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[See table of contents](#)

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Article abstract

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Not all Natural Disasters are Covered Equal: A Focus on Canadian Media

By Aaida Mamujiⁱ and Bilel Kchoukⁱⁱ

Abstract

When Canada launches a Matching Fund in response to natural disasters abroad, the federal government commits to match dollar-for-dollar donations made by the Canadian public to eligible charities participating in disaster-relief efforts. In this study, we used both quantitative and qualitative research methods to analyze Canadian news coverage in response to these humanitarian crises. We found that there was variance in media coverage depending on the nature of the natural disasters, namely whether the disasters were sudden-onset or slow-onset. Sudden-onset disasters not only benefited from more television airtime and print media, the content of coverage was characteristically different than slow-onset disasters.

Keywords: Natural disasters, media coverage, humanitarian assistance, Matching Fund, Canada

Résumé

Lorsque le Canada lance un programme de jumelage des dons en réponse à des catastrophes naturelles à l'étranger, le gouvernement s'engage à verser un dollar pour chaque dollar que le public canadien offre aux organismes de bienfaisance admissibles et qui participent aux efforts de secours. Dans cette recherche, nous analysons la couverture médiatique canadienne de ces crises humanitaires, en prenant appui sur des approches quantitative et qualitative. Nous constatons qu'il existe des différences dans la couverture médiatique nationale en fonction de la nature des catastrophes naturelles, à savoir si les catastrophes se produisent soudainement ou se déclenchent lentement. Les catastrophes soudaines ne bénéficient pas seulement d'un plus grand temps d'antenne à la télévision et d'un volume de couverture supérieur dans la presse imprimée, elles ont également un contenu de couverture typique et distinct de celui des catastrophes à évolution lente.

Mots-Clés : Désastres naturels, couverture médiatique, assistance humanitaire, programme de jumelage des dons, Canada.

Introduction

While “sudden dramatic disasters like volcanoes or tsunamis are intensely newsworthy” (IFRC, 2005, p.129), some major catastrophes have been referred to as “orphaned disasters” (CNN, 2005). These disasters, despite causing significant human loss and suffering, lack media focus and attention, and fail to attain a level of impactful presence in the collective consciousness. The tension between the kinds of tragedies that capture media attention and those that remain “forgotten” has long been the subject of critical debate (Moeller, 2006). Differences in images of human suffering and infrastructure destruction caused by certain disasters contribute to uneven news coverage. This is particularly the case for slow-onset disasters such as climate change, flooding incidents, and drought, which are “difficult to describe, let alone film” (IFRC, 2005, p. 129). This variance in coverage results in differing levels of attention paid to disasters by the public and officials, and has a direct effect on public and institutional generosity towards those disasters.

In what some call the “CNN effect,” media can arguably influence foreign policy agendas of western governments, as well as the allocation of aid as related to public awareness (Robinson, 2002; Eisensee & Strömberg, 2007; Birkland & Lawrence, 2009). In their seminal work, Olsen, Carstensen, and Høyen (2003) demonstrate a correlation between the seconds of airtime on prime-time news for a particular disaster to generosity of the response. Van Wassenhove (2006) contends that differences in media coverage result in an over-financing of sudden-onset disasters in contrast to under-financing of slow-onset disasters (see also Benthall, 1993; Brauman, 1993; Brown & Minty, 2008). This is the case despite the fact that slow-onset disasters have typically been found to be more extensive in their impact and more destructive in the long term than sudden-onset events such as earthquakes and hurricanes (Pelling, Özerdem, & Barakat, 2002).

However, it should be noted that intensity of media coverage is not necessarily a determinative factor for humanitarian aid provision or allocation (e.g., Drury, Olson, & Belle, 2005). In trying to understand international aid patterns, donor countries have been found to buttress the disaster-relief actions of major donors (Fink & Radaelli, 2011). Affordability, past policy decisions, and bilateral relationships with recipient countries also affect the options considered (Pratt, 2000). The scale of emergency assistance that a humanitarian crisis attracts has been found to be determined by the degree of political interest that donor governments have in a particular region as judged from a security perspective,

along with the strength of humanitarian non-governmental and other international organizations present in the disaster-affected country at the crisis' onset (Olsen et al., 2003). Using Disaster Assistance Committee (DAC) data on bilateral aid flows, Alesina and Dollar (2000) show that a colonial past and voting patterns in the United Nations play more of a role in determining aid allocation by donors than the contemporary state of the economy or political institutions in recipient countries.

Thus, while the media has been shown to play an important role in disaster response, particularly in sudden-onset disaster, the interrelationship between media coverage, generosity, and the nature of a disaster is complex. This paper contributes to this discussion through the presentation of a case study that analyzes media coverage following disasters that triggered the launch of Canada's Matching Fund policy, one that has been employed for only nine foreign natural disasters since its inception over fifteen years ago, despite the hundreds of disasters that have occurred in that time. This case study is of particular interest given that these nine natural disasters consisted of both sudden and slow-onset disasters. The cases are similar enough at a macro-level to become focusing events (Hilgartner & Bosk, 1988) that warranted the Government of Canada to launch a Matching Fund, but each had their own disaster narratives (Schuller, 2016) that we seek to unpack.

Rather than statistically test the correlation between some independent factors and a dependent variable to determine aid patterns, we instead examined media behaviour in its coverage of natural disasters that triggered the Canadian Matching Fund policy. More precisely, the question we pursued is whether there exists evidence of differentiated coverage of natural disasters in Canadian media and, if so, how was it expressed? In answering this question, instead of focusing on causes (the "why") that would explain any irregularities in coverage, our research aimed to address the ways that this coverage varies (the "how").¹

Inspired by literature on focusing events and framing theory, we conducted an in-depth analysis of Canadian media coverage during Matching Fund periods.

¹ Although the nature of the disaster (i.e., sudden-onset versus slow-onset) seems to adequately point out differences in media coverage, we use this distinction merely as an indicator, not a causal explanation. Given that the number of cases is small (9), we cannot statistically test the relationship between the nature of the disaster and media coverage. Similarly, although research findings can provide insight into understanding the relative generosity of Canadians towards international humanitarian crises, a causal relationship between the nature of coverage and public response cannot be demonstrated within the framework of this paper.

We observed that natural disasters were covered unevenly based on the type of disaster (slow-onset versus sudden-onset), and that this strong dissimilar coverage was characteristically marked in terms of content and the extent of edited (i.e., printed and aired) news. In providing both quantitative and qualitative empirical data analysis, this study contributes to literature that explores the role of media and civil society in disaster response. It is also a stepping stone towards future research that explores the relative generosity of Canadians applied toward international humanitarian crises.

