision to bring the armed forces into the response phase.<sup>26</sup> In addition, discrepancies emerged between government institutions<sup>27</sup> regarding the official death toll for the two events (earthquake and tsunami). Content analysis also revealed

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<sup>23</sup> Latin American Public Opinion Project, *op. cit.*, 158

<sup>24</sup> Higher values indicate more preoccupation.

<sup>25</sup> *Ibid*, 159

<sup>26</sup> Richard S. Olson, Juan Pablo Sarmiento, and Gabriela Hoberman, "Disaster risk reduction, public accountability, and the role of the media: Concepts, cases and conclusions," *2011 Global Assessment Report on Disaster Risk Reduction*, (2010) UNISDR, Geneva, 19.

<sup>27</sup> Again, a back and forth chain of accusations between ONEMI and SHOA on the responsibility of the failure of the tsunami alert system featured the aftermath of the disaster event.

high-profile accusations related to the private housing sector<sup>28</sup> and the failure of government agencies to appropriately enforce and regulate building standards and land use management plans.

A few items did indicate positive public perception in the post-disaster event, including the system in place for seismic insurance coverage, -in which 1 in 5 homes have earthquake insurance—; the fact that all new mortgages require seismic insurance and the role of the armed forces once they were allowed to take control of affected communities.<sup>29</sup> In regards to the identification of disaster risk in media coverage, few stories noted deficiencies in hazard identification and a lack of domestic experts.

A narrow focus on disaster events has several implications that include a lost opportunity to generate consensus, improve levels of resilience in affected communities, and orient government efforts toward the reduction of risk and vulnerability.

### **How to Engage in a Sustainable Disaster Risk Reduction Agenda? Drivers and Constraints**

Little doubt can be cast over the complex scenario Piñera had to face as Chile's new president. He not only had to help the country through a major political transition that involved a redistribution of actors, interests, agendas, and public policy; but he also had to rapidly develop a plan to reconstruct a country devastated by a massive disaster event. In the aftermath, embracing a disaster risk reduction agenda seemed the "right thing to do" in a

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<sup>28</sup> Special attention should be focused on the construction industry, engineers associations, real estate enterprises, and the insurance market. It is worth mentioning that a wide variety of accusations of malpractices have been leveled against construction companies.

<sup>29</sup> Olson, Sarmiento and Hoberman, *op. cit.*, 21

context of massive economic and social destruction that left the country with 562 deaths,<sup>30</sup> severely affected communities, and an incommensurable extent of damages across cities and towns throughout the country.

If we are going to deal with a sustainable DRR agenda, it is of utmost importance to start by looking at how we define DRR, with a particular emphasis on vulnerability reduction, as:

*“...a set of coherent and systematic actions designed to reduce the physical, economic, social, and environmental vulnerabilities of a given community or component part of a community to the particular hazard or hazards. More specifically, for a given community or component part of a community, DRR constitutes actions designed to reduce the probability that losses from its most likely hazard events would exceed the resources required for effective local coping.”<sup>31</sup>*

This definition emphasizes the need to work on vulnerability reduction, while promoting a comprehensive understanding of risk, as well as a multi-disciplinary focus on land use management, enforcement of building standards and codes, retrofitting vulnerable infrastructure, zoning, and sustainable environmental management. All these dimensions need to be taken into account when designing sustainable DRR strategies. It is worth mentioning that two years after the disaster event, it is not yet clear how the government restructured the early warning system for Chile. In addition, many civil society organizations still claim that the new

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<sup>30</sup> EM-DAT, The International Disaster Database, *Center for Research on the Epidemiology of Disasters – CRED*, Country Profile, <http://www.emdat.be/result-country-profile> (accessed on December 14, 2011).

