

Global Assessment Report
on Disaster Risk Reduction



Disaster Risk Reduction, Public Accountability,
and the Role of the Media:
Concepts, Cases, and Conclusions

Richard Stuart Olson
Juan Pablo Sarmiento Prieto
Gabriela Hoberman

2010



Disaster Risk Reduction, Public Accountability, and the Role of the Media:

Concepts, Cases, and Conclusions*

By

Richard Stuart Olson

Juan Pablo Sarmiento Prieto

Gabriela Hoberman

Disaster Risk Reduction in the Americas Project**

Latin American and Caribbean Center

Florida International University

Miami, Florida

October 15, 2010

*The authors wish to thank Pablo Atencio, Liliana Etchebarne, and Dimmy Herard for their invaluable assistance in the data collection, coding, and preparation of this paper.

** The FIU-DRR project is supported by the U.S. Agency for International Development's Office of U.S Foreign Disaster Assistance (USAID/OFDA)

DISCLAIMER: The views expressed in this publication are those of the author(s) and do not necessarily reflect the views of the U.S. Agency for International Development or the United States Government.

Disaster Risk Reduction, Public Accountability, and the Role of the Media:

Concepts, Cases, and Conclusions

Abstract

This paper argues for the utility of, and offers, a relatively narrow definition of accountability, using that definition in combination with an applied analytic framework for accountability in the specific policy domain of “Disaster Risk Reduction” (DRR). That framework then informs an analysis of the post-impact role(s) that media played in two major 2010 events: the January 12 Haiti catastrophe and the February 27 Chile disaster, supplemented by an analysis of media coverage in two “mirror countries” that share roughly equivalent catastrophe/disaster risk profiles (Jamaica and Peru respectively). The more specific research questions focused on media attention spans, other emergency or disaster relevant media roles, and “zones of silence” in event coverage, particularly about pre-event accountability for effective DRR.

Disaster Risk Reduction, Public Accountability, and the Role of the Media: Concepts, Cases, and Conclusions

I. Key Concepts: Accountability, Disaster, and Disaster Risk Reduction

Accountability – and the Media

In a forthcoming article in the journal *Environmental Hazards*, we (Olson, Sarmiento, and Hoberman 2011) concur that the concept of accountability has become iconic to the point that no one can be against it, quoting Mark Bovens (2007:49) who argues that accountability is now less a useful analytic concept and more “a dustbin filled with good intentions, loosely defined concepts, and vague images of good governance.” The solution to rescuing the conceptual and analytic utility of accountability, we argue, is to define it relatively closely and apply it to particular policy domains and contexts, the combination giving it operational meaning.

Our goal in this paper is to adhere to our own advice and (1) offer a relatively narrow definition of accountability, (2) adapt, from the work of Bovens, a particular analytic framework for accountability, and (3) apply the adapted framework to the specific policy domain of “Disaster Risk Reduction.”

Following that more conceptual discussion, and because the media are often proffered as at least a partial solution to the accountability “forum” problem explained below, we will use the framework to inform an analysis of the post-impact role(s) that media played in two major 2010 events: the January 12 Haiti catastrophe, and the February 27 Chile disaster.¹ More specifically,

¹ See Quarantelli 1987, and then Olson and Gawronski 2010 on the differences between the two concepts.

we will analyze not only how the national media in the two affected countries (Haiti and Chile) covered the disaster in the first 60 days after impact, but also how and to what extent the media in two observing or “mirror countries” that share roughly equivalent catastrophe/disaster risk profiles (Jamaica and Peru respectively) played similar or dissimilar roles.

Our central research questions for the post-impact media analysis, in all four countries, will be the following:

1. What was the attention span, or rate of decay, of media attention to the Haiti catastrophe and the Chile disaster?
2. Aside from providing the normally expected disaster and emergency response information, what other roles did the media play, particularly about accountability and “Disaster Risk Reduction?”
3. What major DRR problems or issues were notably absent in media coverage of the events? That is, on what problems or issues were the media silent?

Defining Our Terms

Definitional and conceptual clarity are crucial in any attempt to analyze **accountability** at the case level, however, because it always comes down to “accountability to whom, by whom, for what, why, and how,” so we must resolve those problems here at the outset of this paper. Borrowing from and then synthesizing definitions from Ackerman (2005: 3) and Bovens (2007: 450), we arrived at the following in our forthcoming paper (*italics in the original*):

Accountability is a relationship between an actor and a forum, in which (a) the actor has an obligation to explain and justify his or her plans of action and/or conduct, (b) the forum may pose questions, require more information, solicit other views, and pass judgment, and (c) the actor may see positive or negative formal and/or informal consequences as a result.

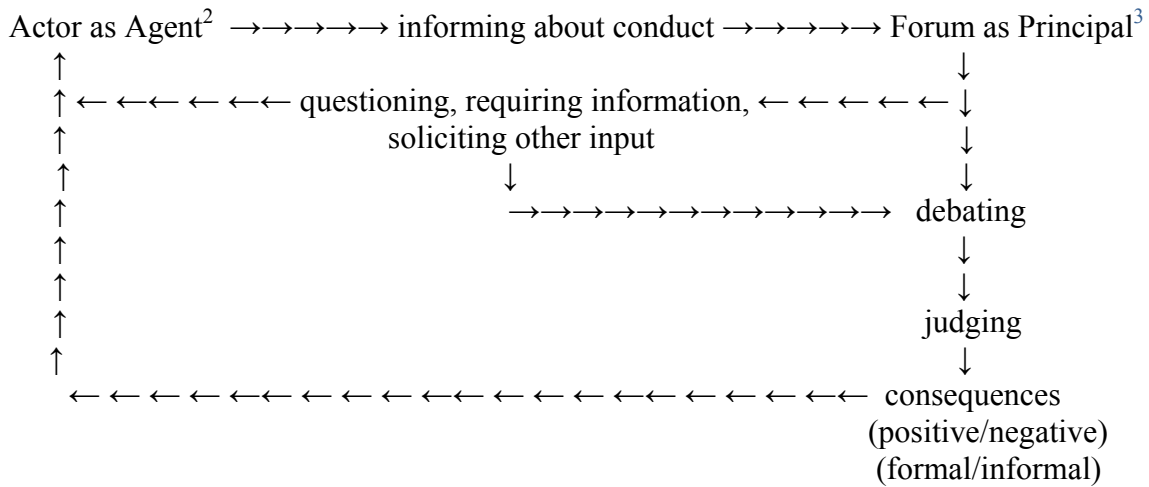
In his own work, however, Bovens notes that four core questions must always be answered if accountability is to have analytic meaning in any specific domain and context: (1) What is the forum? (2) Who is the proper actor/agent to render account? (3) What is to be explained and justified? (4) Why should the actor/agent feel obligated to participate?

To these four core questions from Bovens, we are adding a fifth, which will take on more visible significance when we delve into DRR as a policy domain: How are the actions to be in fact accomplished? In a DRR context, this question triggers consideration of *transparency* and *participation*.