This article continues as follows. In the next section, we further detail the case study and its justification. We then present a review of literature that establishes the theoretical means of analyzing the links between media coverage and natural disasters. After that, we present the methodology and data sources used, and then illustrate the results through three lenses: (a) quantitative analysis of television news airtime and frequency, (b) content analysis of printed newspaper coverage, and (c) a qualitative and comparative analysis of printed newspaper's headlines. We conclude with a summary of the main findings of this research.

1. Case Study: Canadian Public Responses to Foreign Natural Disasters

In Canada's International Policy Statement (IPS) released over ten years ago, international assistance is argued to be "one of the clearest expressions of Canadian values and culture—of Canadians' desire to help the less fortunate and of their strong sense of social justice—and an effective means of sharing these values with the rest of the world" (DFAIT, 1995, p. 40). In fact, the Canadian public has the ability to directly shape the magnitude of its government's international relief efforts through the Matching Fund mechanism. First introduced during Canada's response to the 2004 Indian Ocean basin earthquake/tsunami, when Canada launches a Matching Fund the government commits to match dollar-for-dollar the donations that the Canadian public makes to eligible charities participating in disaster-relief efforts. Similarly, following the 12 January 2010 earthquake in Haiti, Canada used its Matching Fund mechanism to launch the Haiti Earthquake Relief Fund. Minister of International Corporation Bev Oda praised the response of civil society, asserting that Canadians "once again demonstrated compassion and generosity," and so the government removed its initial cap of CAD 50 million (FATDC, 2010). During the month that the fund was open, the public raised CAD 220 million for relief efforts.

Besides the response to the 2004 Indian Ocean tsunami and 2010 earthquake in Haiti, the Matching Fund mechanism was used seven additional times by the Canadian government in response to natural disasters abroad. These included the response to the 2008 Sichuan Earthquake and Burma Cyclone Relief Funds; the 2010 flooding in Pakistan; the long-standing drought in the Horn of Africa in 2011; the 2012 response to the food crisis in the Sahel; Typhoon Haiyan, which hit the Philippines in 2013; and the twin Nepal earthquakes in 2015 (see Table 1).²

Of the foreign natural disasters that have resulted in launching Canada's Matching Fund, six were sudden-onset and three were slow-onset. Unlike sudden-onset calamities, slow-onset disasters lack a clearly identifiable start time, have resulting impacts that evolve slowly, do not have an identifiable low point after which the worst is over, and usually expand to areas outside their initial site of revelation (Zamani, Gorgievski-Duijvesteijn, & Zarafshani, 2006). Sudden-onset natural disasters include earthquakes, hurricanes, and tsunamis, while slow-onset disasters constitute processes such as climate change, flooding, and drought.

² Only six disasters were deemed appropriate for analysis given the methodological approaches adopted in this study. The 2008 events in Burma and China occurred only 10 days apart, and the Government of Canada announced Matching Funds for both these events on the same day (15 May 2008). As a result of the overlapping media coverage and Matching Fund duration, analysis of those disasters individually, especially through the quantitative techniques employed here, would be skewed. The crisis in Sahel was excluded from this study for reasons pertaining to methodology. Archival records from CBC produced no reference to the events in the 10 countries of the Sahel region throughout the duration of interest (and a low number of newspaper records, $n = 18$). Given that the nature of this study is comparative, only cases that could be meaningfully analyzed in both the quantitative and qualitative components of this study were deemed suitable for inclusion. Also not included was the Government of Canada's Syria Emergency Relief Fund, which was launched on 12 September 2015, in response to the conflict in Syria. The fund had an initial 31 December deadline, but was then extended to 29 February 2016. This event was not included because the fund was launched in response to a human-caused disaster rather than natural hazards. Human-caused disasters consist of politically motivated violence and opposing sides, making for inadequate comparison to natural disasters in terms public reaction and media coverage.

Table 1. Summary of selected cases of Canadian Matching funds launched in response to foreign natural disasters

Event	Sudden/Slow-onset Disaster	Date of disaster onset	Matching Fund Start date	Matching Fund End date	Amount Raised	
					Total	Million \$/day (CAD)
Indian Ocean Tsunami	Sudden	26 December 2004	26 December 2004	11 January 2005	\$150 million	9.375
Earthquake in Haiti	Sudden	12 January 2010	12 January 2010	12 February 2010	\$220 million	7.097
Pakistan Flooding	Slow	21 July 2010	2 August 2010	3 October 2010	\$46.8 million	0.758
Horn of Africa Drought	Slow	15 June 2011	6 July 2011	16 September 2011	\$70.5 million	0.986
Typhoon Haiyan	Sudden	8 November 2013	8 November 2013	23 December 2013	\$85 million	1.889
Nepal Earthquakes	Sudden	25 April & 12 May 2015	25 April 2015	25 May 2015	\$51.7 million	1.733

Source: Authors

It is clear from Table 1 that Canadian generosity to these devastating events was quite varied. All slow-onset disasters resulted in far less money raised by the public, both in total and when approximating the money raised per day based on the duration of the Matching Fund. This paper aids in understanding this trend through analysis of media coverage during Matching Fund periods. The following section develops a theoretical basis for our approach.

2. Natural Disasters and Media

In public administration literature, focusing-events are defined as sudden and relatively uncommon occurrences with great potential for harm (Schneider, 1995; Birkland, 1998; Kingdon, 2003). They require almost immediate mobilization and problem solving in order to address resulting issues. The extent of focusing events is understood by considering the “arenas” where a social problem’s definition evolves. Arenas are the “environments” where social problems

compete for attention and grow, and where their success (or size or scope) is measured by the amount of attention devoted to them (Hilgartner & Bosk, 1988). Different arenas have different carrying capacities, each of which can be indexed by various measures. For example, a carrying capacity index for newspapers and magazines is column inches, while minutes of airtime are used to determine the same for television and radio news (Hilgartner & Bosk, 1988). Arenas include, amongst others, the news media, the executive and legislative branches of government, political campaign organizations, social action groups, the public arena, and direct mail solicitations.

In addition to carrying capacity, also important for understanding focusing events is analysis of the nature of coverage itself. Framing theory, as used in media and communications studies, is based on a belief that the way in which an issue is characterized influences how an audience understands it (Chong & Druckman, 2007). It is the “selective exposure of information to an audience,” whereby particular attributes are emphasized and others subdued (Soroka et al., 2013, p. 207). Framing techniques likely direct individuals to “focus on [certain] considerations when constructing their opinions,” which in turn cause them to dismiss others (Druckman, 2001, p. 1042). As long as individuals and the media define a situation as a crisis, the situation will be established as a crisis (Crelinsten, 1994; Birkland & Lawrence, 2009). For example, Birkland (1997, 1998) argues that images of cleaning the Exxon spill were futile because there was no way that the effects of the disaster could be changed by the cleaning efforts. Those images, however, worked to ease public anger toward the event. Disaster narratives tell “the story as well as the history, calling to question what issues are to be discussed—and what excluded—how, and by whom, and who is declared to be an actor, and who is framed out of the story” (Shuller, 2016, p. 83).

