PRINT MEDIA COVERAGE OF HURRICANE

HARVEY: A CONTENT ANALYSIS OF THE

HOUSTON CHRONICLE, THE *NEW YORK TIMES* AND

THE *WALL STREET JOURNAL* FROM 2017 TO 2018.

By

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Abstract: During a crisis moment like a natural disaster, people tend to rely on the mass media to get up-to-date information and stay informed. However, when media are covering crisis news, they lose some objectivity and rather than providing balanced news coverage, media may become critical towards the government and private sectors for their participation in disaster response and recovery processes. This thesis investigated the print media coverage of Hurricane Harvey and utilized data from three newspapers: the *New York Times* (online); the *Wall Street Journal* (online) and the *Houston Chronicle*. This study examined how media used frames to set an agenda during their coverage of Hurricane Harvey. By examining the media's use of descriptor, quotes, wording, and images, this research explored how media assigned a tone for government and private sectors for their role in Harvey's response and recovery. Finally, it tested an operationalized definition of disaster capitalism and discussed the usefulness of the term in the context of news media studies. Findings revealed that the human interest frame received the most media attention and the morality frame received less attention. Regarding tone, this study found that the media's overall tone for government response was neutral. However, the tone for the federal government was slightly negative, while the tone for city and state level of government was slightly positive. Finally, this research found that several indicators of disaster capitalism appear in the print media coverage and they made significant impacts both on media's frames and tone. For example, frames like "disaster profiteering" and "price gouging" showed how for-profit organizations took advantage of the crisis and exploited the situation for more profit. However other frames related to disaster capitalism did not receive much attention. Further, previous studies showed an extent of privatization was initiated in the aftermath of several natural disasters like the Haiti earthquake and Hurricane Katrina, but apart from growing private investment in buying out flooded homes, this study did not find any significant example of privatization in the aftermath of Harvey. By examining the media's tone, frame and an operationalized definition of disaster capitalism, this research contributes to the media literature on disaster studies.

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CHAPTER I

INTRODUCTION

The World Health Organization defines natural disaster as, "an act of nature of such magnitude as to create a catastrophic situation in which the day-to-day patterns of life are suddenly disrupted, and people are plunged into helplessness and suffering, and, as a result, need food, clothing, shelter, medical and nursing care and other necessities of life, and protection against unfavorable environmental factors and conditions" (Natural Events 2012). The Economic Commission for Latin America and the Caribbean (2004) conceptualizes disaster as a mixture of two features: natural events capable of unleashing processes that can lead to physical damage and the loss of human lives and capital, and the vulnerability of individuals and human settlements. Along with the natural event, they identify another aspect of disaster; "socio-natural," which is produced by human actions that contributed to environmental degradation. Finally, they conclude their argument by emphasizing the social and economic context of disaster. They highlight the interaction between social, economic, and institutional processes such as poverty, social inequality, and economic underdevelopment and show how the inter-relations between these processes transform an event into a disaster (Handbook for Disaster Assessment 2014).

The Economist (2017) showed that China, India, and America experienced the highest number of natural disasters from 1995 to 2015. These included natural events such as floods, storms, heatwaves, droughts, and earthquakes. To identify an event as a disaster, they used three criteria: caused at least ten deaths; affected more than 100 people; and prompted the announcement of a national emergency. The National Centers for Environmental Information (NCEI) tracks and evaluates climate events with societal and economic impacts in the U.S. According to NCEI, the U.S. sustained 246 weather and climate disasters from 1980 to 2019, and the total worth of damage exceeded $1,690 billion. As shown in Table 1, the most common type of disaster was severe storms (43.1 %). However, tropical cyclones caused the highest number of deaths (6,487) and damages ($927.5 billion).

Table1: Billion-Dollar Events to Affect the U.S. from 1980 to 2019* (CPI-Adjusted)

Disaster type	Number of events	Percent frequency	CPI-adjusted losses (billions of dollars)	Percent of total losses	Average event cost (billions of dollars)	Deaths
Drought	26	10.6%	$247.0	14.6%	$9.5	2,993
Flooding	20	12.2%	$124.7	7.4%	$4.3	546
Freeze	9	3.7%	$30.2	1.8%	$3.4	162
Severe Storm	106	**43.1%**	$232.6	13.8%	$2.2	1,630
Tropical Cyclone	42	17.1%	$927.5	**54.9%**	$22.1	**6,487**
Wildfire	16	6.5%	$79.5	4.7%	$5.0	344
Winter Storm	17	6.9%	$48.9	2.9%	$2.9	1,048
All Disasters	233	100.0%	$1,690.4	100.0%	$6.9	13,210

Source: NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (April 9, 2019)

Some of the major natural disasters in this period were Hurricane Katrina (2005), the Mississippi River floods (2011), Hurricane Harvey (2017) and Hurricane Maria (2017). Other parts of the world also experienced several deadly and costly natural disasters. These include the Asian tsunami in 2004, the Pakistan Earthquake in 2005, Super Cyclone SIDR in Bangladesh in 2007 and the Haiti earthquake in 2010. These disasters created massive destruction to the physical infrastructure, and a vast number of communities lost homes, jobs, families, and continue to bear the associated stress and trauma. However, empirical studies indicated that not all communities are affected similarly and respond equally to these disaster events. Communities have a different approach based on their demographics, physical location, economic condition, culture, tradition, and available resources. Besides, the strength of the post-disaster response and recovery programs also affect the resilience of these communities and determine how well they will respond to and recover from disasters.

At the same time, a debate has been going on regarding the range of human activities that are taking place immediately after these natural disasters. A body of the literature has shown how natural disasters are often utilized to promote "neoliberal reforms" and are becoming a profit-making source for corporations and governments (Klein 2007; Gunewardena and Schuller 2008; Collier 2013; Sandoval and Muzzio 2015). A term introduced by Klein called "disaster capitalism" has brought attention which highlighted the controversial aspects of human intervention in the post-disaster response and recovery period. Klein defined disaster capitalism as "the orchestrated raids on the public sphere in the wake of catastrophic events, combined with the treatment of disasters as exciting market opportunities" (2007:6). Although the concept of disaster

capitalism is relatively new, several emerging studies have demonstrated how disaster capitalism emerges in disaster response and recovery phases and affects the disaster-stricken population mentally, physically, economically, and socially.

The emerging literature on post-disaster recovery critically focuses on inequality and super-profit. For example, Klein (2007) explored the relationship between mega-disaster and super profit. She traced the history of the doctrine to experimental shock therapy carried out by the psychologist Ewen Cameron in 1950. The researchers were funded by the Central Intelligence Agency (CIA), and the outcome of the project was quite significant. As a result of electric shock and torture, victims showed signs of sensory deprivation which hurt their mental and physical state and forced them to obey the imprisoners without question. By using the analogy of experimental shock therapy, Klein described the implications of "economic shock therapy" which is carried out in several countries during post-disaster response and recovery processes. Klein argues that economic shock therapy is an outcome of the idea of neoliberal market fundamentalism popularized by economist Milton Friedman. Klein demonstrates how the use of economic shock therapy enabled political and corporate elites to expand the global corporate agenda and transform mega-disasters into an extensive profit-making source.

To provide evidence, Klein offers several examples of disaster capitalism. She noticed that just four days after the Asian tsunami in 2004, the Sri Lankan government enacted a water privatization law which did not exist in their election mandate. They failed to gain public support to pass the law before the Asian tsunami. Instead of spending much effort rescuing vulnerable populations, they took advantage of the crisis to force their agenda of privatization. Klein also used the example of New Orleans after

Hurricane Katrina's destruction. She documented how some US lobbyists gathered together to map out a blueprint of privatization and corporate policies: for instance, promoting the charter schools, engaging the private organizations in the redevelopment process, and transforming the Gulf Coast into a tax-free enterprise zone (Klein 2007).

There is little doubt that Klein has broadly conceptualized disaster capitalism and provided several examples within a historical context. However, she does not offer an operationalized definition and does not adequately address the scope of disaster capitalism. Furthermore, her work does not propose empirical indicators and practical measurement of disaster capitalism. This creates confusion when researchers try to empirically measure activities related to disaster capitalism. The scope of application of the term is broad. For example, Taylor (2019) tied tourism development to disaster capitalism. Fu (2016) examined global wildfire and urban development blowback as a form of disaster capitalism. Smart and Prohaska (2017) demonstrated how social vulnerability (in the form of housing availability) was associated with disaster capitalism. Franck (2018) described the Lesvos refugee crisis as a form of disaster capitalism. All these studies used some notion of disaster capitalism to explain distinct topics like tourism development, global wildfire, social vulnerability, or the refugee crisis, which warrant the need for an operationalized definition of disaster capitalism.