With our definition and Bovens' four core questions, our fifth question, and an original schematic (Bovens (2007: 454-455), we then developed the schematic on the following page for application to Disaster Risk Reduction (see Figure 1).

Figure 1

An Adapted Schematic of the Bovens System for Public Accountability



The concept “**disaster**” shares many definitional problems with accountability, in particular the fact that everyone seems to want to define it idiosyncratically, leading to a kind of conceptual Babel. In our forthcoming paper we deal with the definitional problems associated with disaster, but perhaps committing our own sin (but at least using a 2009 UN definition as a basis), we offer the following:

A disaster is a social crisis characterized by a sense of great uncertainty, significant disorder, or potential collapse in a community caused by a serious disruption in its normal functioning and involving widespread human, material,

² In the context of Disaster Risk Reduction, as we will see, the “Who-Actor” component must include not only public officials and government employees, but also private sector, civil society, and at times even international decision-makers.

³ Again in the specific context of Disaster Risk Reduction, the “Who-Forum” may be a local city council, a state or departmental legislature, a national parliament, a regulatory agency, and/or a judiciary.

*economic, or environmental losses and impacts that exceed the community's ability to cope using its own resources.*⁴

It should come as no surprise that “**Disaster Risk Reduction**” as a concept, which is a subset of “Disaster Risk Management,”⁵ also has multiple definitions, or at least understandings. For present purposes, however, we chose to develop a DRR definition that facilitates its use with our now five core questions and our adapted analytic framework for accountability in Figure 1. The result in our forthcoming paper is an emphasis on vulnerability reduction where we define DRR as (italics in the original):

*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 to which it is exposed. 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 (e.g., an earthquake of a particular magnitude, a hurricane of a particular intensity, a toxic spill of a particular potential lethality and dispersal) would exceed the resources required for effective local coping.*⁶

⁴ In some cases, for example in small countries such as Samoa, the affected “community” may be the entire national society, so we are simplifying here by eliminating the “society” term.

⁵ Disaster risk management may be understood as a systematic process of using administrative directives, organizations, and operational capabilities to implement strategies and policies to lessen the impacts of hazards and to improve coping abilities. More generally, disaster risk management aims to avoid, lessen, or transfer the adverse effects of hazards through activities and measures of prevention, mitigation, and preparedness (see ISDR 2009).

⁶ This definition also satisfies the need in a DRR context for understanding the “what” component in Bovens’ four core questions.

With these various definitions established, one might assume that addressing Bovens' four core questions and our fifth in the DRR policy domain would then be relatively straightforward. In the vernacular, however, the response would have to be “not so much and not so fast,” because:

1. Few established forums or “principals” exist for actors as “agents” to regularly explain and justify their DRR actions, which is exacerbated by the fact that the major DRR deficiencies in most communities result not from decisions and actions per se but rather from *non-decisions*,⁷ *inaction*, and/or *symbolic actions*.⁸ Indeed, as we will explore below, our interest in the media derives from its proffered or potential role as a surrogate forum in many countries.
2. Multiple actors, including in the private sector, are required for any substantive DRR achievements, which raises the often discussed “Many Hands” (see Thompson 1980) conundrum for accountability.
3. It is not immediately clear “what” is to be accounted for in the short-term when DRR deficiencies or failings in a community may not be glaringly revealed for 50 to 100 or more years. The “what” problem for DRR is further complicated by the fact that actions may be “corrective” (reducing existing vulnerabilities) or “prospective” (avoiding the creation of new/additional vulnerabilities).

⁷ The concept “non-decisions” has a specific meaning in political science, where it refers to issue suppression or the power to keep issues off of public, institutional, and decision agendas. That is, non-decision making is not in fact “deciding not to decide,” which leaves a documentable trace, but rather the power to keep a troubling issue from even achieving an agenda position where “deciding not to decide” is necessary in the first place.

⁸ Symbolic action gives the appearance of concern or activity, but lacks substance. An example in a DRR context would be the enactment of a strict building code or land use plan – but without providing any of the resources and implementing regulation necessary to be in fact effective.

4. Remarkably few political and economic leaders appear to feel any “sense of obligation” to explain themselves on DRR issues except in the aftermath of a disaster. For our purposes here on the “why” problem, we identify three possible types of obligation: legal, moral/ethical, and media-driven.
5. The value of transparency and the need for effective participation by the public in decision-making are not, shall we say, fully embraced by leaders and elites in many countries.

A Post-Event Media Analysis Methodology

Given time and resource constraints, we limited our analysis to print media coverage in the 60-day period following each of the events. That is, we focused on coverage in Haiti and Jamaica in the period January 12-March 11 for the Haiti earthquake catastrophe, and February 27-April 26 for the Chile earthquake/tsunami disaster (which was in analytically important ways two different events).

We coded media treatment according to basic event coverage but then also their putative DRR-relevant roles: (1) essentially neutral information providing, (2) negative -- watchdog/whistleblower/blame assignment, (3) positive -- recognition/credit giving, (4) problem identification/agenda-setting, particularly as that related to not only risk reduction, but also risk identification (determining the occurrence probabilities of identified hazards and the associated consequences), disaster management (warning-alert, preparedness, and then response), and disaster recovery (which includes both rehabilitation and full-scale reconstruction).

We also used the Bovens “four questions,” our fifth question, and our adapted accountability framework to develop a case specific type of report card on post-event public accountability by focusing on (1) the who-actor issue, (2) the what is to be explained problem, (3) the who-forum question, (4) the why feel obligated issue, and (5) the how it could be accomplished issue.

With one exception, we chose two main media outlets in each country. For Chile it was *El Mercurio* and *La Tercera*; for Peru it was *El Comercio* and *La República*; and for Haiti it was *Le Nouvelliste* and *Haiti en Marche*. In Jamaica it was only *The Gleaner*.⁹ The Haiti case was especially daunting. The massive devastation of the earthquake and the total collapse of media facilities and broadcasting stations themselves (which interrupted their services for over a month) made initial research very difficult. Indeed, the catastrophe so disrupted Haiti that the international donor conference on Haitian reconstruction only convened on March 31, 2010. Nonetheless, we had direct access to all available PDF files of *Le Nouvelliste* for the period in question. To complement that source, considering that no other media were available in-country, we selected a weekly edition of the Haitian diaspora paper in the U.S., published in Miami, *Haiti en Marche*.

Our choice of observing “mirror countries” was based on the fact that Jamaica shares a similar (and also previously underappreciated) tectonic environment with Haiti, and Peru has essentially the same earthquake and tsunami risk as Chile – if not worse because of higher vulnerabilities. In the mirror countries we were particularly interested in the extent to which (or,

⁹ *The Observer*, a second outlet in Jamaica, turned out to be unavailable for the period under study.

frankly, *if*) local-national policy and program lessons were being drawn in Jamaica and Peru from the Haiti and Chile events respectively.

Our coders worked independently after first being oriented and trained. The coding also had to accommodate the three main languages (English, Spanish, and French/Creole), and the principal authors here carried out a coding verification process to assure adequate inter-coder reliability.