Given that Canada responds to hundreds of disasters every year, but only nine resulted in the launch of a Matching Fund, these disasters can be considered as focusing events in the Canadian context. Robitaille (2009) showed that the proportion of humanitarian funding from the Canadian government has been significantly higher for the most publicized crises, and publicized humanitarian disasters have been found to attract more aid than political unrest (see also Martin, 2005; Rioux, 2006). Keita (2009) looked specifically at French media coverage and uncovered discrepancies in the amount of media coverage based on the characteristics of each event, including geopolitical, economic, cultural, and ethical factors. In this study, a framing theory perspective was applied to media coverage throughout the duration of a Matching Fund, thereby providing

an editorial decision perspective for studies that seek to understand the relative generosity of the Canadian public towards these focusing disasters.

In particular, we analyzed media coverage in response to four sudden-onset disasters, namely the 2004 Indian Ocean tsunami, the 2010 earthquake in Haiti, the 2013 typhoon in the Philippines, and the 2015 twin-earthquakes in Nepal, as well as two slow-onset disasters, namely the 2010 flooding in Pakistan and Horn of Africa drought in 2011 (see Table 1). The following section details our methodology for conducting in-depth analysis of media coverage for these events.

3. Methodology

To effectively analyze the differences in media coverage between the two families of humanitarian disasters, we opted for a mixed methodology approach, employing both quantitative and qualitative methods. We considered two data sources of mainstream media: Canada's national public broadcaster, CBC Television, and print articles published in the most widely read newspapers in the country.^{3,4} Television coverage was obtained from the Canadian Broadcasting Corporation (CBC), and print coverage was obtained through the search engine Factiva.^{5,6} Using both television and print coverage triangulated results and

³ Social media and online news coverage were not included in this study. Including online sources would inevitably move the study away from the impact of domestic sources on the Canadian public because much online media originates from a large variety of countries and international organizations. We analyzed television coverage in Canada's two official languages, English and French. Since similar trends for airtime and frequency were apparent in French coverage, with language not found to influence results. As such, only data for English media coverage are provided in this paper.

⁴ Canadian Broadcasting Corporation Television (CBC) is headquartered in Toronto, Ontario. CBC Television is available through over-the-air television stations across Canada, and broadcasts on both English and French channels. English newspaper coverage included analysis of the three most widely read newspapers Canada: *Toronto Star* (TS), *Globe and Mail* (GM), and *National Post* (NP). According to the websites of these newspapers, in 2016 the *Toronto Star* had an average of 300,000 prints on weekdays (540,000 on weekends); the *National Post* had an average of 680,000 prints on weekdays (860,000 on Saturdays); the *Globe and Mail* had an average of 320,000 prints on weekdays (400,000 on Saturdays). The number of readers, however, is usually significantly higher than the number of prints in circulation, as more than one person often reads the same newspaper. For example, the *Toronto Star* has more than 1 million readers on average on weekdays, more than three times its circulation.

⁵ CBC archive searches for holdings across Canada were conducted with the help of the CBC Media Librarian. These included network (e.g., *The National*, *The Hour*, *Connect with Mark Kelley*) and regional programming (e.g., *Vancouver at 5*, *Montreal Late Night*), but did not include stock coverage (i.e., that received from agencies such as Reuters). The following search parameters

enabled us to study both coverage time and coverage content throughout the period of investigation, namely from the period corresponding to disaster onset to the end of the government's Matching Fund. Given that disaster onset can be difficult to determine for slow-onset disasters, the onset date selected here corresponded to when international attention to the events increased as reflected by a noticeable increase in international media coverage of those events.

With respect to television coverage, we compiled both airtime and frequency of coverage discussing each disaster. This data enabled case-by-case comparison of the intensity of media coverage. Newspaper coverage was the subject of two examinations: the first, qualitative, focused on the headlines of the news articles related to each disaster; the second, quantitative, explored the content of the written coverage by statistically studying the nature of the three hundred most frequently used words in the coverage of each disaster. This detailed examination of a total of 1879 articles enabled us to better understand the themes and ideas associated with each disaster.⁷ Further details on how we operationalized the main variables will be provided in their respective sections.

4. Results

4.1. Television Coverage: Coverage Airtime and Frequency

Two complementary measures were used to analyze television coverage of the six natural disasters studied. The first, *airtime*, represents the length of time devoted to covering the natural disasters on television screens, day after day, during the period of interest. The second, *frequency*, measures the number of news segments, reports, or programs covering the disaster each day. Each variable suggests a different dimension of media processing. The first variable, measured in seconds, illustrates the gross quantity of disaster-related

were used for each case, respectively: "tsunami*"; "Haiti + earthquake*"; "Pakistan + flood*"; "Africa + drought*"; "Philippines + Typhoon*"; and "Nepal + earthquake*". The wildcard "*" was used to capture words that include letters in the same sequence. For example, "flood*" would search for floods, flooding, flooded, and floodwaters. News features that did not mention the natural disasters specifically were deleted prior to data analysis. For longer television programs that featured multiple stories, the total time was divided equally by the number of stories aired. Data received was transferred to a spreadsheet in order to calculate television coverage per day and to generate graphs for total coverage over time.

⁶ The Factiva searches used the same search parameters as for television, as listed above.

Information used from the generated reports included the headlines and the text of the articles.

NVivo was used for word frequency analysis for words of four letters or more.