<sup>31</sup> Richard S. Olson, Juan Pablo Sarmiento, and Gabriela Hoberman (2011). “Establishing public accountability, speaking truth to power and inducing political will for disaster risk reduction: “Ocho Rios + 25”,” *Environmental Hazards* 10 (2011): 59-68, 63. In this same article, we noted that Chile has dispersed among levels of governments, land use regulations, which after the disaster event, proved to have many deficiencies. In addition, the country has updated its code for seismic resistance in 2003, but has adopted building code regulations from 1972, *op. cit.*, 64.

Office of National Emergencies is far from becoming what the government promised in the immediate aftermath and does not show many differences from the former office.

In a sustainable DRR agenda, the media certainly plays a critical role. After the disaster event, traditional media extensively covered the reconstruction period, while social media outlets proved significant for setting the tone and growing discontent about how the reconstruction phase developed. Civil society organizations as well as opposition parties accused the government of favoring certain communities over others, claiming that reconstruction efforts were not equally distributed across all affected communities.

Participation at the local level has been a key driver of disaster risk reduction efforts. Without a clear understanding that the community has a determinant role in putting these strategies in motion, a sustainable DRR agenda cannot be warranted. The centralization of the decision-making process in Chile represented a severe constraint for the design first, and then, the sustainability of a national effort aimed at reducing levels of risk with a multi-disciplinary focus. In addition, this particular issue has received a lot of negative attention by the national media, in which the main complaints referred to the lack of mechanisms to ensure local participation, a highly centralized decision-making process in regard to reconstruction efforts, and an utmost lack of interest in generate consensus among affected communities. Blaikie et al. have noted how people working on reconstruction efforts have emphasized the need to move beyond the more visible rebuilding of physical infrastructure (roads, bridges, etc) by creating

what they have called ‘enabling structures’ that advocate for the promotion of confidence and trust, rehabilitation of industries, and possible changes in landownership patterns.<sup>32</sup>

When examining incentives for embracing a political economy framework to analyze disasters with a DRR agenda, it cannot be overstated how incentives for action (or inaction) of government officials are clearly related to the extent of the consequences of a disaster event in regards to mitigation and preparedness efforts. Inherent problems in generating incentives for governments to invest in mitigation efforts have been identified in the literature on disasters. For example, humanitarian relief efforts often aim at addressing loopholes in government underinvestment in preparation measures. As Congleton (2006) notes, public policy and incentives are clearly interrelated with regard to the selection of building places, types of construction or design, and how infrastructure can work toward increasing or reducing risk.<sup>33</sup>

In analyzing the relationship between globalization and the political economy of disasters, Oliver-Smith (2009) underscores that, in current disasters, it is important to identify and implement feasible elements of the reconstruction process aimed at reducing environmental degradation and hazards’ vulnerability “within the limits of action permitted by existing political economy structures.”<sup>34</sup>

Adopting a more detailed risk management framework after Chile’s earthquake and tsunami, it becomes evident that the disaster involved a significant “response bias” in regards to the whole post-emergency system (including but not limited to civil, technical, rescue, and

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<sup>32</sup> Piers Blaikie, Terry Cannon, Ian Davis and Ben Wisner. *At Risk: Natural Hazards, People’s Vulnerability, and Disasters*. (New York: Routledge, 2001), 216.

<sup>33</sup> Roger Congleton, “The Story of Katrina: New Orleans and the Political Economy of Catastrophe,” *Public Choice*, 127 (2006): 5-30, 6.

<sup>34</sup> Anthony Oliver-Smith, “Anthropology and the Political Economy of Disasters” in ed. Eric C. Jones, and Arthur D. Murphy, *The Political Economy of Hazards and Disasters* (Plymouth: UK, Altamira Press, 2009), 24.

military agencies involved), with scant attention paid to risk identification and reduction issues.<sup>35</sup>

Although the literature has extensively noted how disasters rapidly become political, in the case of Chile's 2010 earthquake and tsunami, the political nature of disasters cannot be overstated as the event took center stage in the midst of a presidential inauguration, with a new ideological tincture that would set the template for the response, recovery, and reconstruction processes. Furthermore, the varied dimensions interwoven into a post-disaster reconstruction process, included: social, economic, institutional political, and environmental issues.