II. The Event Cases: Haiti and Chile

The January 12, 2010 Haiti Catastrophe

It is never a good sign when the final death toll from an event is commonly modified by the adjective “estimated” or “approximately.” With the Haiti death toll from the magnitude 7.3 January 12, 2010 earthquake at roughly 220,000,¹⁰ and taking the population of the capital Port-au-Prince, the principal loss site, at between 2.5 and 3 million,¹¹ the percentage of those killed (not even including those injured) reaches somewhere between 7% and 9%. That is a staggering level, especially by Western Hemisphere standards, and qualifies the 2010 Haiti event as a catastrophe, not merely a disaster.

As in most earthquakes, the principal cause of death and injury was structural failure, which is an engineering euphemism for people being crushed in the collapse of homes and buildings, many of them multistory. What then was the “cause of the cause,” why did so many

¹⁰ Government of the Republic of Haiti - Haiti Earthquake PDNA: Assessment of damage, losses, general and sectoral needs. Annex to the Action Plan for National Recovery and Development of Haiti 2010. March 2010.

¹¹ It is also not a good sign when no consensus figure exists on the population of the capital city even before the event, let alone of the nation.

structures fail? Or to recall one of the core analytic questions for accountability, “What is to be explained or justified?”

The primary culprit in the Haiti catastrophe was the failure of a large number of structures that were (1) poorly sited (a land use issue), (2) poorly based (a soils and foundation issue), and (3) poorly built (a design, code enforcement, and construction issue). The poignant question for this 21st century catastrophe then becomes: Given all that we know and have known about earthquakes and seismic design for decades, how could this have happened? From a DRR-accountability perspective, addressing this question yields a complex and ultimately disturbing answer that (1) reaches back decades, (2) involves the private sector as well as the informal sector, (3) reveals enormous public sector governance problems, including the documentable lack of systematic risk assessments, land use planning, building codes, and construction supervision, and (4) exposes the increasing presence of an international community that set up essentially a parallel governance structure, with all the logically ensuing efficacy and efficiency problems.

Table 1 on the following page captures the more objective aspects of the earthquake’s impact in Haiti’s capital, Port-au-Prince (PaP), and the nearby cities of Carrefour and Jacmel, as well as other areas to the west and south of Port-au-Prince. Most of the post-impact international attention focused on PaP, a city that grew from roughly 1 million in 1985 to 3 million in 2010. That growth, however, was not supported by any corresponding planning and infrastructure

Table 1
Damage & Losses
Haiti January 12, 2010 earthquake¹²

Category	Amount
Deaths	220,000
Missing	N/A
Victims (estimated injured, lost housing, died, and missing)	1,300,000
Housing (damaged or destroyed)	105,000
Housing (damaged or destroyed)	208,000
Economic losses	\$ 7,804 billion
Employment losses, production losses, reduction in revenue and increasing in production costs	\$ 3,561 billion
Public sector losses	\$ 2,081 billion
Houses (total loss)	\$ 2,300 billion
Temporary shelters, demolition and value of rental losses	\$ 739 million
Commerce (damage and losses)	\$ 639 million
Transport and public administration buildings (damage and losses)	\$ 595 million
Health (damage and losses)	\$ 470 million
Education (damage and losses)	\$ 477 million
Transport (damage and losses)	\$ 596 million
Urban infrastructure (damage and losses)	\$ 595 million

development. In effect the urban in-migration was just “accommodated” throughout the city by using any available space, including slopes and flood-prone areas, streets themselves, canal and stream banks, and supposedly open space within and between existing more “formal” developments.

The fact that the President’s Palace, Parliament, the Law Courts, and most Ministry and public administration buildings collapsed exacerbated Haitian governance (dis)abilities. The situation was further aggravated by the intense damage and the loss of top leadership and staff suffered by the United Nations mission in Haiti, which severely affected its coordination

¹² Government of the Republic of Haiti - Haiti Earthquake PDNA: Assessment of damage, losses, general and sectoral needs. Annex to the Action Plan for National Recovery and Development of Haiti 2010. March 2010.

abilities. A U.N. report from three months after the earthquake highlighted a number of response problems, including, more subtly, its own:

Despite the quick mobilization of aid, the quality of the achievements was drastically affected by serious constraints linked to the magnitude of the disaster, the uncontrollable flow of frequently inexperienced small NGOs, the inappropriateness of many practices in urban contexts, and weak global leadership.¹³

The February 27, 2010 Chile Disaster

While President Bachelet repeatedly used the term “*catastrofe*” to describe the impacts of the February 27, 2010 earthquake (a remarkable but not unprecedented magnitude 8.8¹⁴) and resulting tsunami in south-central Chile, it clearly was not. With 521¹⁵ killed, it was a disaster, but it had two casualty components: those killed by the earthquake and those killed by the tsunami. Interestingly, no publicly available data break down the casualties by sub-event, primarily earthquake victims in Concepción and those killed by tsunami in the coastal areas of O’Higgins, Maule, and Bio Bio regions.

From a DRR-accountability perspective, answering the “cause of the cause” question for these two types of losses (earthquake versus tsunami) reveals serious differences. While the earthquake showed Chile as having First World quality building codes and enforcement, the

¹³ Groupe URD-GPPI: Inter-agency real-time evaluation in Haiti: 3 months after the earthquake, Paris, August 31, 2010 Page 8.

¹⁴ The 1960 Valdivia earthquake, further to the Chilean south, which also generated a devastating tsunami, was a magnitude 9 event.

¹⁵ Ministry of Interior, Chile, Available at http://www.interior.gov.cl/filesapp/Lista_fallecidos.pdf

tsunami uncovered Chile’s remaining Third World characteristics, particularly alert system flaws at the central government level and risk-blind land use and zoning at the more local level.

Context always matters, and it should be noted that the Chilean disaster occurred in the midst of a presidential transition. President Michelle Bachelet was leaving the presidency when the earthquake struck, and 12 days later, on March 11, Sebastian Piñera was inaugurated as Chile’s new president. In a clear attempt to mark the distinction for both the public and the media even before taking office, Piñera offered that “Our future government won’t be the earthquake government ... It’s going to be a government of reconstruction.”¹⁶

Table 2 below captures the more objective aspects of the Chilean earthquake-tsunami.

Table 2
Damage & Losses
Chile February 27, 2010 earthquake ¹⁷

Category	Amount
Deaths	521
Missing	56
Victims (estimated injured, lost housing, died, and missing)	800,000
Housing (damaged or destroyed)	200,000
Housing (damaged or destroyed only Santiago)	12,000
Economic losses	\$ 30 billion
Employment loss	15,000 jobs lost
Public sector losses	\$ 9.33 billion
Houses (total loss)	81,440
Houses (heavy damage)	108,914
Impacted small cities over 5,000 inhabitants	45
Impacted large cities over 100,000 inhabitants	5
Secondary schools (some damage)	4,013

¹⁶ Bloomberg-Businessweek Quake Shakes Pinera’s Plan to Spur Chilean Economy, March 11, 2010, 4:38 PM EST. Retrieved on October 8, 2010. <http://www.businessweek.com/news/2010-03-11/quake-shakes-chilean-president-pinera-s-plan-to-spur-economy.html>

¹⁷ Earthquake Engineering Research Institute (EERI) Special Earthquake Report, The Mw 8.8 Chile Earthquake of February 27, 2010. Retrieved on June 2010, http://www.eeri.org/site/images/eeri_newsletter/2010_pdf/Chile10_insert.pdf

III. Media Analyses: Affected Countries, Mirror Countries

As noted previously, we examined catastrophe/disaster media coverage for 60 days post-impact for Haiti and its mirror country, Jamaica, and for Chile and its mirror, Peru. That translates into the period January 13 to March 12 for the former dyad and February 28 to April 27, 2010 for the latter. Again as noted previously, we analyzed two print media outlets in each of the countries, with the exception of Jamaica, where we were able to secure coverage from only one outlet.