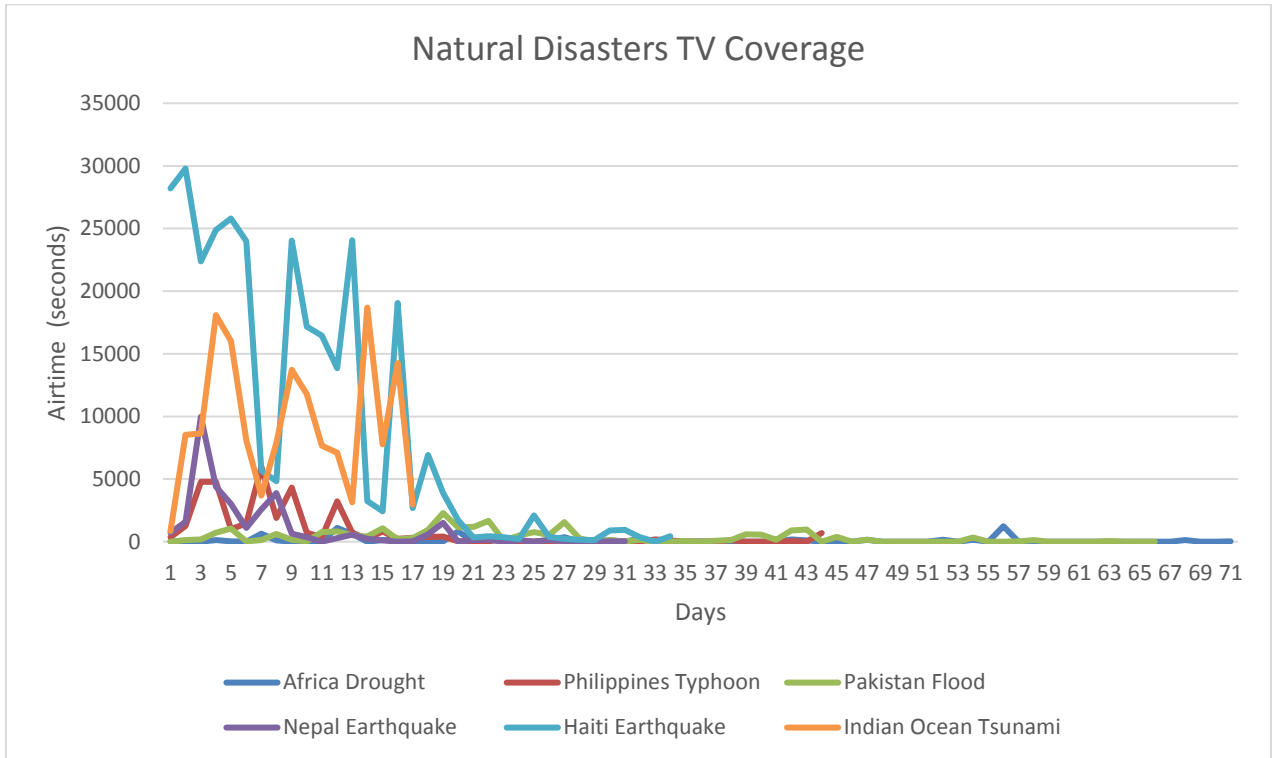
⁷ The specific breakdown of articles was as follows: Africa (51), Nepal (109), Tsunami (1010), Philippines (122), Pakistan (49), and Haiti (556).

information delivered to the public. The second illustrates the repetitiveness or recurrence of disaster-related news coverage each day. News airtime and frequency are correlated but not strictly dependent. The Pearson's correlation coefficient between them is at least 0.8, depending on the case studied, meaning that there exists a strong and positive linear relationship between them. When considered together, airtime and frequency give a clear picture of the importance given by television to the crises.

We present our results in two formats. The first (Figure 1) illustrates the airtime for each disaster during the period of study. The graphs offer a visual demonstration of the distinction in television media coverage between the two families of disasters (i.e., the Pakistan and Horn of African disasters versus the Haitian, Nepalese, Filipino, and South Asian disasters). The second (Figures 2 and 3) takes the form of histograms and statistics, allowing the analysis to go deeper than the visual aspect of the curves.

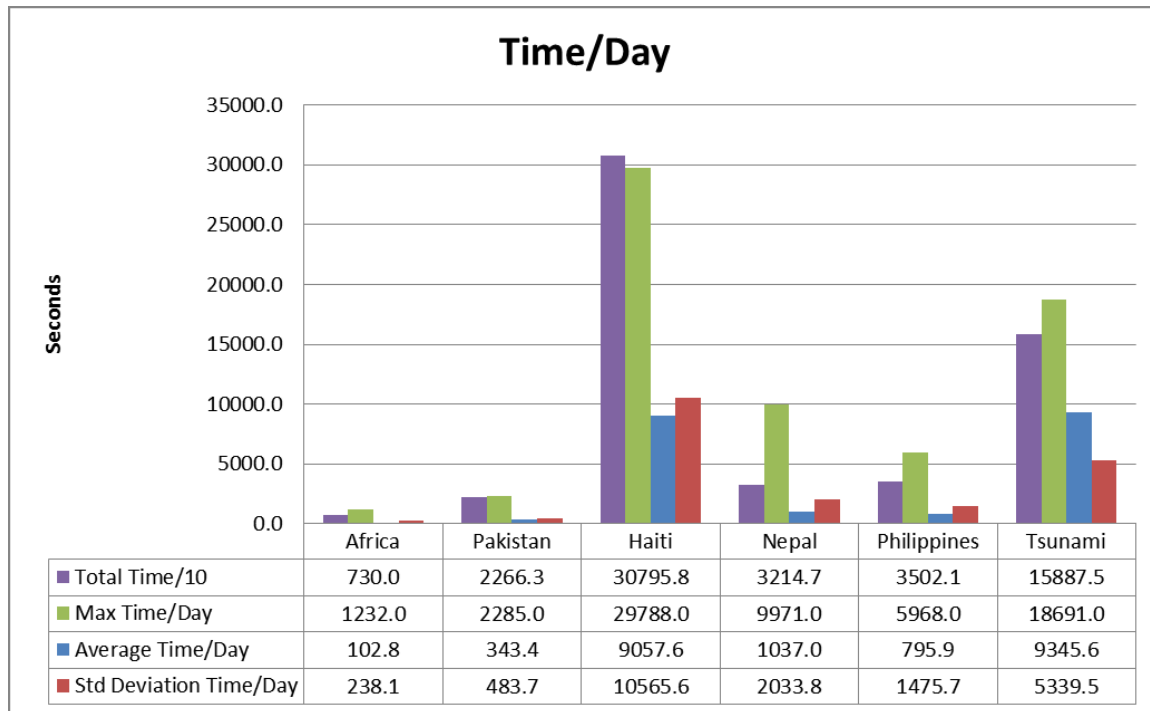
Looking at Figure 1, a distinction is noticeable in the scales of both sets of disasters, with the slow-onset disasters showing much smaller amplitudes than the second group. More specifically, the Pakistan and Africa disasters have 3 to 15 times lower daily airtime peaks than the coverage of other disasters. This is despite the coverage interval (i.e., the period studied) being 2 to 3 times longer for the slow-onset disasters. Statistical analysis of the cases studied is also telling.