Not only academics but also mass media started to utilize the term "disaster capitalism" in their coverage of crisis news. This trend is more visible especially after a natural disaster when a significant increase was observed especially in news media"s use of the term to demonstrate inequality in the disaster response and recovery process. For example, in a report "Haiti: disaster relief or disaster capitalism?" the *New*

Internationalist (2010) used the term disaster capitalism to explain the inequality that emerges in the relief activities followed by the earthquake. The *Colorlines* (2011) used the term disaster capitalism to demonstrate the slow reconstruction process in Haiti after the 2010 earthquake. They noted inequalities in the reconstruction process as newly built housing units became unaffordable to low-income communities and relate these inequalities as a consequence of disaster capitalism.

The *Aljazeera* (2018) used the term disaster capitalism to report the intended privatization of Puerto Rico's schools and electricity after Hurricane Irma and Hurricane Maria. By showing the history of Puerto Rico, they highlighted the skepticism regarding the privatization of post-disaster activities and argued that the benefit may go to the business sectors and will not reach the disaster-stricken people. The *Alternet* (2018) used the term disaster capitalism to portray the vision of state and corporation and showed the process related to disaster capitalism made a negative impact on Puerto Rico's economy when it drained so much social energy.

Norris, Stevens, Pfefferbaum, and Wyche (2007) argue media has the advantages to disseminate the information from official sources to the mass public. Media plays a vital role in communication by conveying the warning signs and providing up-to-date information about the pre and post-disaster situation. By keeping the public informed about the post-disaster scenario, the media can contribute to individual and community response and recovery process. Moller (2004) shows that natural disasters tend to receive more media attention than disasters created or exacerbated by humans-such as war or famine. Thus, it is essential to explore how media frames and shapes their news coverage

for natural disaster and in the process of how they set the agenda for the general population.

Hurricane Harvey hit the Texas coast area on August 25th morning. Hurricane Harvey was responsible for the death of more than one hundred people and created massive destruction in several parts of Texas including Harris County, Rockport, and the Bournemouth area. In a recent report, World Vision (2017) ranked Hurricane Harvey as the second-costliest disaster after Hurricane Katrina with damage around $125 billion.

According to the Pew Research Center (2007), news coverage of natural and human-made disasters received the highest percentage of America public's attention for the past several decades. In my thesis, I examine the role played by the news media in the context of Hurricane Harvey. I utilize the print media data and explore how media uses frames to set the agenda and assign tone in their coverage of Harvey. In addition to that, by looking at the post-disaster response and recovery phases, I examine how disaster capitalism influences the print media coverage of Hurricane Harvey. The primary research questions for this thesis are:

R1: To what extent has the term "disaster capitalism" been used in academic and non-academic coverage of post-disaster response and recovery literature?

R2: Which frame received the most/less attention during the print media coverage of Hurricane Harvey?

R3: To what extent does print media coverage offer a positive, neutral or negative tone of government and private sector response of Hurricane Harvey?

R 4: To what extent does print media coverage of Hurricane Harvey's response and recovery processes reflect disaster capitalism as operationalized from the literature?

Research Strategy

Protess and McCombs (2016) and Chan and Lee (2014) argue that newspapers provide insights into the dynamics of public discourse and capture interactions in the political area by accommodating contested views from various stakeholders. My literature review addresses the first research question. To address the rest of my research questions, I utilize the news media data coverage of Hurricane Harvey. The data was collected from three sources: one local, the *Houston Chronicle,* and two national, *the New York Times* (online) and the *Wall Street Journal* (online). As the data covering the range from local to national perspectives, it was anticipated that it would provide both the mainstream news and marginalized views.

I constructed a mini-corpus of articles from August 17, 2017 (the day the name 'Harvey' was given to the tropical storm) through December 31, 2018. Although Harvey hit the Texas area on 25 August, the government started their preparation before the hurricane made landfall. By using August 17, 2017, as a start date, I was able to locate activities related to disaster mitigation and preparedness taken by the government and community organizations. However, this time frame does not cover the entire recovery/reconstruction phase since reconstruction processes are still on-going for some disaster-stricken areas.

The initial search result produced a vast number of articles, particularly in the *Houston Chronicle.* This was understandable because the *Houston Chronicle* is a local newspaper and Harvey received more coverage than might be expected in national newspapers. Table 2 shows the initial search results. The total number of articles produced was more than 8000. To narrow it down, I used stratified purposive random sampling and divided the entire timeline into several phases like "Hurricane Harvey and Relief" "Hurricane Harvey and Disaster Response" "Hurricane Harvey and Disaster Recovery" "Hurricane Harvey and Disaster Capitalism." Then I used Boolean operators like "and, " "or," and keyword search like "relief," "response," which resulted in 231 articles from the *New York Times(NYT)*, 97 from the *Wall Street Journal(WSJ)* and 3259 from the *Houston Chronicle(HC)*. For the *WSJ*, I chose all the articles, for the *NYT* I chose every other article, and for the *HC*, I chose every 15th article. This procedure resulted in 122 articles from the *NYT*, 81 from the *WSJ* and 208 from the *HC* with a total of 411 newspaper articles. I saved all the data in a word database format, assigned a unique identifier for the selected articles and analyzed the data using NVivo 12. A copy of the record was uploaded to the cloud and Google Drive. Manifest, latent, descriptive and analytic coding was done for the data analysis purpose. Nvivo 12 was used for concept mapping, hierarchy charts, word clouds, framing analysis, and tone analysis.

Table 2: Initial Search Result

Period	Search Term	The New York Times (online)	The Houston Chronicle	The Wall Street Journal (online)
(August 17, 2017, to December 31, 2018)	Hurricane Harvey	299	8876	133
	Hurricane Harvey and Relief	34	1641	9
	Hurricane Harvey and Disaster Recovery	15	1952	6

	Hurricane Harvey and Disaster Response	11	1444	8
	Hurricane Harvey and Disaster Capitalism	1	0	1

My analytic approach follows the philosophical standpoint of interpretivism. Interpretivism seeks to promote understanding by looking at individual cases to trace the development of phenomena, rather than attempting to identify regularities or establish laws that explain human behavior (Crotty 1998). Aikenhead (as cited in Antwi and Hamza 2015) stated that the interpretive paradigm has two components: observation and interpretation. Observation is used to collect data regarding the targeted event and interpretation applies to construct meaning by drawing inferences from this information. This study used the observation method to collect data related to Hurricane Harvey. Then it interprets the data to examine how framing, agenda setting, and disaster capitalism affect the news coverage of Hurricane Harvey.

In sum, my research examines how print media set the agenda and contributed to the literature of media studies in three ways. I discuss how framing and agenda-setting influence the news coverage of Hurricane Harvey. I explore the tone of government and private sectors responses to Hurricane Harvey by looking at the descriptor, long quote, wording, and images from media coverage. Finally, I test an operationalized definition of disaster capitalism and discusses the usefulness of the term disaster capitalism in the context of media studies.

Organization of the Thesis

This study is structured into five chapters. In Chapter II, I discuss the theoretical foundation for this research including academic and media studies of framing, agenda

setting, and disaster capitalism. Chapter II addresses the methodology of this study including a description of the content analysis procedures. Chapter IV provides the findings and analysis which included an overview of print-media coverage, uses of frames and tones for government and private sectors and an investigation of the indicators of disaster capitalism in the news coverage of Hurricane Harvey. A final discussion and conclusion are provided in Chapter V.

CHAPTER II

REVIEW OF THE LITERATURE

In this chapter, I review academic and media literature related to framing, agenda setting, disaster recovery, social inequality, and disaster capitalism. This review section is divided into three parts. In the first section, I discuss theories related to framing, agenda setting and tone analysis in media studies. Then I conceptualize disaster capitalism and explore the relationship between disaster recovery, social inequality, and disaster capitalism. For this part, I review both academic and media coverage of disaster capitalism. Finally, I provide a summary of indicators used for the measurement of disaster capitalism and based on the summary; I offer an operational definition of disaster capitalism.