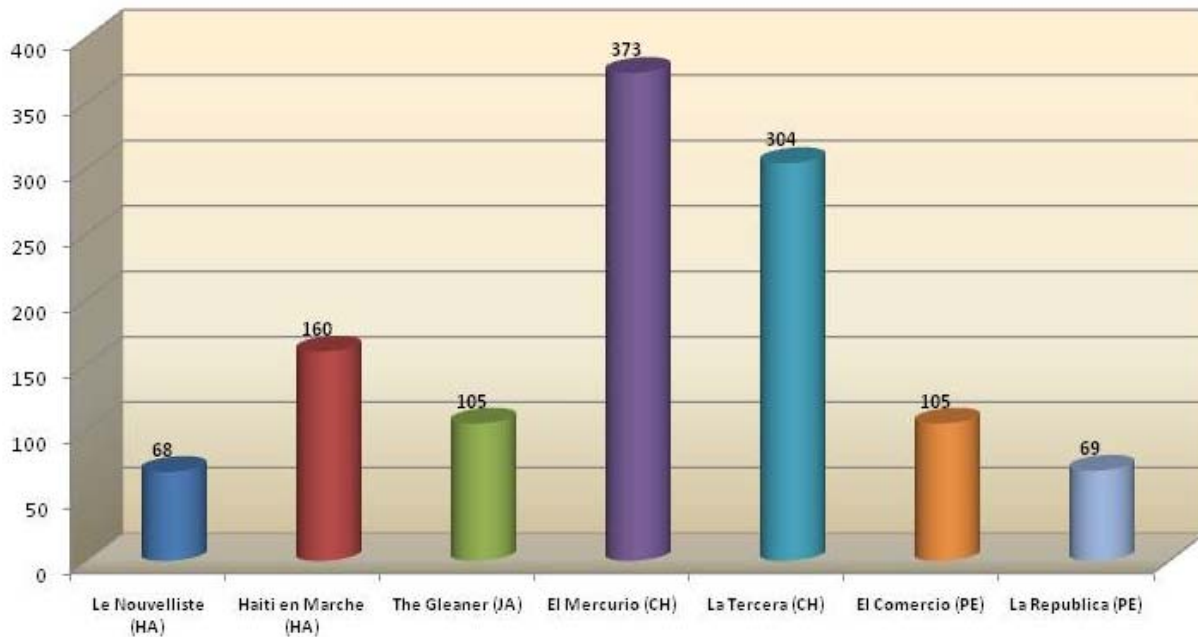
Table 3 presents the total number of event-related articles for each of the four countries (1,184 total), but it also breaks down the data by each story's predominant content: (1) media role, (2) risk management, and (3) public accountability.

Table 3

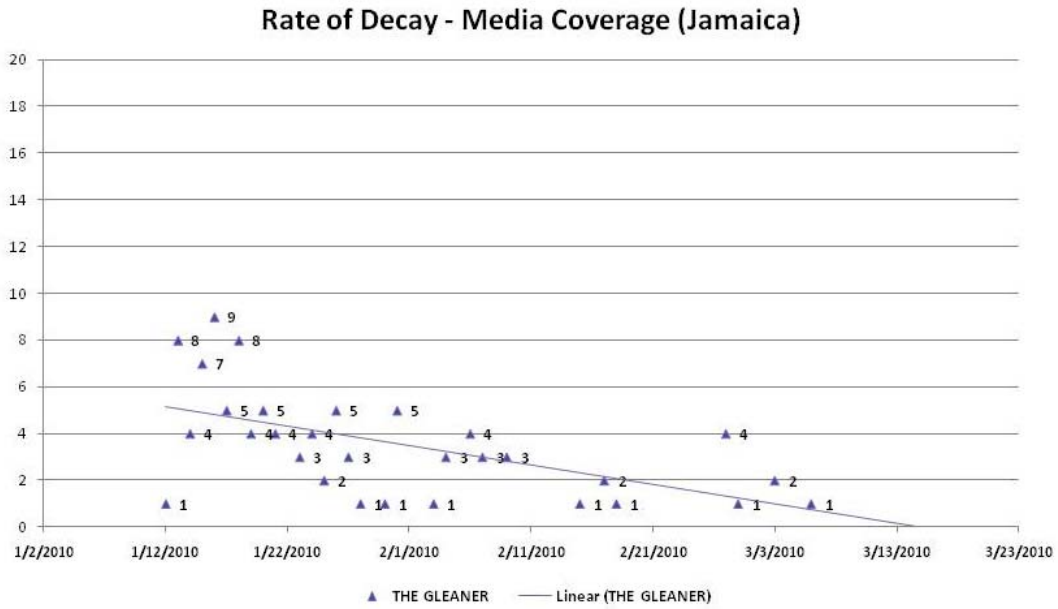
Table 3 - Media Role, Risk Management, and Public Accountability (All Countries)														
Coverage of Disaster	HAITI				JAMAICA		CHILE				PERU			
	Le Nouvelliste	Haiti en Marche	Sub-Total	%	The Gleaner	%	El Mercurio	La Tercera	Sub-Total	%	El Comercio	La Republica	Sub-Total	%
Number of Stories	68	160	228	1.00	105	1.00	373	304	677	1.00	105	69	174	1.00
MEDIA ROLE														
Informational	47	129	176	0.77	79	0.75	254	240	494	0.73	102	62	164	0.94
Negative/Blame	21	44	65	0.29	19	0.18	78	74	152	0.22	24	17	41	0.24
Positive/Credit	14	8	22	0.10	9	0.09	14	9	23	0.03	1	1	2	0.01
Agenda-setting	14	19	33	0.14	15	0.14	93	114	207	0.31	6	1	7	0.04
RISK MANAGEMENT														
Risk Identification	2	0	2	0.01	21	0.20	11	18	29	0.04	11	12	23	0.13
Risk Reduction	5	0	5	0.02	16	0.15	14	12	26	0.04	30	30	60	0.34
Disaster Management	16	28	44	0.19	64	0.61	246	165	411	0.61	76	30	106	0.61
Recovery	16	31	47	0.21	19	0.18	122	143	265	0.39	13	8	21	0.12
PUBLIC ACCOUNTABILITY														
Who-Actor	40	76	116	0.51	36	0.34	123	122	245	0.36	42	25	67	0.39
What	32	40	72	0.32	25	0.24	22	14	36	0.05	23	16	39	0.22
Who-Forum	3	3	6	0.03	43	0.41	20	26	46	0.07	6	5	11	0.06
Why	35	32	67	0.29	40	0.38	69	78	147	0.22	33	15	48	0.28
How	26	36	62	0.27	21	0.20	10	6	16	0.02	2	1	3	0.02

These Table 3 data reveal that approximately 19% (228 stories) of the articles are from Haiti, 57% from Chile (677 stories), 9% from Jamaica (105 stories), and 15% from Peru (174 stories).