Figure 1. Airtime coverage for the six natural disasters studied



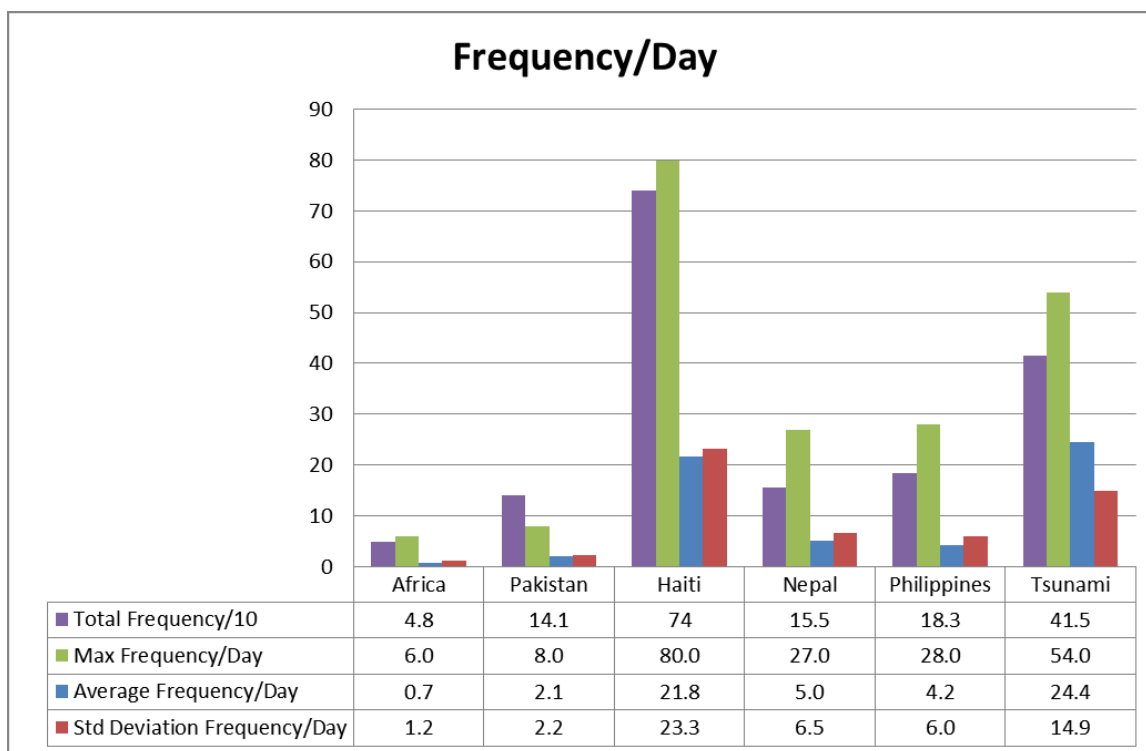
Source: Authors

Figure 2. TV news time statistics



Source: Authors

Figure 3. TV news frequency statistics



Source: Authors

In order to investigate whether an objective distinction exists in the televised coverage of both sets of disasters, four measures were used to summarize the statistical information of the disasters: (a) cumulative airtime/frequency over the entire study period, (b) maximum airtime/frequency reached on a day, (c) the average airtime/frequency per day, and (d) the standard deviation of the daily airtime/frequency. Each of these measurements provides a distinct means of interpreting television coverage. Both cumulative and average airtime/frequency represent the overall importance of the events in the eyes of the television broadcaster. Calculations for maximum airtime/frequency reflect the degree of urgency of the events when compared to one another. Standard deviation calculations give an indication of the stability of the media coverage overtime (i.e., whether there is sporadic coverage, where some days have more media coverage over others).

Our analysis confirms the distinction in media treatment between two types of disasters. The values of the airtime and frequency variables, whether in terms of cumulative, maximum, or average measures, are much lower for the slow-onset disasters than for the sudden-onset ones. In other words, television devoted

much more total time, peak duration, and average duration (but also maximum, average, and total frequency) to cover the sudden-onset disasters than the slow-onset disasters. Analysis of the standard deviations, on the other hand, suggests high stability in coverage of slow-onset disasters compared to sudden-onset cases. In other words, slow-onset disasters experienced consistent, low-level coverage, whereas sudden-onset disasters had coverage that was variable, with increased coverage immediately following disaster onset that slowly decreased as the days pass.

In summary, coverage related to slow-onset disasters was constant, regular, and even routine. It varied little from one day to the next, leaving little room for any media shocks or sensationalization. For sudden-onset disasters, however, intense variations suggest unpredictability and a keen interest from the media on evolving events. The Haitian case here is significant. On average, coverage included 22 news segments aired per day, with up to 80 news segments in a single day. This amounted to an average airtime of 2.5 hours per day, and a peak of nearly 8 hours in the same day, the latter of which corresponded to a celebrity-packed telethon that aired on CBC television on 22 January 2010 to boost donations to the earthquake in Haiti. The very large standard deviation of the two variables (airtime and frequency) for the Haitian case shows the intensity and variability of the media fervour. Yet, to the contrary, when one considers coverage of the Horn of Africa drought, coverage was consistent, with less than one reference per day on average, and less than 2 minutes of daily information on the natural disaster.

From these findings we can conclude that there was broad discrimination in television coverage between the two families of disasters: sudden-onset disasters garnered media “hype” and experienced intense coverage, while slow-onset disasters received regular and “low-intensity” treatment. In the following sections, we analyze newspaper coverage to determine what difference in qualitative treatment, if any, separated the relayed information on each disaster.

4.2. Newspaper Coverage: Content Analysis

In order to facilitate content analysis of newspaper coverage, we organize the most frequent words in newspaper coverage of each case into four codes: (Code 1) help on the ground, including monetary donations; (Code 2) danger and/or conflict; (Code 3) domestic dimensions of the crisis, as they related to Canada; and (Code 4) international dimensions in coverage. These codes elucidate the degree to which assistance was needed and/or being offered (Code 1), and the degree to which the coverage made reference to different forms of conflict and/or

aggression in the affected areas (Code 2). Together, these two codes help elucidate the degree to which the coverage was more “attractive” versus “repulsive” to readers. (Code 3) and (Code 4) enable the degree to which the disasters were presented as either national matters (i.e., relating to Canada) or a foreign concern.

In Table 2, we present a representative illustration of the four codes. Terms such as "Donations," "Charities," "Rescue," and "Relief" refer to the need to help victims and relieve their pain (Code 1). Words such as "Islamist," "Fighting," "Crime," and "Killings" are directly related to a terrorist, criminal, and military dimension of the crisis (Code 2). Expressions such as "Canada," "Montreal," "Ottawa," and "Harper" highlight the national dimension of the disaster (Code 3). Finally, words similar to "International," "Foreign," "Europe," "China," and "States" emphasize the involvement of foreign states or organizations in response to the natural disaster (Code 4).