Even considering that the impact of the disaster event transcended all efforts to provide rapid assistance, the Piñera administration has been widely criticized for its reconstruction process,- not only by opposition parties, but also by communities who felt betrayed by government officials' broken promises. Piñera delineated a very ambitious agenda that lost momentum after the first few months of application. As a result, communities were left with a slow, deficient, and often fragmented reconstruction process.

### **Moving to Resilience**

In a seismic-prone country such as Chile, the need to develop more resilient cities is undeniable. Natural hazards will undoubtedly continue to pose significant burdens for disaster-prone countries. The issue of resilience is highly related to the concept of vulnerability. The

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<sup>35</sup> Gabriela Hoberman, "Media and the 'Politics of Disaster' in the U.S., Latin America, and the Caribbean." Quick Response Report, *Natural Hazards Center*. (2010), Boulder, Colorado. Earlier findings of this report have contributed to this paper.

literature indicates that events such as the Indian Tsunami (in 2004) and Hurricane Katrina (in 2005) as well as the increasing trend of global warming have demonstrated that communities are more vulnerable to natural hazards (Mayunga, 2007). Mayunga defines community disaster resilience as “the capacity or ability of a community to anticipate, prepare for, respond to, and recover quickly from impacts of disaster.”<sup>36</sup> Thus, the question is, are we doing enough to prepare for disaster events? If so, why are the losses so high? How can a move to resilience help diminish the great losses of human lives and property?

The emphasis on building resilience in disaster-stricken communities has been growing over the last years. When dealing with resilience, we need to look into the concepts of susceptibility and exposure. Exposure or physical fragility has been defined as “the susceptibility of a human settlement to be affected by a dangerous phenomenon due to its location in the area of influence of the phenomenon and lack of physical resistance.”<sup>37</sup> In the same line, the ISDR (UN) defined in 2009, the concept of exposure as “people, property, systems, or other elements present in hazard zones that are thereby subject to potential losses.”<sup>38</sup>

In light of inevitable impacts of natural hazard, more and more, the literature noted the need to focus on disaster risk reduction efforts and improving levels of resilience in vulnerable

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<sup>36</sup> Joseph S. Mayunga, “Understanding and applying the concept of community disaster resilience: A capital-based approach,” (2007), *Department of Landscape Architecture and Urban Planning, Hazard Reduction & Recovery Center, Texas A&M University*, 1-16.

<sup>37</sup> Inter-American Development Bank (IDB), ECLAC, and Universidad Nacional de Colombia (Sede Manizales) - Instituto de Estudios Ambientales (IDEA). (2003). *Indicators for Disaster Risk Management: The Notion of Disaster Risk* (prepared by Omar Dario Cardona), <http://www.eird.org/cd/on-better-terms/docs/Cardona-Notions-of-Disaster-Risk-Conceptual-Framework-for-Integrated-Management.pdf>, 9.

<sup>38</sup> United Nations International Strategy for Disaster Reduction (UNISDR) (2009). *Terminology on Disaster Reduction*. UNISDR, Geneva, Switzerland, [http://www.unisdr.org/files/7817\\_UNISDRTerminologyEnglish.pdf](http://www.unisdr.org/files/7817_UNISDRTerminologyEnglish.pdf) (accessed on November 1, 2011).

communities. The notion of resilience is related to the capability of “bouncing back” and “quickly” to restore to a pre-disaster situation. Therefore, the notion of resilience is clearly oriented to two main goals: the capacity of local communities to “recover” from the disaster event; and the ability to do it in a timely manner, in which basic services are “restored” to allow the community to continue functioning.