Graph 1
Number of Stories - All Countries

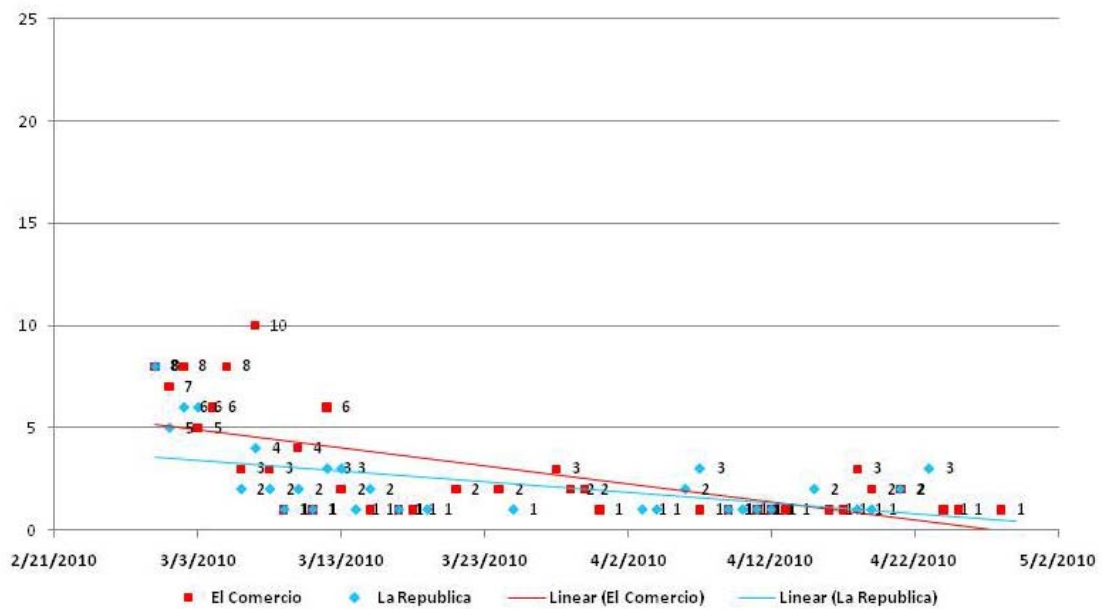


Graph 1 shows the total number of event-related stories by media outlet, coded by country. Not surprisingly given the country's level of development and literacy rate, Chile far outpaces the other countries in numbers of stories. Another advantage for Chile, particularly in contrast to Haiti, of course, is that the earthquake did not physically damage media offices and facilities, nor did it damage most of the critical infrastructures on which media depend for daily operations. A telling indicator of the impact of the Haiti earthquake is that the diaspora media outlet, *Haiti en Marche*, which is based in Miami, was able to cover the event and its aftermath



Graph 5

Rate of Decay - Media Coverage (Peru)



Graphs 2-5 present the date distributions of event-related stories over the 60-day period for each of the countries, Haiti, Chile, Jamaica, and Peru respectively. The picture that emerges should not be surprising: a strong early peak with a falloff starting around the third week, particularly in the affected countries (Haiti and Chile). More of a surprise is that the mirror

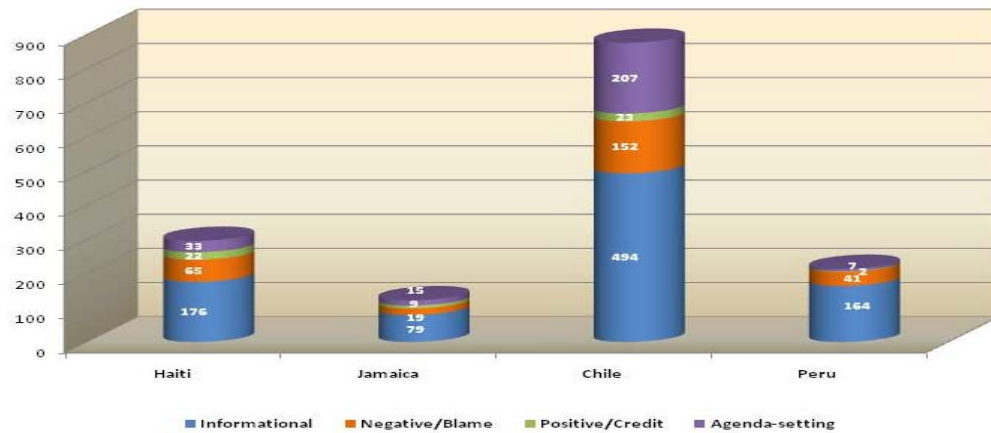
countries (Jamaica and Peru) show media attention to their respective neighbor's events that while lesser in absolute number is somewhat flatter (less of an abrupt decay) and more sustained over the whole period.

Media Roles

To recall, our framework to assess the role(s) that media played in the aftermath of the two events comprised four categories: (1) informational, (2) negative/blame-assigning, (3) positive/credit-giving, and (4) agenda-setting. As Graph 6 demonstrates, the informational role predominated in all four countries. While our coding allowed for more than one role in a media story, the informational role predominated. In Haiti, 77% of the stories fell in this category, and in Chile it was 73%. Our mirror cases showed Jamaica with 75% and Peru with 94% informational.

The second most common media role was negative/blame assignment in all four countries, with the third most common being attempts at agenda-setting. The least common role was in the positive/credit-giving category.

Graph 6
Media Role Categories (All Countries)



More specifically for “negative/blame-assigning,” that role in Haiti reached 29% (65 out of 128 stories); in Jamaica it was 18% (19 out of 105); in Chile it was 22% (152 out of 677); and in Peru it reached 24% (41 out of 174). The content in the negative/blame-assigning category for Haiti had two primary themes and targets: (1) the passivity, incapacity, and indifference of the Haitian government, and (2) the lack of donor response coordination by the international community and non-governmental organizations, and their participation in the design of reconstruction.

In Chile, the negative/blame-assigning focused on the failure of the Chilean government and technical agencies to properly activate the tsunami alert. Lesser but still significant attention was paid to post-impact insecurity and civil unrest and to the Bachelet government’s delay in bringing the Armed Forces into the response.

Subsequent negative blame-assigning stories in Chile focused on discrepancies between government institutions on the official death toll, especially the lack of reliable data separating earthquake from tsunami fatalities. The media also consistently critiqued the role of the private sector, particularly in the housing and public infrastructure collapses. A lesser but still identifiable negative theme was regulatory deficiencies in land use management.