Table 2. Illustration of the lexical themes codes used for the content analysis

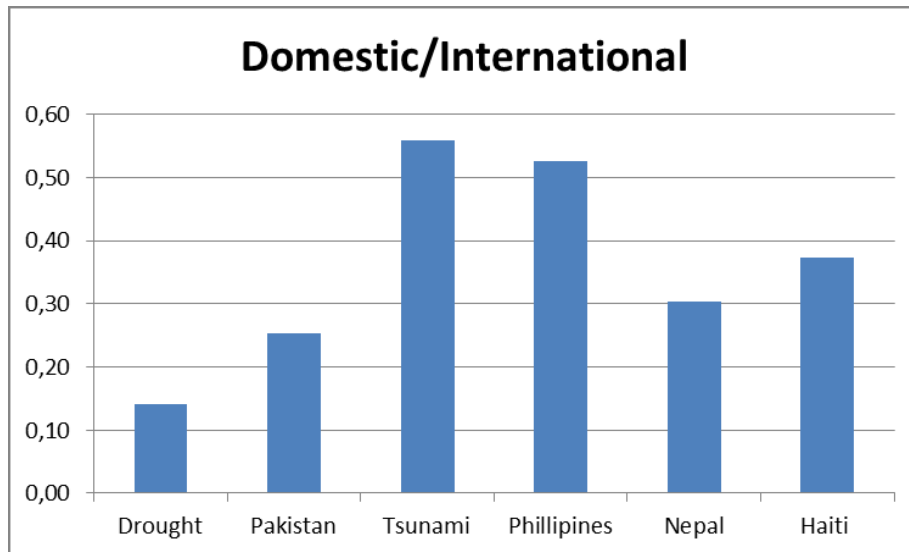
Help and Donations	Danger and Conflict	Domestic	International
Donations	Shabab	Canada	America
Charities	Islamist	Toronto	International
Unicef	Al Qaeda	Montreal	Foreign
Oxfam	Troops	Quebec	China
Relief	Piracy	Harper	Warsaw
Assistance	Taliban	Calgary	British
Feeding	Fighting	Martin	States
Rescue	Killings	Vancouver	France
Humanitarian	Crime	Paradis	Europe
Reconstruction	Attacks	Ottawa	UNESCO

Source: Authors

We collected and store in a database the words related to these codes, as well as their proportion in the sourced articles. For example, words containing the word “flood,” such as “flood,” “floods,” and “flooding,” weigh 1.48% of the articles describing the disaster in Pakistan, while the word "relief" constitute 0.37% of the articles discussing the Indian Ocean tsunami. Using these weights, we were able to account for the Relative Weight (RW) of the codes in the coverage of each particular disaster. This was determined by summing the proportions of the different words for each code. For example, the "International" field (Code 4)

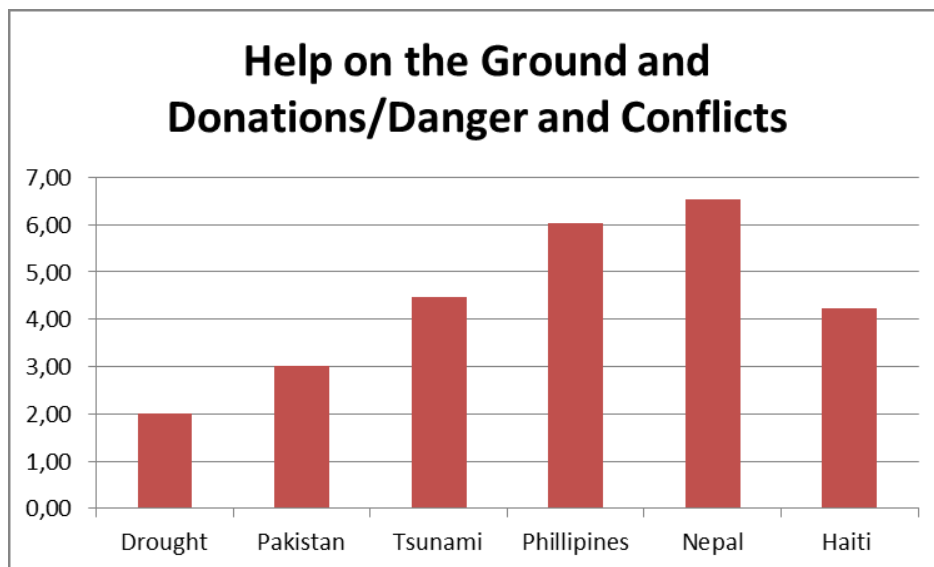
weighs 3.92% of the articles discussing the Philippine disaster, while the "Danger and Conflict" field (Code 1) weighs 0.45% of the articles related to the Nepal crisis.

Figure 4. Help/Danger index by disaster



Source: Authors

Figure 5. Domestic/International index by disaster



Source: Authors

In order to facilitate content analysis, we defined two indices of representativeness. Index I evaluates the attractive versus repulsive aspects of a

crisis, while Index II evaluates the domestic versus international dimensions of the crises. In mathematical terms, Index I = $RW(\text{Help})/RW(\text{Danger})$ and Index II = $RW(\text{Domestic})/RW(\text{International})$. These two indices allow us to understand how each disaster was described compared to others. Figures 9 and 10 summarize these indices for the 6 disasters.

These graphs show two results. Compared to other disasters, newspaper coverage of the two slow-onset disasters, namely the drought in the Horn of Africa and the 2010 flooding in Pakistan, made more reference to conflict and violence in the affected areas than to help on the ground. In these cases, then, what was highlighted more than humanitarian need and avenues to assist was the danger and conflict in the affected areas. These slow-onset disasters were also described as being more foreign and international rather than domestic issues, thereby making the crises and their response more distant from Canada. Coverage of the sudden-onset disasters placed more emphasis on the need for assistance and donations on the ground relative to their slow-onset counterparts. Furthermore, the natural disasters in Haiti, the Philippines, Nepal, and Southeast Asia were depicted as affecting Canada, its institutions, and its population far more than in the cases in Pakistan or the Horn of Africa. Given that the slow-onset disasters are at the bottom of the scale of “attractiveness” and national proximity, it seems fair to say the latter cases were presented in ways that were less conducive to the involvement of the Canadians. Our analysis of print media headlines in the following section further illustrates this argument.

4.3. Newspaper Coverage: Comparative Analysis of Headlines

Conducting a comparative analysis of newspaper headlines has several justifications. Headlines typically constitute a synthesis of the content within an article and the catch phrases that invite those interested to continue reading. In other words, a headline both informs and “sells” the news. As Dor (2003) explains, headlines “are designed to optimize the relevance of their stories for their readers”; they are chosen in a way to “help [readers] get the maximum out of [the] informational flood for the minimal cognitive investment” (pp. 696, 719). Analyzing headlines thus makes it possible to better understand priority issues in the eyes of newspaper editors and journalists in order to capture readers’ attention. In fact, in his comparative study of public versus commercial news headlines during Canada’s 2006 federal election campaign, Andrew (2013) demonstrates how headlines play a key role in influencing how citizens are informed, and about what. When such an analysis is comparative, it enables us to identify recurring themes in the coverage of a particular event, and to compare these themes with coverage of other events.