Although this paper tackles the engagement with a DRR strategy during the post-reconstruction effort in Chile, it is impossible to overlook the uneasiness that this process along with persistent socioeconomic conditions has created in the Chilean society. The Piñera administration has struggled to overcome the growing inequality in the country. This sentiment has duplicated in several regions, communities, and towns. The slow pace of the reconstruction process as well as its internal inconsistencies has certainly exacerbated these feelings, with many sectors of the population that feel are not taking part of a participatory process that allows them to shape the public agenda. The massive earthquake and tsunami of 2010 left a path of destruction of small communities, villages, and towns that witnessed not only the loss of their relatives and assets but also the disappearance of economic activities that used to sustain them. The government in that socioeconomic context, proved unable to revert this process in many of these affected communities, which up to date, are left on their own.

The lack of community resilience, where the attempts to “quickly bounce back” prove unsuccessful is an issue of serious consideration. Decade after decade, we are confronted with the fact that disasters will continue to affect vulnerable communities that carry high levels of risk and exposure. Natural hazards will continue to pose a huge burden for communities. Despite knowledge about how human behavior can and often do accentuate risk-, communities

are increasingly failing to control population growth, or increasing levels of exposure and vulnerability, while they lack appropriate mechanisms to implement and enforce land use management plans and building codes. It is certainly the time to change the way in which we perceive disasters and realize that, in the wake of multi-hazard scenarios, prevention and mitigation efforts are necessary but not sufficient to develop a disaster risk reduction strategy.

The earthquake and tsunami in Chile left the country in an extremely difficult situation from which it has struggled to recover. Even considering that the tsunami was triggered by the earthquake, it is still remarkable how the two events reflected two different illustrations of the country's capabilities. Indeed, despite significant damage in various cities, the earthquake reminded the world of Chile's level of development and effective building standards in place which enabled the country to avoid an even greater catastrophe. However, the ensuing tsunami, uncovered a deficient coordination among technical offices, highlighting the complete failure of the early warning system, and the lack of resources for appropriately maintaining the systems in place.

## **Conclusions**

Although there seems to be widespread consensus on the need to work on disaster risk reduction efforts to mitigate or prevent the effects of natural hazards, governments and the private sector still find it difficult to justify expenditures on risk mitigation and preparation within their budgets. At this point, is disaster risk reduction a lost case? Is it only a question of incentives or just an obvious solution to an ancient problem?

The identification of risk is clearly one of the most important areas that need further improvement and development in order to move toward a more sustainable disaster risk reduction strategy. The growing pace of climate change and its slow but steady impact on natural hazards is only a preview of the kind of burden that natural hazards may pose in the future on disaster-prone communities.

Ultimately, the shift toward a sustainable disaster risk reduction strategy aimed at generating disaster-resilient communities is not at all a “government only” jurisdiction. If this kind of strategy is going to be put in place, its sustainability will not be warranted without the multi-sectorial involvement of actors including the private sector, non-governmental institutions, civil society organizations, and the international community. Although this argument may sound too ambitious, decades of risk accumulation, indifference, and apathy toward risk and its immediate, mediate, and long-term consequences, leave no room for further inaction.