Framing, Agenda Setting and Tone in Media Studies

Several studies (Behr and Iyengar 1985; McCombs 2005; McCombs and Shaw 1972; Harbert 2010) indicated how through story selection, story placement, length, and choice of quotes; media emphasize some attributes of an event or person over others. News media not only determine which issues receive public attention but also influence how the public thinks about these issues. In particular, the authors identified two components which affect the media coverage: framing and agenda setting.

Kuypers (2010) defined framing as "a process whereby communicators, consciously or unconsciously, act to construct a point of view that encourages the facts of a given situation to be interpreted by others in a particular manner" (2012:1). Zuverink (2012) compared framing analysis with the framing of a picture. For example, if you want to frame a picture, you have to select a frame. It is quite possible that the selected frame may improve certain visual components like texture, color, or image within the photograph.   However, if you want to reframe the picture, other elements or colors "might become more apparent to the viewer. Just as the frame changes the way a picture is viewed, the frame in which we place events or ideas will have the same effects. Frames force us to filter our perceptions in a very particular way, either enhancing or taking away certain elements, ultimately appealing to the framer's view of the situation (Zuverink 2012:2).

Zuverink used news reporting as a context to describe the mechanism of framing analysis. Zuverink argues that we rarely see news reports describe every detail of an event. If they provide every detail of events, it will become indigestible. So, news reporters collect necessary data required to provide general details of a particular event. "The process by which the reporters filter certain details out, include others or highlights specific details more than others demonstrate the construction of a frame" (2012:72). Although this practice is important for the press "to perform its function of reporting, at times, personal or institutional biases influence the decision as to what to include, exclude, or highlight in a given store" (2012:73). However, framing analysis is useful to analyze a large amount of data consist of stories and releases. It also has the potential to "to look at central organizing themes throughout the data, instead of each piece

independently, framing analysis hardly gives us the implication of the coverage" (2012:73).

Another component that influences media coverage is the agenda setting. Many events are occurring around the world, and the media needs to be selective of which event/events they will cover and which ones they will ignore. McCombs and Shaw (1972) argue that when news media make that selection, they have significant control over which issues will receive attention and shape how the public views these issues. Takesshita (1997) defines the agenda as "objects accorded saliency in the media content or people's consciousness" (1997:20).

McCombs and Shaw (1993) claim "media not only tell us what to think about, but also how to think about it, and, consequently, what to think" (1993:65). McCombs (as cited in Harbert 2010) conducted a meta-analysis to evaluate the agenda-setting theory from 1972 to 2004. Their analysis pointed out three dimensions of agenda-setting theory: attention, prominence, and salience. "Attention is defined as the amount of time devoted to a particular topic; prominence refers to the placement of the story; for example, front page or lead story and the last one is valence which can be described as whether a story has a mostly positive or negative tone" (2010:12).

Advancing agenda setting, some authors have focused on "attribute agenda setting." Hester and Gibson (2003) note that traditional agenda-setting primarily is associated with the amount of news coverage, while attribute-agenda setting goes further to investigate the "tone" of news coverage. They argue "second level agenda setting

hypothesizes that both the selection of topics for attention and the selection of attributes for thinking about these topics play powerful agenda setting-setting roles" (2003:74).

Harbert (2010) examined the effect of framing and agenda setting in the media coverage of Hurricane Ike. He utilized the newspaper coverage and examined the data of the *Houston Chronicle* and the *Dallas Morning News*. They found that "the *Dallas Morning News* had a much higher percentage of stories about the economic impact of the storm than the *Houston Chronicle*" (2010:27). However, the dominant frames which both newspapers used were response/relief, devastation, economic impact, and recovery. Their findings also revealed news coverage gave more attention to coverage of the short-term effects of Hurricane Ike while they gave little attention towards issues related to mitigation and future hurricane risk reduction.

Brunken (2006) conducted a content analysis of print media coverage of government response related to Hurricane Katrina. He collected data from four sources: two national newspapers (the *New York Times* and the *Washington Post)* and two local newspapers (the *Times-Picayune*, and *The Advocate)*. He analyzed the immediate five-week data after Hurricane Katrina and looked at the common frames, agenda setting, and tone of the coverage. His study revealed that the most common frame used in the coverage was human interest, followed by conflict, attribution of responsibility, economic consequences, and morality frames. The overall governmental response for Hurricane Katrina received a modernly neutral tone. While the federal government received a more positive tone, the local government received a more negative tone. Brunken also indicated that although the framing and issue attribute varied with week-to-week coverage, the tone remains the same throughout the period. His study was useful in

understanding how print media represents government responses in a crisis such as a natural disaster.

Miles and Morse (2006) explored the role of media in natural disaster response and recovery phases. They conducted a qualitative and quantitative content analysis and investigated how media framed Hurricane Katrina and Rita (2005), adopted an "elaboration likelihood model" and collected data from television, newspaper, and opinion polls. As newspaper data sources, they collected the data from the *New York Times*, the *Washington Post*, the *USA Today* and the *New Orleans Times-Picayune*. Their study demonstrated how media used four capitals (natural, human, social, and built) to describe the vulnerability and recovery process. Their findings revealed that among the four capitals, natural capital received less coverage both in television and newspapers.

This section discusses the theory of framing and agenda setting in the context of a natural disaster. In the next section, I review academic and media literature related to disaster capitalism and examine the relationship between disaster capitalism, disaster recovery and social stratification.

Post-disaster recovery, Social Inequality, and Disaster Capitalism

Even though we are living in the age of capitalism, the government often creates and enforces regulations and policies to control unrestrained growth, to minimize the income gap, and reduce economic inequality in society. However, Klein (2007) argues that few policies allow more involvement of the private sector specifically in post-disaster reconstruction processes. Figure 1 shows how these policies minimize/change to allow more and more private sector involvement in post-disaster recovery phases. The process begins with a triggering moment which often comes as a natural/technological

disaster, war, or terrorist event. The event creates an unstable condition, and the

government takes several steps to handle the situation. However, on several occasions,

the government takes the crisis moment as an opportunity to promote economic reform

and allow the privatization of services and facilities. As a consequence, a trend of

privatization was observed in the post-disaster response and recovery activities, and the

private sector takes control of the public sector. Instead of reducing inequalities in

disaster-stricken areas, on several occasions, excessive participation of the private sector

promotes more disparity by dividing society by class, race, income, and ethnicity.

Figure 1: The Process of Disaster Capitalism (Based on Klein 2007)

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┌─────────────────────────┐
│ Event of natural/        │
│ technological disaster,  │        ┌──────────────────────────────┐
│ war, terrorism which     │        │ Privatization of post-disaster│
│ can produce a crisis     │        │ efforts and the enrichment of │
│ moment.                  │        │ private companies (real estate,│
└─────────────────────────┘        │ developers, industries,        │
            │                       │ engineering companies etc.)    │
            ▼                       └──────────────────────────────┘
┌─────────────────────────┐                        ▲
│ Utilizing the crisis     │                       │
│ moment by using socio-   │        ┌──────────────────────────────┐
│ economic and political   │        │ Disaster becomes politicized  │
│ forces and promoting     │        │ and enters the arena of        │
│ Neoliberal Reforms.      │        │ corporate capitalism.          │
└─────────────────────────┘        └──────────────────────────────┘
            │                                       ▲
            ▼                                       │
┌─────────────────────────┐        ┌──────────────────────────────┐
│ Gradual withdrawal of    │        │ Tax-Free zone, austerity      │
│ state intervention and a │───────▶│ programs, liberty bonds,      │
│ large presence of private│        │ unrestrained capitalism.      │
│ sector.                  │        └──────────────────────────────┘
└─────────────────────────┘
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Klein demonstrated that in the past when a disaster happened, the community

usually acted as a group by keeping their differences aside. However, now "disasters are

the opposite: they provide windows into a cruel and ruthlessly divided future in which

money and race can buy survival" (2007:413). For example, in the case of Hurricane Katrina, Klein pointed out that two different gated communities emerged in New Orleans. One community was called FEMA-villages built by Bechtel for low-income evacuees, administered and patrolled by private security companies. By contrast, the other type of community appeared in the economically wealthier areas such as the Audubon and Garden Districts, where residents had water and emergency generators within weeks after Katrina hit, people were treated in private hospitals, and children attended new charter schools (2007: 524 -532).

Along with that, most of New Orleans's charity hospitals turned into private hospitals and public schools into charter schools. As a result, both of these facilities became inaccessible for low-income communities in New Orleans. Those are some extreme examples of economic and racial segregation which Klein noted, and she argues that all these events led to a new form of inequality and stratification system in the affected areas.