Rather than discuss our analysis of headlines of each of our six cases individually, in this section we present six central themes that emerged from our investigation, and discuss the cases as they relate to these themes: a) Non-human consequences, b) Human consequences, c) Non-Canadian assistance, d) Canadian institutional assistance, e) Canadian private aid (including donations), and f) Violence.⁸

Non-Human Consequences

Headlines that discussed the physical destruction caused by the natural disasters were quite numerous for the cases in the Philippines and Haiti in comparison to the other four tragedies. In both these examples, the headlines emphasized the power of devastation—e.g., *Haitians left alone to sift through the destruction: 'Crumbled like a deck of cards'* (NP, 14/01/2010), and *A safe refuge becomes a place of desolation* (TS, 15/11/2013). For the crises caused by the Nepal earthquakes and the Indian Ocean tsunami, economic destruction was highlighted. In the first case it was to suggest the seriousness of the damage, and in the second to mitigate such fear—e.g., *Economic devastation is likely to be widespread and painful* (TS, 02/05/2015), and *Asian economic impact limited as infrastructure escapes worst* (GM, 04/01/2005). For the Horn of Africa drought and the Pakistan disaster, the emphasis, rather, was on the failures of the state or region in responding to events in terms of food, housing, and basic necessities—e.g., *Failed state gives rise to famine: Drought-stricken and ungoverned region of Somalia faces worst food crisis in past 20 years* (GM, 21/07/2011), and *The flood exceeds the state's abilities* (GM, 17/08/2010).

Human Consequences

Headlines discussing the human consequences of these events (deaths and injuries) were numerous in coverage of most of the cases being explored. The chilling headlines highlighted the number of dead, missing, and injured people day after day—e.g., *Estimated 50,000 dead: On the streets of a city in shock, ruin* (NP, 15/01/2010), and *Devastation; Nearly 1,900 killed, thousands injured as earthquake slams Nepal* (TS, 26/04/2015). In fact, numerous headlines referred to the Canadian victims in Haiti, Nepal, and Southeast Asia, although this was not the case for the flooding in Pakistan or the drought in the Horn of Africa—e.g. *Many Canadians are still listed as missing or lost in the areas affected by the tsunamis* (GM,

⁸ Every argument in this section is illustrated by one headline per disaster involved. We chose this format of illustration to reflect the diversity of the headlines, but also to ease readability by avoiding too many examples. If it is not obvious from these headlines the disaster being referred to, the dates following the abbreviated newspaper names (see note 4) should be consulted to identify the event being discussed.

11/01/2005), *1,415 Canadians still missing days after earthquake, as loved ones fear worst* (GM, 16/01/2010), and *Help me, Calgarian pleads from Nepal, 'Literally bawling'* (NP, 29/04/2015). Headlines regarding the Horn of Africa drought never cited a precise (or even approximate) number of deaths. Rather, the headlines for this natural disaster alluded more vaguely to the idea of abandonment or distress caused by the drought conditions—e.g. *Weak, Dying Children Abandoned; Africans on march; 'Women making horrible choice' as famine hits* (NP, 26/07/2011). Human consequences could also be psychological; uncertainty, despair, terror, and trauma were referred to in the headlines of all cases studied, highlighting the emotional impact of natural disasters—e.g., *Aid slowly stems tide of despair* (TS, 23/08/2010), *Despair in Tacloban after typhoon's wrath* (NP, 12/11/2013), and *Wave after wave of tremors terrify survivors as Nepal death toll climbs* (TS, 27/04/2015).

Non-Canadian Assistance

For the crises in Africa and Pakistan, headlines in Canadian newspapers referred primarily to the United Nations (UN) when discussing response—e.g., *Equip the UN to act faster* (TS, 22/07/2011), and *UN makes urgent appeal for \$460 million as more flood warnings issued* (TS, 12/08/2010). This moved responsibility for humanitarian assistance away from individual donor countries such as Canada, and instead emphasized the handling of the situation by the largest international organization in the world. For Nepal, references to non-Canadian assistance referred to offered individual or collective aid—e.g., *Overseas workers are fundraising for immediate relief and long-term projects* (TS, 29/04/2015). There were no headlines evoking this non-Canadian assistance in coverage of the Indian Ocean tsunami, and only one headline discussed this in the context of Typhoon Haiyan in the Philippines—*China lags on aid to storm victims: Largesse arriving from U.S., Japan, U.K., but Beijing gives \$1.5M to its political nemesis* (TS, 16/11/2013). References to non-Canadian aid in the coverage of the earthquake in Haiti discussed institutional aid offered by the United States—e.g., *U.S. dispatches disaster rescue teams* (TS, 13/01/2010).

Canadian Institutional Assistance

Canadian aid can be subdivided into two categories: public institutional assistance and private aid (individual or collective). For institutional assistance, there was a fairly marked gap between, on the one hand, very little or no reference in the cases of Pakistan, Africa, and Nepal—e.g., *Oda visits Africa* (GM, 20/07/2011), *DART awaits Pakistan's call* (TS, 24/08/2010), and *Canada rushes aid to victims* (GM, 27/04/2015)—and, on the other hand, Haiti, the Philippines, and the Indian Ocean tsunami, which were extensively covered. When Canada got involved in these latter cases, references were to monetary disbursements,

involvement of Canadian ministers, immigration measures, and the deployment of the Disaster Assistance and Response Team (DART)—e.g., *DART's swift arrival spells relief for Filipinos; Canadians 'Heroes'* (NP, 16/11/2013), and *Disaster brings out best in Canada's government* (TS 21/01/2010). Canada was thus presented as a generous donor, heavily concerned by disasters—e.g., *Canada now 5th largest relief donor, officials say* (TS, 11/01/2005), *Canadian relief close to \$40-million* (GM, 19/11/2013), and *Ottawa prepares to send hundreds of troops, gear to Haiti for historic effort: Changes to immigration rules will make it easier for Haitians* (GM, 16/01/2010).