## Bibliography

- Blaikie, P., Cannon, T., Davis, I., and Wisner, B. (2003). *At Risk: Natural Hazards, People's Vulnerability and Disasters*. Routledge, New York, NY.
- Centro de Políticas Públicas UC, Pontificia Universidad Católica de Chile, "Debate sobre las políticas de suelo tras el terremoto y tsunami del 27 de febrero de 2010 en Chile," *V Ciclo de Workshops*, Lincoln Institute of Land Policy.
- Cohen, Charles and Eric D. Werker (2008). "The Political Economy of "Natural" Disasters," *Journal of Conflict Resolution*, 52: 6, December, 2008.
- Comisión Económica para América Latina (CEPAL). (2010). "Recomendaciones para una Estrategia de Reconstrucción y Recuperación del Terremoto de Chile del 27 de febrero de 2010," *Naciones Unidas*, 17 de mayo de 2010.
- Economic Commission for Latin America and the Caribbean (ECLAC). (2010). "The Chilean Earthquake of 27 February 2010: An Overview," *Disaster Assessment Unit*, ECLAC, United Nations, March 2010, [http://www.eclac.cl/publicaciones/xml/6/39106/Publicaci%C3%B3n\\_en\\_Ingl%C3%A9s.pdf](http://www.eclac.cl/publicaciones/xml/6/39106/Publicaci%C3%B3n_en_Ingl%C3%A9s.pdf)
- Hoberman, Gabriela. (2010). "Media and the 'Politics of Disaster' in the U.S., Latin America, and the Caribbean." Quick Response Report, *Natural Hazards Center*. Boulder, Colorado.
- Inter-American Development Bank (IDB), ECLAC, and Universidad Nacional de Colombia (Sede Manizales) - Instituto de Estudios Ambientales (IDEA). (2003). *Indicators for Disaster Risk Management: The Notion of Disaster Risk* (prepared by Omar Dario Cardona), <http://www.eird.org/cd/on-better-terms/docs/Cardona-Notions-of-Disaster-Risk-Conceptual-Framework-for-Integrated-Management.pdf>
- Mileti, Dennis S. (2001). *Disasters by Design: A Reassessment of Natural Hazards in the United States*. National Academy of Sciences. Washington, D.C., Joseph Henry Press.
- National Research Council of the National Academies of Sciences, Committee on Disaster Research in the Social Sciences. 2006. *Facing Hazards and Disasters* (Washington, D.C.: The National Academies Press).
- Oliver-Smith, A. and Hoffman, S. M. (eds.) (1999). *The Angry Earth: Disaster in Anthropological Perspective* (New York, NY: Routledge).

- Olson, R., Sarmiento, J. and Hoberman, G. (2010). *"Disaster Risk Reduction, Public Accountability, and the Role of the Media: Concepts, Cases and Conclusions."* 2011 Global Assessment Report on Disaster Risk Reduction. UNISDR, Geneva, Switzerland.
- Organizaciones de apoyo del Movimiento Nacional por la Reconstrucción Justa, "Informe para la relatora especial de Naciones Unidas para el derecho a la vivienda adecuada – El terremoto-tsunami del 27 de febrero 2010 y los procesos de reconstrucción en Chile," Septiembre 2011.  
[http://elci.sitiosur.cl/pdf/Informe%20Reconstruccion%20Post%20Desastre%20en%20Chile\\_Relatora%20ONU.pdf](http://elci.sitiosur.cl/pdf/Informe%20Reconstruccion%20Post%20Desastre%20en%20Chile_Relatora%20ONU.pdf)
- Perry, R. W. and Quarantelli, E. L. (eds). (2005). *What is a Disaster? New Answers to Old Questions.* International Research Committee on Disasters. (Philadelphia, PA: Xlibris), Philadelphia, PA.
- Ministerio de Vivienda y Urbanismo, Gobierno de Chile. (2010). "Plan de Reconstrucción MINVU: Chile Unido Reconstruye Mejor," 3era Edición.  
[http://www.observatoriourbano.cl/Docs/pdf/Informe\\_Plan\\_MINVU\\_3era\\_edicion\\_Oct\\_2010\[1\].pdf](http://www.observatoriourbano.cl/Docs/pdf/Informe_Plan_MINVU_3era_edicion_Oct_2010[1].pdf)
- UNISDR (2011) Global Assessment Report on Disaster Risk Reduction. Geneva, Switzerland: United Nations International Strategy for Disaster Reduction.
- United Nations International Strategy for Disaster Reduction (UNISDR) (2009). *Terminology on Disaster Reduction.* UNISDR, Geneva, Switzerland.
- Universidad de Concepción. (2010). Propuesta para la Reconstrucción de la Región del Bío-Bío. Trama Impresores.
- Observatorio de la Reconstrucción, Instituto de la Vivienda INVI (Coordinación OR), Universidad de Chile.
- Yanev, Peter I., Francisco Medina, and Alex P. Yanev. "The Magnitude 8.8 Offshore Maule Region, Chile Earthquake of February 27, 2010." Report by the World Bank, April 2010.