Although Mills (1971) analyzed the power elite of American societies, Klein adds a new dimension by highlighting the activities of the power elite around the globe. Klein included the multi-millionaires and billionaires corporate leaders as an elite power group. With the political connection, these power elite groups have control over national and foreign policymaking, for example in the time "war," "national security," or even in areas of "tourism development."

One of the examples Klein provided where the "power elite group" shows their control was over the post-tsunami reconstruction plan of Sri Lanka. In Sri Lanka, most of the tsunami affected area was situated on the coastal side of the country. This area is also

known as a favorite tourist spot and has a diverse culture with traditional fishing communities. After the tsunami, the Sri Lankan president made a task force to propose a reconstruction plan for these coastal areas. Although they proposed a redevelopment plan for the fishing communities, the task force did not include a single representative from those fishing communities. Not only that, there was no scientist, environmental expert, not even a disaster reconstruction specialist present in the task force. The task force only consisted of the country's most influential business executives from banking and industry sectors and five of the ten members in the task force had a connection to the beach tourism sectors. The research illustrated the type of influence the power elite has and how they made an impact on shaping the policies related to disaster recovery and reconstruction (2007:396-397).

Anthropologists Schuller and Maldonado (2016) highlighted the aspect of "corporate charity" and defined disaster capitalism as "National and transnational governmental institutions instrumental use of catastrophe (both so-called national and human-mediated disasters, including post-conflict situations) to promote and empower a range of private, neoliberal capitalist interest" (Schuller and Maldonado 2016:62). The authors identified two elements, "(non) profiteering" and "shock therapy," and used two indicators, "no-bid contracts for reconstruction" and "radical policy reforms," as measurements of disaster capitalism. By using two ethnographic works on the 2010 earthquake in Haiti and the 2010 British Petroleum (BP) Deepwater Horizon Oil Disaster in the Gulf of Mexico, they provided an anthropological perspective of disaster capitalism.

Schuller and Moldonado argued that on some occasions, activities related to post-disaster phases stimulate and empower a range of private, neoliberal capitalist interests when no-bid contracts are used as an element of disaster capitalism. The authors highlighted the activities of the nonprofit and for-profit organizations when they received no-bid contracts for reconstruction purposes. For example, for the fiscal years 2003-2006, USAID allocated $5.2 billion to Iraq, with $4.16 billion categorized as reconstruction funds. However, some of the for-profit organizations in the United States, like Halliburton, received 80 percent of these funds in the form of no-bid contracts. Surprisingly, by using no-bid contracts, other politically connected firms like Bechtel and Blackwater also received reconstruction funds both after the Iraq war and Hurricane Katrina. To summarize, Schuller and Maldonado's study suggests that disaster capitalism emerges after a disaster event which produces a crisis moment and proceeds with a form of economically privatized post-disaster response and recovery processes.

Edwards (2016) conceptualized disaster capitalism as a series of actions carried out after a disaster event that includes: 1) the displacement and disorientation of affected communities; 2) the prompt centralization of decision making power (often via a state of emergency); 3) calls for immediate and long-term assistance from international financial institutions (IFIs); and 4) the relaxation or repeal of particular socio-demographic regulation and legislation of others.

Srinivas (2010) explored the distinct pattern of capitalism, organization, and management after two earthquakes in Haiti and Chile to explain the relationship between disaster capitalism and disaster managerialism. He constructs his argument by pointing out the militarized and privatized disaster response carried out after the earthquakes. He

argues that disaster responses gradually weaken civil society by not engaging the local community groups in the mechanism.

Srinivas (2010) highlighted four aspects of disaster capitalism. First, it is the disaster created by neoliberal capitalism itself. State-reduction efforts under the rubric of efficiency and competition become part of a package of reforms that strengthen the role of the market in the presumption that it is better than the state at coordinating the economy and society.

Second, disasters enhance private capital. It does not matter whether it is non-governmental organizations (NGO), aid agencies, or business organizations; private agents utilize tragedy as an opportunity to expand control and revenue. As noted, Srinivas Klein (2007) provided a supporting argument for this claim by describing how Hurricane Mitch in 1985, facilitated the selling off of state investments in airports, roads, and railways, which eventually promoted amplified privatization (Srinivas 2010).

Third, disaster capitalism is not only privatization but also marketization. Privatization is an evident aspect of neoliberalism, which refers to the transmission of control over the authority of social coordination to private actors (whether corporate or non-governmental). For example, government-owned industries were transferred into the private sector; public schools move to private schools. However, the less noticeable feature is marketization, the franchising of market values in everyday life. Citizens no longer expect security from the state; they will go to the private sector. They will choose private schools over public schools and private hospitals over public hospitals. These are reasons why neoliberalism is not just an aggregate of market-oriented policies, but fundamentally, an ideology of market freedom (free movement of capital to purchase and

consume) that is superior to the freedom presented by an interventionist state guaranteeing fundamental rights (Srinivas 2010).

The last aspect of disaster capitalism described by Srinivas was the roles expected from organization and management. Private market enterprises will be coordinated by private sectors initiatives in response to the emergencies of disasters. Instead of state ministries or community groups, NGOs and private contractors will respond in the case of an earthquake or flood evacuation. This organizational bias leads to a specific kind of exercise by professional accreditation, which results in private expert groups, such as emergency managers, doctors, relief experts, and post-disaster structural engineers. Parker (2012) introduced the term "managerialist" to explain the phenomena. Altogether, disaster managerialism merging with disaster capitalism portrays that those affected by the disaster are hurt twice; they only suffer from the disaster but also have to face some disempowering situations when relief was distributed, rehabilitation initiated, and reconstruction contemplated (Srinivas 2010).

Srinivas showed how those characteristics of disaster capitalism further initiate the propaganda of marketization and privatization, where not the state, but some specific companies or individuals dominate the response and recovery processes. As a result, the power does not exist everywhere with everyone; it becomes "fixed," and centered to a certain place and certain people. The author used an analogy to explain the process: "power that flows within a deep sea, becomes restricted to a river or an estuary." Likewise, the power in disaster relief becomes fixed, so that aid agencies, government departments, and non-governmental organizations all acquire power over others, whom they are willing to help. As a result, on the one hand, the role of the state gradually

diminishes, on the other, the private capital and initiative increase at a more exceptional pace. People who can afford private goods and have access to private services find a way to deal with the crisis. However, people who still depend on the services provided by the state become more vulnerable in the time of crisis. This contributed to the failure of the human response system during Hurricane Katrina in which most of the suffering belonged to marginalized populations.

Srinivas provided solutions against disaster capitalism. He suggested that by strengthening community actors, their experience and local expertize can initiate the process of de-marketization (which attempts to move away from market values) and re-marketization (where the commercial transactions will remain at the local level). As a result, the community level structure will be less dependent on regional and global trade. He provides anecdotal evidence from Latin America: free medical clinics in Brazil, communes in Venezuela, local businesses expanding the local market in Mexico and Ecuador, and direct boycotts and protests of free-market policies in Nicaragua. However, the author only focused on post-disaster relief and response phases with little information on the post-disaster recovery phase. Also, Srinivas did not discuss how these recommendations will be useful to another part of the world where the regulatory system was not the same as Latin America.

Svistova (2015) used grounded theory, critical discourse, and interpretive policy analysis to investigate the discourses in media, policy and non-governmental organizational documents related to the 2010 Haiti earthquake. In the discourse of relief and recovery, she identified five themes: 1) emergency solutions and humanitarian aid; 2) a "new Haiti" and "building back better"; 3) livelihood renewal and community

orientation; 4) disaster recovery as an economic development venture; and 5) sustainable disaster recovery (2015:12). Svistova (2015) found several signs of disaster capitalism especially when she used the fourth theme "disaster recovery as an economic development venture." Her findings revealed that disaster recovery resulting from the Haiti earthquake provided a window of opportunity for "capitalist-opportunist" practices. One of the examples she pointed out was:

> "where expensive construction projects were built at the expense of permanent shelter solutions. Some of these construction projects were a state-of-art hotel, an all-glass business complex in Port-au-Prince, and the $ 85 million international investment, Caracol Industrial Park, which is to provide 20, 000 jobs. All those phenomena represent a new era in international cooperation and assistance in Haiti - aid for trade" (p. 141).

Smart and Prohaska (2017) investigated the prioritization of housing recovery after the 2011 Tuscaloosa tornado. The authors highlighted the difficulty faced by the city officials for the allocation of post-disaster resources on housing. The city of Tuscaloosa experienced a growth in the student population after the tornado, and the student population increased from 28,807 to 31,747 (United States Census Bureau 2011).