In Jamaica and Peru, the negative/blame-assigning emphases revolved around building codes and enforcement and communication deficiencies, particularly in the badly botched tsunami alert. The media in both mirror countries emphasized the need for comprehensive disaster plans, accompanied by drills and exercises in disaster response.

Although the least common media role (10% in Haiti, 3% in Chile, 9% in Jamaica, and 1% in Peru), positive/credit-giving showed interesting themes. In Haiti, the emphases were on the endurance of the Haitian people, the services provided by the private telecommunication company, and the commitment and self-sacrifice of local professional nurses.

In Chile, the media gave positive marks to the role of the Armed Forces and the practice of seismic insurance coverage (1 in 5 houses have earthquake insurance, and all mortgage credits require seismic insurance). Positive stories in Jamaica focused on national and local authorities (especially in Kingston) working on disaster preparedness and on local insurers reviewing seismic risk assessments for commercial and residential buildings. In Peru, two positive stories acknowledged the role of the Peruvian Navy in activating the tsunami alert after the Chilean event was registered.

Our fourth category is agenda-setting, which ranks third in the four categories across all four countries. Haiti shows 14% of the articles focusing on public agenda items that need attention, Chile 31%, Jamaica 14%, and Peru 4%. The Haiti stories in the agenda-setting category emphasize disaster impacts on employment, education, cultural patrimony, the role of the international community, and corruption.

The Chilean media almost immediately picked up on conflicts, gaps, and overlaps between governmental agencies during the emergency, as well as between local and national governments. The media also identified telecommunication failures, the need to improve the national seismic detection network, and public contracting, especially ill-defined private sector

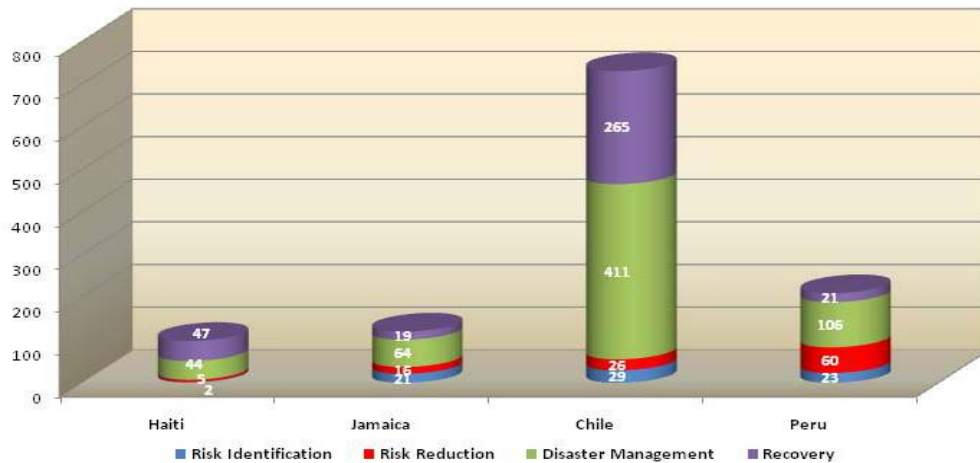
involvement in concession laws.¹⁸ Finally, the Chilean media raised the issue of popular participation to achieve broader consensus on reconstruction.

The media in Jamaica and Peru show less emphasis on agenda-setting stories. In Jamaica, the media focused on the need to reach the whole country – not simply Kingston – in earthquake preparedness, public infrastructure, tourism, and housing. In Peru, the media underscored the need for improved earthquake preparedness, funding of local and regional risk management, construction of public infrastructure, and revised and upgraded building codes.

Risk Management Dimensions

What do our media coding results tell us about treatment of “risk management?” To recall, that umbrella concept comprises four elements: (1) risk identification, (2) risk reduction, (3) disaster management, and (4) recovery. Graph 7 presents the results across the four countries.

Graph 7
Disaster Risk Management Categories (All Countries)



¹⁸ A concession is a business operated under a contract or license associated with a degree of exclusivity in business within a certain geographical area, for example, railroads, roads, sports arenas or public parks.

Not expected but logical upon reflection, media discussion of risk identification differs between the affected countries and the mirror countries. While the data for Haiti and Chile show 1% and 4% of stories dealing with risk identification, those percentages surge to 20% for Jamaica and 13% for Peru. That is, and clearly reflecting a “It could happen here” concern, mirror country media paid more attention to local to national risk identification themes. The articles in Jamaica revolved around seismic risk assessments and cost-benefit analyses, while in Peru the stories focused on vulnerabilities, particularly hospitals, housing, and the private sector, the latter reflecting a worry over the employment effects of a major, Chilean-type event.

The affected countries, on the other hand, just saw their underlying risk turn into catastrophe/disaster, so their attention was logically elsewhere in this 60-day span. Inattention to risk identification is particularly notable in Haiti. In Chile, the few stories on risk identification focused on deficiencies in hazard monitoring capabilities, weak instrumentation, and the domestic scarcity of expertise.

A similar affected-versus-mirror country pattern emerges with risk reduction. Media in Haiti show only 2% of stories focusing on risk reduction, and Chile 4%. Risk reduction as a theme in Jamaica is 15%, and in Peru it reaches 34%. The content of Jamaica’s stories on risk reduction highlight building codes, risk transfer mechanisms, market insurance, and improving private sector safety practices. Media coverage of risk reduction in Peru focused on building codes, soil studies, public investment in infrastructure, international assistance for DRR, and land use management. The Peruvian media gave special attention to the need to learn from Chile and emulate many of its risk reduction measures.

Disaster management as a category captures the most media attention across cases. In Haiti, the percentage of stories focused on disaster management was 19%, but it was a remarkably consistent 61% in Chile, Jamaica, and Peru. The Haiti anomaly (19%) is due to covering the overwhelming physical destruction.

Recovery as a focus shows Haiti with 21% of the stories, Chile with 39%, Jamaica with 18%, and Peru with 12%. The Haiti data confirm that much of the affected area remained in the emergency phase for weeks, if not months, where recovery was a hope, not a reality. The predominant recovery themes in Haiti were funds allocations, participation in reconstruction planning, and critiques of the excessive role of the international community.

Not surprisingly given the lesser damage and much better response, the Chilean media moved to recovery issues relatively quickly, which was accelerated politically by the transition from the “disaster government” of Bachelet to the “reconstruction government” of Piñera, a rather deftly accomplished issue spin. More substantively, the Chilean media focused on reconstruction funding and its impact on the incoming president’s political agenda, and the critiques of new national taxation initiatives to pay for the rebuilding.

In the mirror countries, 18% of the stories in Jamaica fell in recovery and 12% in Peru, probably reflecting less local relevance in each country. The Jamaican media emphasized cooperating with other Caribbean states in the reconstruction of Haiti, especially financially and technically. Interestingly, the media in Peru tended to criticize the country’s own reconstruction following its most recent three earthquakes.