Canadian Private Aid (Including Donations)

When it came to Canadian private aid, diaspora communities (e.g., Somali, Pakistani, Nepalese and Filipino) were often featured in the headlines—e.g., *Somali-Canadian youth seek solutions for their homeland: Projects look to overcome age-old tribalism, distrust* (TS, 30/07/2011), *Community gets hands-on in quest to raise funds: Pakistani-Canadians highlight direct role in effort to quell corruption concerns* (GM, 24/08/2010), and *Typhoon Haiyan: Toronto woman seeks to help her stricken family in Tacloban* (TS, 12/11/2013). Headlines also highlighted Canadian volunteers offering on-the-ground assistance—e.g., *Canadians stay to help people of Nepal begin to rebuild* (TS, 30/04/2015). When private aid was discussed by the headlines of the articles, it was done so positively—e.g., *A hometown hero all round: As Canadians rally fan support for victims of disaster, a Haitian player steps up his game* (GM, 18/01/2010), and *Kids wanting to help other kids this Christmas turn to charity* (TS, 02/12/2013). These appear to have been in contrast to coverage with respect to donations by the Canadian public in other cases. There were almost no headlines discussing specific instances of Canadian private aid in response to the crises in Pakistan, Africa, and Nepal, and where there was reference to donations, it was usually to update on donation status—e.g., *Canadian donations double to \$2.9 million in a week* (GM, 29/07/2011), *Canada to match individual relief donations. New fund will boost aid effort by channelling cash to 'experienced' charities* (TS, 22/08/2010), and *Where does your money go when you donate to Nepal disaster relief?* (TS, 29/04/2015). In contrast, for the response to the earthquake in Haiti, the typhoon in the Philippines, and the Indian Ocean tsunami, it was: (a) the range and diversity of donors that was emphasized—e.g., *Canadians quick to show their generosity: From students' lunch money in a small Ontario community to corporate cheques, donations to Haitian relief pour in* (GM, 15/01/2010), and *Canadians from millionaires to inmates raise \$150M* (NP, 11/01/2005); (b) the (sometimes extraordinary) generosity of Canadians—e.g., *The couple behind the \$5-million tsunami donation* (GM, 11/01/2005) (c) the emotions and positive implications of such donations—e.g., *Donations help woman get to family* (TS, 27/11/2013), and *Canadians are opening up their hearts and wallets so quickly for disaster-relief efforts in*

Haiti that some agencies are having a hard time coping with the outpouring of support (TS, 15/01/2010); and (d) administrative or governmental issues related to the donations, such as the Matching Fund policy—e.g., *How a \$550 donation can become \$3,000: Thanks to tax credit* (NP, 10/01/2005), and *Canada promises \$5-million in aid, pledges to match private donations* (GM 11/11/2013). In other words, as far as donations were concerned, some cases were neglected while others strongly and positively treated.

Violence

This theme highlights references to violence, either directly or through allusions. Three groups can be distinguished in this theme. The news headlines for Haiti and Nepal simply did not discuss this phenomenon, even though some references may have appeared in the body of the article (see Code 2, above). With respect to the Philippines tragedy, three headlines made references to looting as a consequence of the disaster—e.g., *Aid arrives as looting spreads* (GM 12/11/2013). When it came to the Indian Ocean tsunami, the drought in the Horn of Africa, and the floods in Pakistan, headlines evoked images of chaos, with references to civil war and tribalism. In these three cases, the reference to Islamism was related to that of militia violence. Whether citing the Shabab, the Taliban, or unnamed radical Islamist units in Asia, the activity of these dangerous groups seemed to constrain and limit international aid—e.g., *Pakistan Taliban target aid workers. UN vows to continue helping flood victims despite threats issued by militants* (TS, 27/08/2010), *Radical Islamic groups setting up camps near Aceh to 'make presence felt': Accused of terrorist links* (NP, 08/01/2005), and *Rebels abandon Mogadishu: New hope aid will reach starving, but Al Shabab warn they will return* (TS, 7/08/2011).

In summary, in our analysis of headlines, we distinguished six recurring themes. Understanding how these themes played out in the context of the different crises enabled us to identify instances of differential media treatment. Headlines discussing the disasters in the Horn of Africa and Pakistan were subject to unequal treatment compared to the other disasters. When it came to discussing the magnitude of the disasters, as opposed to the natural disaster itself, the focus was on state failures, but, as related earlier, no figures were given for the number of deaths in Africa. In both cases, Islamist violence was discussed as limiting international assistance, thereby underlining the danger in the situation. Aid for these events was discussed as being, after all, a matter for the United Nations, a distant and neutral institution. Canadian institutional support was scarcely mentioned, while the disaster itself did not seem to affect any Canadians. It is not surprising that the issue of donations was also underrepresented.

This coverage can be contrasted to that of the case of the earthquake in Haiti. Headlines on the tragic earthquake emphasized the magnitude and severity of the disaster. They explained how the local population was affected by the disaster; the dead, the wounded, the disappeared, the displaced, and the traumatized were frequently mentioned. Violence did not seem to characterize the situation on the ground, and no danger of human origin appeared in the headlines. Foreign aid was presented as a matter of neighbourhood. The United States, but especially Canada, were directly affected by the Haitian disaster because of proximity to the country and the large diaspora community. The disaster was depicted as affecting many Canadians, and so the theme of donations often highlighted the benefits of Canadian generosity and the diversity of donors.

In between these two extremes—with the African and Pakistani cases undergoing unfavourable coverage on the one hand, and more positive coverage in the Haiti case on the other—lay media treatment of the Indian Ocean tsunami, Typhoon Haiyan, and the earthquakes in Nepal. Coverage for these three latter cases oscillated, sometimes overrepresented in a particular theme or otherwise almost absent. This distinction underlines the inconsistency and heterogeneity of the editorial choices for these three cases.

Conclusion

Despite the multitude of social problems that exist in the world, only a small fraction become prominent and form the dominant topic of political and social discourse (Cobb & Elder, 1983; Hilgartner & Bosk, 1988; Stone, 2002). A theory that views social problems as mere reflections of objective conditions cannot explain why some conditions are defined as problems that command a great deal of societal attention, whereas others, equally harmful or dangerous, do not.

In this paper, analysis of television coverage for both airtime and frequency showed that sudden-onset disasters enjoyed more media attention than their slow-onset counterparts. Coverage of sudden-onset disasters was also more sporadic compared to the stable and consistent coverage of slow-onset disasters. These trends reflect the overall importance placed on sudden-onset natural disasters by television broadcasters, as well as their interest in, and close attention to, evolving, on-the-ground events. Media treatment in printed newspapers revealed a similar bias in coverage. Our findings show a clear distinction between how the cases of the Horn of Africa drought and the flooding in Pakistan were covered compared to the four sudden-onset disasters studied. As demonstrated by our analysis of word frequency and headlines,

editorial choices resulted in coverage that highlighted danger and conflict in areas affected by slow-onset disasters, and depicted response measures as being handled by the international community. On the contrary, sudden-onset events were described as situations conducive to material or financial aid and, above all, as affecting Canada and Canadians directly, rather than being remote matters.

Through Canada's Matching Fund mechanism, members of the Canadian public directly shape the extent of monetary support provided by the Government of Canada in response to humanitarian crises abroad. In presenting quantitative and qualitative empirical findings of Canadian media coverage, this study provides a relevant perspective for future studies that seek to explain why efforts by the Government of Canada to match Canadian donations in response to natural disasters abroad consistently result in less monetary support for slow-onset disasters.

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