The student-focused rent by room housing was more profitable compared to multi-family, full unit housing or single-family rental homes, and by keeping that in mind, Smart and Prohaska pointed out whether the resources are more distributed toward student housing (which is more profitable) compared to the low-income permanent resident house (which is less profitable). The comparison of rent price of the apartments (which were rebuilt after the disaster) and the usage (student housing or low-income housing) revealed that the need for lower-income housing had not been met and most of the prior lower income housing was turned into profitable student housing. Furthermore, social class was adversely affected by housing availability, and evidence provides

supporting claims towards the effect of the disaster capitalism on the post-disaster housing recovery process.

Sandoval and Muzzio (2015) highlighted the relationship between disaster capitalism and post-disaster activities. In their article "Examine 'disaster capitalism': post-conflict actions in Chile," they used a definition of disaster capitalism formulated by Klein (2007). Followed by that they used the definition of Neoliberalism provided by Harvey (2005) as "an *institutional framework characterized by strong private property rise, free market, and free trades*" (2005:2). By using these frameworks, the authors explored the relationship between post-disaster actions and the growing private investments after two recent disasters (the 2010 Maule earthquakes and Valparaiso fires in 2014) in Chile. They highlighted the reconstruction actions led by the private sector and examined the role of the state in the post-disaster activities.

It was well acknowledged that the private sector plays an essential role in disaster preparedness and recovery phase. However, in several places, their involvement created social and economic inequalities, and therefore, specific portions of the population were affected by their activities. For example, Sandoval and Muzzio (2015) highlighted how some landholders and fishing communities are displaced by real estate companies to promote international tourism in Chile. Some social housing led by the private industries forced some rural communities to migrate into the "semi-urban villages" supplied by those contractors. Also, some of the reconstruction activities are carried away without proper planning and have not been finished properly, which often hinders the process of disaster recovery.

Taylor (2019) adopted a political economy framework to measure the influence of political, economic, and cultural factors towards the process of tourism development. She explored the post-tsunami Phi Phi island redevelopment plan to investigate whether the Phi Phi Island was re-designed by the government, non-governmental organizations, and private companies with or without involving the local communities. Her findings reveal the current debates of how the political economy of post-disaster reconstruction initiated the process of "disaster capitalism" (Klein 2007) and "smash and grab capitalism" (Harvey 2007). However, she argued that although the post-Asian tsunami of December 2004 offered a "clean slate," this trend did not occur on Phi Phi Island. In her analysis, she pointed out two reasons for this anomaly: the influence of existing landowners on the redevelopment process and the existing policy against selling land to international hotel chains to protect the national interest.

Although the author did not mention social inequality, her article provides several pieces of evidence which showed how social stratification leads to social inequalities. Weber (citation) conceptualized social stratification by dividing society into three categories: class (economic position), status (cultural attribute) and power (domination). The author pointed out that, the ownership of land and material wealth put the landowner in a higher position and divided the social structure of Phi Phi Island into two classes: landowner and other Islanders. However, not only the economic factors but the level of education contributed to the notions of "face" and "status" of Thai culture. Either nationally or internationally, some landowners achieved a certain level of education, which put them in a stronger position to engage in debate and planning meeting regarding the Phi Phi development plan. A higher level of class and status enables them to send

their children for western education, which also improved their global network. Additionally, collaboration with the international tourism industry, some of those landowners improved their "intellectual leadership" and bargaining power. Complex interplays between class, status, and power initiated a lack of equal participation and consultation in planning and development processes and further contributed to the inequalities which already existed in the social structure of Phi Phi Island.

This section provided definitions, characteristics, and empirical examples of disaster capitalism. However, several studies examine the relationship between neoliberalism and disaster capitalism and argue that disaster capitalism is an extension of neoliberalism. By using academic and media studies, I turn to discuss how disaster capitalism is related to neoliberalism.

Neoliberalism, Neo-liberal Disaster Governance, and Disaster Capitalism

Perez and Cannella investigated the impact of neoliberalism on shaping childhood education policy after the Katrina disaster in New-Orleans. They argued that using disaster relief and recovery as the legitimating discourse, city, state, and national officials changed public policy, rules, and regulations during recovery and reconstruction. For example, "childhood public services such as education and care were dismantled and taken over by the state of Louisiana (rather than local government entities which is the public education structure in the US) or by the private agencies that were given corporate contracts to control resources and new entities were re-established in what appeared to be an increasingly privatized system" (2011:47). They examined how by using Katrina as opportunities, the actors transformed the public education system of New Orleans and

used voucher and charter schools as a form of decentralization, deregulation, and privatization processes which created a path for disaster capitalism.

Olseen (1996) stated that "neoliberalism is the belief system that the state's role is to facilitate an economical market place by providing the conditions, laws, and institutions necessary for its operation and to produce individuals that become "enterprising and competitive entrepreneurs" (1996:48). Based on this definition, Perez and Cannella highlighted two aspects of neoliberalism: 1) privatization, or shifting the control of public services operated by the state to corporate, for-profit groups; and 2) a reliance on the human nature of individuals to remain socially responsible, self-motivated citizens who actively participate in the market in order to keep the private sector competitive and the technology balanced (2011:48). In sum, based on a neoliberal perspective, those individuals who lacked self-initiative (for example need assistance with housing, food, child or health care from government welfare programs) were seen "as irresponsible and an inevitable component of a capitalist system where economic privilege will always be skewed" (Perez and Cannella 2011: 49).

Perez and Cannella noted several criticisms of neoliberalism from feminist, postcolonial, and poststructural perspectives, these include: 1) political uses of modernist universalisms to normalize or completely ignore societal inequities based on racial, socioeconomic, or gender privilege; 2) intensification of economic inequalities between the privileged and oppressed; and 3) problems with the hegemonic discourse that exists both in the United States and globally asserting that societies and the services they provide (like education and health care) can only function under a capitalist, market-based system (2011:50).

Pyles, Svistova, and Ahn introduced the concept of neoliberal disaster governance (NDG) and describe NDG "as a set of discourses, policies, and practices, which endeavors to control disaster survivors to further the ends of neoliberal capitalism" (2017:1). Plyes, Svistova, and Ahn carried out a critical discourse analysis of the *New York Times* related to Hurricane Katrina and the Haiti earthquake and investigated how NDG manifested in these disaster settings. They argued that "NDG is not just a mechanism of social control that is exerted by disciplinary power, it transforms the state as a site for application of market principles that center on cost and benefits, investment and returns, and legitimates the benefits that privileged groups receive from the neoliberal economy" (2017:18).

Pyles, Svistova, and Ahn used the definition of neoliberalism provided by Harvey (22017). Harvey defined neoliberalism as "a theory of political, economic practices that proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong property rights, free markets, and free trade" (2007:6). By performing a media discourse, the authors highlighted how these neoliberal forces (for-profit and not-for-profit) pointed out by Harvey unleashed through transnational policy-making, social and economic engineering especially in the time of disaster. Their findings revealed three key discourse frames of NDG: 1) securitization of disaster survivors and militarization of disaster setting; 2) displacement, de-concentration of poverty, and racial cleaning; and 3) the combination of both these frames produce that last one called 'disaster capitalism' which is an exhibition of the neoliberal economic system (2017:8). The authors noted that in both disaster settings, NDG further exaggerated pre-existing societal and economic

inequality "based on racial and socioeconomic privilege, perpetuates colonialist structures of power that marginalize people of color, and robs people and their governments of democratic decision-making authority" (2017:18).

Yee (2018) wrote a history of neoliberalism in the Philippines and explored how violence played a pivotal role in the production of disaster capitalism after Typhoon Haiyan struck in 2014. He mainly focused on the post-disaster reconstruction of Tacloban and demonstrated how the rehabilitation and reconstruction policies favored more towards big, domestic and international capitalists and excluded the local community both in urban and rural areas.

Yee stated, "The deployment of physical and symbolic violence is a vital component in the production and reproduction of neoliberalism, particularly in developing countries across the globe" (2018:166). In the late 1980s, the Philippines was exposed to a structural adjustment program in various sectors of the economy. Yee pointed out that "these adjustment programs saw the withdrawal of the state from the management of critical economic sectors such as mining to foreign investment" (2018:162). He argues that the implementation of these policies resulted in massive displacement of farmers and the indigenous population. Despite these consequences, neoliberalism gradually becomes the central policy measure for the Philippines, and these policies become more useful especially in the wake of a disaster.