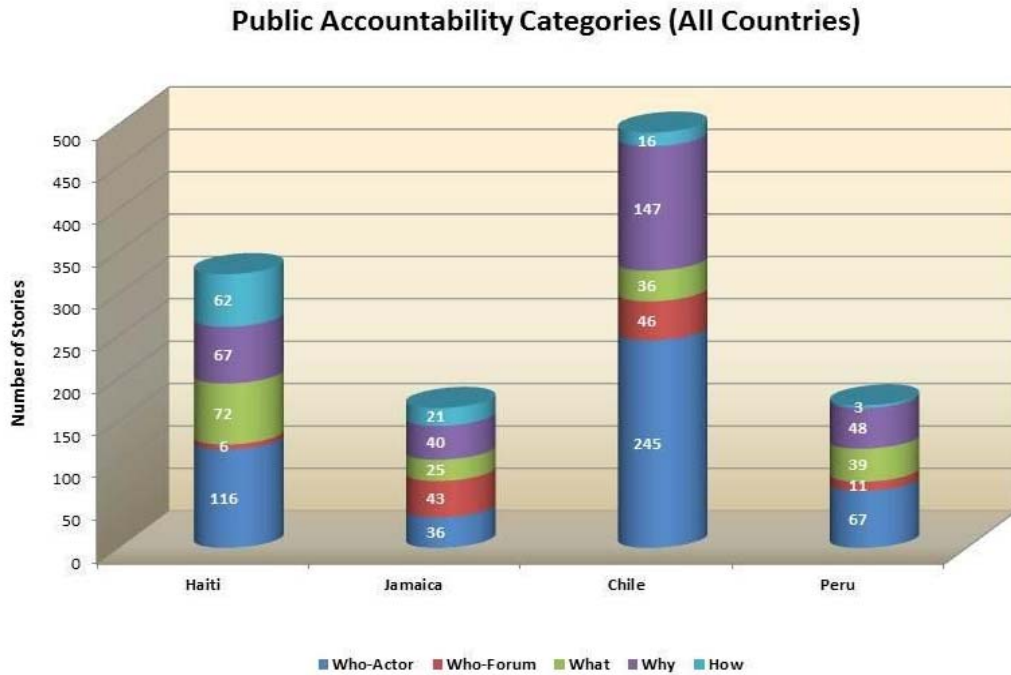
The Accountability Issue

To what extent did the media in our four countries attempt to serve as watchdogs and/or assign blame (but to be fair, a few times give positive credit) in the context of the catastrophe/disaster? That is and more specifically, where did media attempts at accountability in Haiti, Chile, Jamaica, and Peru fall in our original five core questions? To recall, those questions or categories comprise four from Bovens and our fifth. Table 4 and Graph 8 present our findings on Who-Actor, Who-Forum, What, Why, and How.

Table 4

Table 4 - Accountability Framework (All Countries)														
Coverage of Disaster	HAITI				JAMAICA		CHILE				PERU			
	Le Nouvelliste	Haitien Marche	Sub-Total	%	The Gleaner	%	El Mercurio	La Tercera	Sub-Total	%	El Comercio	La Republica	Sub-Total	%
Who-Actor			116	1.00	36	1.00			245	1.00			67	1.00
Private Sector	7	15	22	0.19	6	0.17	29	19	48	0.20	9	5	14	0.21
Political	17	35	52	0.45	18	0.50	46	51	97	0.40	20	15	35	0.52
Technical/Scientific	13	21	34	0.29	4	0.11	24	26	50	0.20	8	1	9	0.13
Operational	3	5	8	0.07	8	0.22	24	26	50	0.20	5	4	9	0.13
Who-Forum			6	1.00	43	1.00			46	1.00			11	1.00
Parliament	2	2	4	0.67	24	0.56	8	11	19	0.41	4	5	9	0.82
Regulatory Agencies	1	1	2	0.33	18	0.42	9	12	21	0.46	2	0	2	0.18
Judiciary	0	0	0	0.00	1	0.02	3	3	6	0.13	0	0	0	0.00
What			72	1.00	25	1.00			36	1.00			39	1.00
Prospective	19	24	43	0.60	17	0.68	18	8	26	0.72	20	15	35	0.90
Corrective	13	16	29	0.40	8	0.32	4	6	10	0.28	3	1	4	0.10
Why			67	1.00	40	1.00			147	1.00			48	1.00
Legally	15	4	19	0.28	4	0.10	10	15	25	0.17	8	3	11	0.23
Morally / Ethically	9	23	32	0.48	21	0.53	0	0	0	0.00	0	0	0	0.00
Media Demand	11	5	16	0.24	15	0.38	59	63	122	0.83	25	12	37	0.77
How			62	1.00	21	1.00			16	1.00			3	1.00
Transparency	12	15	27	0.44	13	0.62	3	2	5	0.31	0	0	0	0.00
Participation	14	21	35	0.56	8	0.38	7	4	11	0.69	2	1	3	1.00

Graph 8



While no coherency emerges from the four countries across the five categories, the number of data points reflected by the table and graph shows a real, if somewhat scattered, media interest in DRR-accountability. To the extent that a pattern emerges, it is more of a “shotgun” blast, where individual hard points at attempted accountability are evidenced, but considerable open space exists between those points. More specifically on DRR-accountability and highlighting some main observations, we see the following:

Haiti – The media attempted to hold accountable the president, the prime minister, and the international community for a “safer” reconstruction, and they implicitly accepted that the sense of obligation would have to be moral-ethical, not legal-constitutional. They were also essentially silent on the most appropriate forum in which and to which the actors should report.

Chile – The media in this country seemed to hold the president (Bachelet) unusually personally responsible for the failure of the tsunami warning system, along with several government agencies. Looking forward, the Chilean media point to the Congress as the most likely forum, and emphasize legal as the best method to assure obligation to account.

Jamaica and Peru – The media in both mirror countries showed real concern for increasing vulnerability due to poor land use and inadequate and unenforced building codes. Both media pointed to Congress as the most appropriate forum for rendering accounts by regulatory agencies, but both were silent on the best measure to assure obligation.

It is obvious from these “country pellets” that the media can and do play a role in disaster context accountability, and they could probably do much more if they had incentives to do so. The fundamental problem, however, resides in one of our very first findings: the short attention span and relatively rapid decay rate of media disaster coverage. Nonetheless, this remains a crucial area for policy attention and further research.