Yee highlighted three components of disaster capitalism: disaster-induced eviction; corporate land grabbing; and gentrification strategies to increase business activities. Just after the storm, the Philippines government declared a 40-meter "no-build" zone policy in the coastal area of Tacloban City. Residents were prohibited from

rebuilding their homes and were relocated to temporary resettlement sites until they were transferred to permanent housing. This project negatively affected the "fishing community and the vendors in the informal street economy as they would be displaced from their sources of living, thereby being exposed to future risks associated with livelihood displacement" (2018:162). Although the residential establishment is not allowed, business establishments received permission to build infrastructure in those no-buffer zones. The Office of the Presidential Assistant for Reconstruction and Recovery (OPARR) proposed a separate policy guideline known as "no-dwelling zones wherein the construction and operation of infrastructure within the 40-meter zones are allowed if these are for commercial purposes such as industrial infrastructure, hotels, and resorts" (2018:162).

Another project that created massive displacement of households and communities in the coastal area was the "Tide Embankment 4-meter high Project." This project was initiated by the Department of Public Works and Highways to promote "infrastructure mitigation against future risk of storm surge." Critics of this project argue that it displaced many coastal communities to create its path for construction and the components of the project highly favored the business establishment along with its route. Yee further argues that "the local rehabilitation and reconstruction plan of Tacloban City envision the construction of coastal cafes, restaurants, and hotels as well as parks once areas are cleared of inhabited dwelling" (2018: 163).

Both projects displaced at least 14,000 families in the Tacloban City which was roughly one-third of the city's population. Yee pointed out several social movements against these projects. For example, on December 12, 2004, around 12,000 disaster

survivors gathered in the city of Tacloban to protest the poor management of response and the reconstruction processes. They demanded cash assistance which would enable survivors to rebuild their homes and prevent eviction from houses in the no-build zone. Later protesters created an organization called People Surge which was "composed of various sectors such as farmers, urban poor, and fishermen, and at the same time, they also included middle-class professionals and student activists in the city" (2018:164). There were other organizations like BAYAN and New People's Army who also protested the post-disaster program that occurred in Tacloban city after the disaster.

Yee pointed out a widespread militarization of the reconstruction phase and argued: "the militarized nature of disaster response and reconstruction is evident in how the state handles pressure from social movements in disaster-stricken areas" (2018:165). A local human rights organization named Katungod Sinirangan Bisayas suspected military element for the killing of at least 13 community organizers and volunteers. Yee stated that "these individuals who were killed are members of organizations that are opposed to the imposition of disaster capitalism in the region" (2018:165). The militarized response helped to prolong the immediate shock which was produced by the disaster, and these actions resist the social movement that opposed the activities related to disaster capitalism. By exploring the intersection between violence and disaster capitalism, the author nicely delineates the role of the military in a post-disaster situation.

So far I have discussed the academic and non-academic literature regarding disaster capitalism. The next section highlights how news media use the term disaster capitalism in their coverage to explain different dimensions of the post-disaster relief and recovery process.

News Media, Natural Disaster, and Disaster Capitalism

News-media coverage also used the concept of disaster capitalism to describe several phases of natural disasters. On some occasions, they used the concept to demonstrate the previous disaster and to warn of possible inequality that may arise in different phases of future disasters. For example, Klein (2006) explored the privatization of disaster response and recovery process after Hurricane Katrina, arguing that the process of disaster capitalism emerges with the "government's abdication of its core responsibility to protect the population from disaster" (para. 3). She pointed out the inefficiency of governmental response (lack of infrastructure and skilled workforce) to the Katrina disaster, where public services and activities were contracted to private companies. She highlighted that "billions of taxpayer dollars have been spent on the construction of a privatized disaster-response infrastructure: the Shaw Group new state-of-the-art Baton Rouge headquarters, Bechtel's battalions of earthmoving equipment, and Blackwater USA's 6,000-acre campus in North Carolina" (para. 6). Consequently, in the crisis moment, these modern, efficient and competent private sectors can provide equipment like generators, mobile homes, helicopters, medicine or even men with guns.

However, the story does not end here. This state-within-a-state built with public contracts, "all are privately owned, and the taxpayers have no control over it or claim to it" (para. 7). Klein pointed out that the US government has a national debt of $ 8 trillion and the federal budget deficit was at least $260 bn (para. 8). Sooner or later, these contracts will dry up, and when that happens, the firms (like Bechtel, Flour, and Blackwater) may lose their revenues. However, still they will have their high technology as a resource for response in the time of the disaster, and they will rent back the tax-

funded infrastructure at whatever price they want. Klein also provided a glimpse of what could happen soon: "helicopter rides off rooftops in flooded cities at $5,000 a pop ($7,000 for families, pets included), bottled water and meals ready to eat at $50 a head and a cot in a shelter with potable water" (para. 9). As a result, the wealthy will have a better chance to survive, and as usual, the disadvantaged populations of society will bear the consequences of the disaster.

Fraser (2015) explored both man-made disasters (a financial firestorm at Wall Street in 2007) and natural (the Johnstown flood, the San Francisco earthquake, and Hurricane Sandy in 2007) and argues that "neither the notion of a man-made or natural disaster quite captures how the power of a few and vulnerability of the many determine what is really going on the ground level" (para. 1). He used the term "causes and consequences" to explore circumstances like "who gets blamed and who leaves the scene permanently scarred", "who goes down and who emerges better positioned than before" and argues that "these matters often are predetermined by the structure of power and wealth, racial and ethnic hierarchies, and despised and favored forms of work, as well as moral and social prejudices in place before disaster strikes" (para. 1). He also argues that more often or not, following by the disaster, the government took several recovery and rehabilitation process, but most of them favored the business and wealthier communities.

Fraser also pointed out the changes in the federal aid and public benefit standard.' He argues that in the past, the federal grant and tax exemptions were associated with public service and focused on public benefit specifically low and moderate-income population. However, now the condition has changed, and the government scurried

around "inventing ways to auction off reconstruction projects to private interests by issuing tax-exempt 'Private Activity Bonds' which were renamed as Liberty Bonds" (para. 9). The author raised the question whose liberty because by getting grants and exemptions, the big corporations and elites use. "Disaster as opportunities to turn wrecked cities or regions into money-making centers and playgrounds for what in the nineteenth century was is called the upper tendom and what now called the 1 %" (para. 11).

Fraser also demonstrated the case of the San Francisco earthquake. After the earthquake, the government enforced new building codes because the wood-frame building was more vulnerable to earthquake. Instead of wood-frame buildings, the new codes insist on using reinforced concrete and steel in structures over six stories high. However, because of the pressure created by the business community and the builder, the government was forced to relax the codes just after one year (para. 38).

Fraser pointed out that the wealthy community received priority in a rehabilitation program and "a $500 'bonus plan' to help rebuild homes favored the native-born and two-parent households" (para. 39). In addition to that, insurance companies have rewritten their homeowner policies and excluded earthquakes from their coverage (para. 40). Fraser noticed "one of the last remaining relief cottages built by Funston's army at the cost of $ 100 and rented for $ 2 was just recently sold for $ 600, 000" (para. 42). These examples showed how disasters produce and reproduce social inequality and how stakeholders are profiting from the crisis moment by using the crisis moment as an opportunity.

Bell, Panchang, and Field (2012) investigated the investment patterns and significant business involvement as a part of disaster management after the Haiti earthquake in 2010. In the first part of this series "Best practices" and "exemplary communities": Ivory Tower Solution for Haiti, Deepa Panchang examined the role played by the Interim Haiti Reconstruction Commission in the post-disaster housing situation in Haiti. Although the commission was involved in the process of housing design for local Haitians, they rarely took the opinion of local Haitian communities. The proposal initiated by the commission was a 2.4 million project called Highlighted Best Practice for Housing. The project was funded by both public and private organizations including the Clinton Foundation, Inter-American Development Bank, the telephone company Digicel, the large investment bank Deutsche Bank, and a Canadian NGO called Onex1 (Panchang 2012: para. 4).

Bell, Panchang, and Field pointed out several discrepancies in the reconstruction proposal. They pointed out that the project has a plan regarding the design and distribution of the housing unit. They have a pre-assumption that, with the help of subsidized bank loans, the household will buy their housing unit. Although Haiti has the lowest per capita income in the hemisphere, the cost of the newly built housing unit is from $5000 to $20,000. One of the examples the authors provided was a 12-foot blue plastic box-like housing unit which sold for a price of $ 7,500. Because of the higher cost, many poor Haitians were not able to buy the housing, and the author used one quotation from an official of the Clinton Foundation to describe the whole situation: "This is a private sector exposition, you are seeing people who are hopeful of making some money" (para. 6).

Klein (2007) discussed how the mixture between the political and economic system produced a profit in the post-disaster recovery phase. She also pointed out, after the Katrina disaster, despite having poor track records and histories of corruption, many corporations still received contracts with the help of political lobbying. In the second part of this series, Panchang, Bell, and Field (2012) provided more evidence regarding Klein's argument. The authors pointed out that using the earthquake as an opportunity, the US government awarded 1,500 contracts with 1480 of them going to US firms. There is no justification for how these public funds were distributed and why those firms were chosen for the deals. On top of that, there is a lack of transparency and accountability in the procedures, and some of the corporations who received those contracts have past histories of fraud, corruption, and harmful practices (para. 3).

For example, in 2005, Ashbritt Environmental received $900 million for Katrina clean-up, but they were heavily criticized for slow progress, for not hiring local contractors, and overcharged. The authors pointed out one case where "Ashbritt was paid $23 per cubic yard of debris removal but subcontracted through three middlemen companies so that the company that removed the rubble received $ 3 per cubic yard" (para. 13). Despite the accusation and bad reputation, with the help of political lobbying, Ashbritt successfully received the contract. Bogardus (as cited in Panchang et al. 2012) points out that early in 2010, Ashbritt Environmental paid $90, 000 to a lobbying firm to create pressure on the government to get contracts in Haiti. As a result, Ashbritt won a $500,000 contract for debris removal. Another organization CH2M Hill has a track record of corruption, misconduct and wasteful spending. In one case, CH2M Hill paid $4.1 million for a contract in Iraq, and they hardly completed any work there. However,

with the help of strategic lobbying, they received a joint deal with KBR Global Service for a post-earthquake contract for facilities operations support after the earthquake in Haiti (para. 17).

Schuller and Maldonado (2016) stated not only the for-profit organization but also the non-profit and humanitarian organizations used the crisis opportunity to get profit from the disaster and build a good network with the donors. Panchang, Beverly, and Field (2012) pointed out the activities of the Children's Heart Foundation (CHF) in post-earthquake Haiti to provide additional evidence regarding Schuller and Maldonado's claim. In 2006, CHF received $104 million from USAID with a 4-year contract to improve the efficiency and capacity of Haiti's existing industries "primarily through the export textile industry and improvement plan for the infrastructure such as roads around industrial areas and training of factory workers" (para. 8). CHF received extended funding from USAID and continue their work through the cleanup project. One of the project components was known as cash-for-work where the camp residents engaged in the hired-hand program like digging drainage ditches and clearing debris. However, cash-for-work goes under scrutiny, and even USAID found several footholds. The official minimum wage was 200 gourdes or $5, but the workers unofficially earn less than that. Also, "an organization named Haiti Grassroots Watch found that cash-for-work hiring was often based on corruption, with many workers having to pay a kickback, negotiate sex (in the case of women) for a job or affiliate with political parties or candidates" (para. 9). Neither the cash-for-work nor the factory jobs were able to provide sufficient income and development opportunities to Haitians, but the CHF received a flux of funding and humanitarian clout, and the most benefited wing was their garment industry partners.

In the last part, Panchang and Bell (2012) highlighted shifting power dynamics from the public to private sectors. The authors argue that, with the help of the Haiti Reconstruction Commission (IHRC), several foreign governments not just attempted to privatize the national service, but they also went further and became involved in privatizing governance (para. 2). In 2010, the Haitian parliament created IHRC to monitor rebuilding efforts through approving policies, projects, and budgeting. 13 of the 26-board members of IHRC were "foreign, including representatives of governments, multilateral financial institutions, and non-governmental organizations" (para. 4). The authors used one of the quotes from an international development consultant: "Look; you have to realize the IHRC was not intended to work as a structure or entity for Haiti or Haitians. It was simply designed as a vehicle for donors to funnel multinationals and NGOs' project contracts" (Haiti Support Group, as cited in Panchang and Bell 2012). All three parts showed how the disaster was utilized as a profit-making source and act as catalysts to change the power dynamics. It also displayed the influence of political lobbying, and how by using lobbying, firms who have bad reputations still received public contracts and got a chance to be involved in the reconstruction process. As a result, politics, and economy were intertwined in many aspects of the post-disaster recovery process and created a lack of transparency and accountability with limited participation of civil society and the local community.

Gould and Lewis (2018) argue that in the era of global political-economy, "climate change fuels greater inequality and a power shift from vulnerable locals to globally-mobile elites" (2018: 153). They explore how the aftermath of hurricane Irma created an opportunity for global actors to enforce their control over the development

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project and how green gentrification shifted the "power from local, place-based control to extra-local, capital control and decision-making" (2018:152).

Although Antigua and Barbuda were sovereign states, they have several distinct characteristics. While significant portions of Antigua's economy is based on high-end tourism, like famous yacht harbors and purchasable citizenship program; Barbuda's economy depends on a mix of public employment, limited tourism, and subsistence. Before hurricane Irma, Gould and Lewis pointed out three different features which separated Barbuda from mainstream tourism development: communal land ownership, public employment, and limited private development. Even though formally Antigua and Barbuda merged into a single parliamentarian governance structure, the Barbuda Council (the democratically-elected governing body of Barbuda) was the responsible authority which took the major decision regarding island security and development of the island. However, after Irma, the control and power shifted from the Barbuda council to national government and a new development plan focused on "external capital, external entrepreneurs, non-working landscapes (including national parks), private land, and private employment" (2018:148).

Gould and Lewis argue that although green recovery was an attractive tool for the international aid community, in Barbuda, green recovery primarily focused on tourism development and investment from global sustainability elite and the process failed to reflect the needs and demands of local Barbadians. For example, to initiate the process of green recovery, the government of Antigua and Barbuda carried out several initiatives like land privatization changes the traditional communal land ownership, and eco-luxury tourism like new parks and eco-friendly resorts. In addition to that, their authority started

the construction of a larger airport, solar energy installation and new power grid. Those projects were funded by international donors like the United Arab Emirates, the Rocky Mountain Institute and the Clinton Foundation. However, several interviews with residents revealed different priorities. The local community did not suggest "a new airport, a mega-tourism development, or land privatization. Instead, they recommended building a better hospital and rebuilding every building with a concrete roof to avoid roofs being blown away in extreme events" (2018:153).

Several news articles warn that disaster capitalism may affect the disaster response and recovery process in the post-Harvey period. For example, DeVega (2017) argued that unregulated free markets and unrestrained capitalism in Houston would worsen the impact of Harvey. The aftermath of Harvey will create a platform for disaster capitalism; the "profiteers and price gougers" will take advantage of the disaster-stricken population and "several corporations will win a publicly funded contract to rebuild the area while paying little if any taxes on their profits" (para.10). However, he argues that "the mainstream media coverage focusing more on human drama and feel-good stories about people helping each other, showing how rugged individualism and charity can complement the publicly-funded first responders" (para. 11). Also, because of pro-business propaganda, the media coverage may "depict large corporations as kindly souls and public-spirited friends of the people, rather than self-interested, rapacious and often destructive entities" (para. 6).

Discussion and Conclusion

The literature review highlights the significance of framing and agenda-setting theory in media studies. The review also reveals the importance of sociological theories

to critically analyze the social inequalities and stratification process produced by disaster capitalism in the post-disaster phases (response and recovery).

The life-cycle for a natural disaster consists of four phases: mitigation, preparedness, response, and recovery. This literature review indicated that disaster capitalism primarily occurred during the period of disaster response and recovery phases. Also, two other factors differentiate disaster capitalism: 1) the necessity of a trigger event to create a crisis moment, and 2) the intention of the actors and stakeholders who are involved in the disaster response and recovery stage. A triggering moment may come in the form of a natural disaster and create a platform where several actors can be involved in the post-disaster response and recovery processes. Actors include but are not limited to, government and non-governmental organizations, nonprofit and for-profit organizations, private companies and corporations. When these actors turn a crisis in their favor by changing policies and making profits in the response and recovery phases, their actions and activities initiate the process of disaster capitalism.