Table 5

	Who - Actor	Who - Forum	What	Why	How
Haiti	President Preval is the main actor mentioned followed by the Prime Minister, the international community, NGO's, and the private sector.	The media allude to regulatory agencies, the Senate, the National Council of Political Parties, and the international community.	Principal topics of discussion are the reconstruction plan and resources for reconstruction, economic policies and public management capacity. Issues of insecurity are also mentioned. Relations between state and donors and the use of donations. Land tenure, and housing infrastructure.	Most of the discussion revolves around ethics, moral and altruistic considerations. Existence of hypothetical regulatory framework, but not real.	Steady demand for participation of the Haitian people in the decision making process. Demand to the international community for transparency in financial issues.
Chile	The political subcategory (outgoing president Bachelet and incoming president Piñera) has the most coverage, associated with the tsunami alert and civil-military relationship. Less mention to regional and local authorities. In the private sector, prevailing themes are related to the construction industry, engineers and architects associations, real estate companies, and the insurance market. In the technical and scientific, the stories associate with the responsibilities of Onemi and Shoa in the tsunami alert. The operative subcategory refers to	Most of the coverage refers to the role of the Parliament in the discussion of the reconstruction plan, funding, and concessions law. Investigation of government's institutions in the emergency period. Revision of the national control system with a special interest in urban planners, as well as the demands by tsunami victims' families.	The prospective subcategory emphasizes the reconstruction plan and its financing, risk assessments, building codes, and the tsunami early warning system.	The legal subcategory focuses on deficiencies in enforcement of building codes, the lack of regulations regarding soil mechanics, Strong role of the media in demanding public responsibility for the errors in the emergency phase and denunciations against malpractices of constructing agencies (public infrastructure and housing).	Media coverage reveal the need for transparency mechanisms in public bidding processes. The need for participation is expressed in the design of the reconstruction plan, with particular emphasis in the youth population.

	the armed forces.				
Jamaica	The prevailing accountable actors are the Prime Minister and the Parliament, the construction industry, and the Office of Disaster Preparedness and Emergency Management (ODPEM).	The subcategories most mentioned are the Parliament, and Regulatory Agencies.	This category emphasizes Jamaica's disaster preparedness plan, and building codes.	One of the themes mentioned is the safety manual for the building and construction industry, and the occupational safety and health act.	Media coverage promotes participation in disaster preparedness, and the compliance of safety regulations. In regard to transparency, it mainly refers to access to information from insurers companies and information on natural risks by technical offices.
Peru	The subcategories that prevail are the technical and scientific, and the operational, with the Geophysics Institute, the Civil Defense National System (INDECI) and the Navy, with some mention to local authorities. In the private sector, the emphasis is placed on the construction industry.	The Parliament captures most of the media attention, with a focus on disaster plans, housing policies and budget allocation.	The themes that prevail are seismic regulation, land use management, tsunami alerts, building codes, zoning, and resettlement.	The subcategories identified are related to media demand legal mandates.	Few references to issues related to transparency and participation in disaster risk reduction.

IV. Conclusions

Post-impact catastrophe/disaster environments – social, economic, and political – are both fluid and complex. The core question approach and accountability framework that we adapted from Mark Bovens, however, have demonstrated their clarifying value, allowing us to sift through and make sense of a large amount of data from our four cases (two affected countries, two mirror countries), especially but not exclusively from the media.

Two general observations or lessons stand out. First, in the particular policy domain of Disaster Risk Reduction, accountability must focus on and *be rendered by* not only governmental actors but also the private sector, professional associations, civil society, and at times even the international community. That is, DRR-accountability has to be a “Whole of Society” approach, not the task of any one sector, or even a few sectors, in isolation.

Second, much more analytic attention needs to be paid to mirror countries in post-impact catastrophe/disaster situations. In an almost instantaneous globalized communication environment, where images and commentary are close to costless and may be interpretively framed at will, the ability of other societies and leaders to learn from traumas in similar or neighboring countries has increased. In fact, given that a society struck by a catastrophe or a disaster is often preoccupied with response issues for an extended period of time, it is in those very mirror countries that windows of opportunity for DRR innovations appear more likely than previously believed. The challenge will be to turn those windows from case-by-case accidental instances to systematized cross-case processes.

Third, the media are playing an increasingly crucial role in catastrophe/disaster situations, and so we must recall our three more specific central research questions from the early pages of this paper: (1) What was the attention span, or rate of decay, of media attention to the Haiti

catastrophe and the Chile disaster? (2) Aside from providing the normally expected disaster and emergency response information, what other roles did the media play, particularly about accountability and “Disaster Risk Reduction?” (3) What major DRR problems or issues were notably absent in media coverage of the events? That is, on what problems or issues were the media silent?

The Attention Span Question

Not unexpectedly, our analysis confirms the relatively short attention span of the media in the countries under study, and the rate of decay in the affected countries was in fact steeper than in mirror countries starting in the third post-impact week. Hence, even considering that the media in the two mirror countries showed fewer numbers of articles, the coverage was steadier over the eight-week period. This finding was quite unexpected and deserves deeper and more longitudinal research.

The Roles Question

As expected, the relatively neutral provision of information was the dominant role of the media in both the affected and mirror countries in the first 60 days after impact. The more negative blame assignment/watchdog role of the media was substantial (ranking second across all cases), followed by less significant positive credit-giving and attempts at agenda-setting.

An unexpected finding, however, was the more probing and reflective stance taken by media in the two mirror countries. The affected countries were clearly absorbed by the event itself and then the emergency response, but media coverage in the mirror countries turned more quickly to a “learning” focus, especially risk identification and risk reduction issues. That is, the media in Jamaica after covering the immediate situation in Haiti and the media in Peru soon after the Chile event took on and framed DRR-accountability more quickly and more directly than the

media in the affected countries, identifying DRR-relevant actions, inactions, and responsibilities across a whole spectrum of actors.

The Silence Question

Particularly in terms of public agenda-setting, problems or issues that are *not* discussed or even posed by the media are often crucial, becoming essentially “zones of silence,” out of which ideas or proposals for change/improvement rarely escape. From our four-country post-impact analysis we see three major DRR inhabitants in “zones of silence.” The first is inattention to longer-term social mechanisms to decrease vulnerability and improve resilience, rather than to the more politically attractive short-term physical-infrastructure.

The second problem or issue not discussed is what should be done about the huge inventory of *existing* – but suspect – components of the built environment (buildings and infrastructure). That is, the need for and the implications of a major structural retrofitting program went virtually untreated in the media across the cases, a rather large item to be in a zone of silence given the various countries’ risk profiles.

Finally and related, the third item not or barely treated in the four country media is risk identification and risk reduction issues. The practical result of that silence is to forfeit the opportunity to put DRR explicitly on the public agenda, without which permanent DRR advances are unlikely-to-impossible.

References

Ackerman, John M., *Social Accountability in the Public Sector: A Conceptual Discussion* (Washington, DC: The World Bank, Social Development Papers, no. 82, March 2005).

Bovens, Mark, "Analysing and Assessing Accountability: A Conceptual Framework," *European Law Journal* 13-4 (July 2007): 447-468.

Olson, Richard Stuart and Vincent T. Gawronski, "From Natural Disaster to Political Crisis: A '5C+A' Framework for Analysis," *International Studies Perspectives* 11-3(August 2010).

Olson, Richard Stuart, Juan Pablo Sarmiento, and Gabriela Hoberman, "Establishing Public Accountability, Speaking Truth to Power, and Inducing Political Will for Disaster Risk Reduction: Ocho Rios+25," *Environmental Hazards* (forthcoming 2011).

Quarantelli, E. L., "Presidential Address: What Should We Study? Questions about the Concept of Disasters," *International Journal of Mass Emergencies and Disasters* 5-1 (March 1987): 7-32.

United Nations International Strategy for Disaster Reduction (UNISDR), *Terminology on Disaster Risk Reduction* (Geneva, Switzerland: UNISDR, 2009).