In Table 3, I have provided a summary of the indicators that were used for the measurement of disaster capitalism in the past decades. The table started with Klein's study where she explored the extensive private involvement in the post-disaster period followed by the Asian tsunami and Hurricane Katrina. This trend of privatization in the post-disaster period was also visible for in the aftermath of other natural disasters like the Haiti Earthquake (2010), the Tuscaloosa tornadoes (2011), Typhoon Haiyan (2013) and Hurricane Irma (2017).

Table 3: Summary of the Indicators for the Measurement of Disaster Capitalism

Relevant Literature	Type of Inquiry	Indicator
Klein (2007)	Explored the privatization of disaster response and recovery process after the Asian tsunami and Hurricane Katrina.	1. Government's abdication of its core responsibility to protect the population from disaster. 2. Construction of a privatized disaster-response infrastructures. 3. Implementation of economic shock therapy to transform mega-disasters into an extensive profit-making source.
Srinivas (2010)	The explored the relationship between disaster capitalism and disaster managerialism.	1. Militarized and privatized disaster relief and response after the Haitian and Chile earthquake (Aid distributions). 2. The emergence of the large retailer after the earthquake hit towns.
Perez and Cannella (2011)	A Qualitative inquiry regarding the impact of neoliberalism on shaping childhood education policy after Hurricane Katrina.	1. The shift of control from local government to state and corporation. 2. Transformation of the public education system towards a privatized education system. 3. A large number of voucher and charter schools in New Orleans.
Bell, Panchang, and Field (2012)	Investigated the investment pattern and big business as a part of disaster management after the 2010 Haiti.	1. The high cost of a newly built housing unit. 2. No justification of how the public funds were distrusted and why the corporations were chosen for the contract.

		3. Use of political lobbying for getting a public contract. 4. Not only the privatization of government service, the attempt to privatize the governance.
Sandoval and Muzzio (2015)	Explored the relationship between post-disaster actions and the growing private investment.	1. Donation to get Government contracts. 2. Social housing led by private companies. 3. Contracts between retailer firms and the public sector for providing construction materials and goods for the affected people. 4. Displacement of fishing communities and landholders in the coastal area by real estate companies to modernize the territories to promote international tourism.
Smart and Prohaska (2017)	Hosing Vulnerability and rebuilding efforts (Reconstructed apartment complexes in Tuscaloosa after April 27, 2011, tornado).	1. The cost of the rent before the tornadoes struck and the cost of rent after the storm (if the complex were being rebuilt). 2. Purpose of the reconstructed housing (profitable student housing or lower income permanent resident housing of the city).
Pyles, Svistova, and Ahn (2017)	Conducted a media discourse to analyze the relationship between disaster capitalism and neo-liberal disaster governance.	1. Securitization of disaster survivors and militarization of disaster setting. 2. Displacement, de-concentration of poverty, and racial cleansing.

Yee (2018)	Explored the role of violence to initiate the process of disaster capitalism after Typhoon Haiyan struck in the Philippines.	1. Disaster-induced eviction. 2. Corporate land grabbing. 3. Gentrification strategies to increase business activities after the disaster. 4. Militarized nature of disaster response and reconstruction.
Gould and Lewis (2018)	Explored how the aftermath of hurricane Irma created an opportunity for global actors to enforce their control over the development project in Barbuda.	1. The shift of power from local, place-based control to extra-local, capital control and decision-making. 2. Policy changes and extensive private development for example "land privatization," "change the traditional communal land ownership," and "eco-luxury tourism like new parks and eco-friendly resorts."
Faye Taylor (2019)	Adopted a political economy framework to measure the influence of political, economic and cultural factors towards the process of tourism development after the post-tsunami of December 2004 in Thailand.	1. Changes in the Phi Phi island infrastructure. 2. Changes in the policy documents and the master plan of Phi Phi Island.

After reviewing the literature and empirical studies on disaster capitalism, I offer

the following operationalized definition: *Disaster capitalism is a component of*

Neoliberal Disaster Governance used as a framing device to demonstrate and delineate

the shift of control and decision-making power from government to non-governmental

sectors. These sectors may include for-profit organizations, national and international

corporations, state and non-state stakeholders. This capital accumulation process and the transformation of goods and services (for example education, health, hospital, housing, and, shelter) from the public to private sectors often required a trigger moment which may come in the form of natural disasters, technological disasters, war, or terrorism. The transformation creates an unequal distribution of resources, and the benefit goes to the recovery actors rather than to the disaster-stricken people. Some indicators of these processes include disaster-induced displacement, corporate land grabbing, land privatization, price gouging, the high cost of newly built housing units, political lobbying to get public contracts, construction of privatized disaster-response infrastructures and militarized and privatized disaster relief, response, and recovery processes. However, the implementation and effectiveness of these components of disaster capitalism depend on the political, economic and social context of these regions. Also, the existing community organization and civil society can affect the decision-making process (for example a strong protest can affect the decision making and implementation of the post-disaster activities) which may perpetuate or hinder the mechanism of disaster capitalism.

CHAPTER III

METHODOLOGY

In this chapter, I describe the methodology of this study. The section begins with a definition and description of content analysis. I then discuss the scope and limitation of content analysis. After that, I provide several concept maps based on my research questions. I conclude the chapter by discussing the criteria for article selection and describing details of my coding procedures.

Definition and Procedure of Content Analysis

Rose, Spinks, and Canhoto (2015) referred to content analysis as a combined procedure for the systematic, replicable application of a text. It involves the classification of parts of a text using a structured, systematic coding scheme, and from those coding schemes, conclusions can be drawn from the message content. Metag (2016) pointed out that qualitative content analysis relies on a closer reading of the material under study and derives prevalent themes from it through interpretative methods (2016:9). Finally, Lasswell (1971) and Stempel (2003) argued that the role of content analysis in mass communication research is to determine who says what to whom, how and with what effects.

Content analysis has several advantages and disadvantages. Biber and Nagy (2016) pointed out that qualitative content analysis offers a means of systematically analyzing the meaning occurring within the data set and is better able to account for subtleties of meaning as a various interpretation of textual elements. Insch, Moore, and Murphy (1997) and Harris (2001) argued that content analysis could also be an unobtrusive research approach which can be used to analyze naturally-occurring data. As a result, it may help reduce the problem of social desirability bias amongst the respondents when researching sensitive topics. Additionally, by using computer software programs, content analysis can cope with a significant amount of data and can be used to investigate a matter longitudinally through the examination of contemporary texts. However, potential weaknesses can arise in the process of sampling and coding. Document availability and sampling process can introduce bias. Developing the coding scheme and coding always involves interpretation, even of manifest content, and thus risks similar preferences to those faced by other measurement techniques (Insch et al. 1997). The abstraction of material from its context can also create problems. Taking a word or phrase in isolation of other parts of the text, for instance, may result in loss of meaning. Also, content analysis risks overlooking what is not said in a particular passage. In some situations what is omitted may be as significant as what is included (Rose, Spinks, and Canhoto, 2015).

I conducted a qualitative content analysis of newspaper articles from three newspapers starting from a range of local to international. All of them were selected from US publications. These newspapers are the *Houston Chronicle*, the *New York Times* (online) and the *Wall Street Journal* (online). These newspapers were selected because

they cover a local to the national range, which was aligned with my research interest. The news story was my unit of analysis, and I used stratified purposive random sampling. I used Boolean operators like "and," "or" and keywords like "Hurricane Harvey," "relief," "response" "price gouging" "land grabbing" (for details see Table 4). The search resulted in 231 articles in the *New York Times*, 97 in the *Wall Street Journal* and 3259 in the *Houston Chronicle*. Finally, I selected 122 articles from *NYT*, 81 from *WSJ* and 208 from *HC*. Table 4 showed the search term and the number of the article associated with each search term.

Table 4: Number of Articles Which Contain the Selected Event During the Selected Periods.

Discourse Community	Period	Search Term	Local	National		Total
			Houston Chronicle	The New York Times	The Wall Street Journal (online)	
Media	(August 17, 2017 to December 31, 2018)	Hurricane Harvey	8876	319	133	9,328
		After variable search	3892	231	97	4,220
		Hurricane Harvey and Relief	1641	34	9	1,684
		Selected article	42	34	9	**85**
		Hurricane Harvey and Disaster Response	1444	11	8	1,463
		Selected article	89	11	8	**108**

		Hurricane Harvey and Disaster Recovery	1952	15	6	1,973
		Selected article	121	15	6	**142**
		Hurricane Harvey and Disaster Capitalism	0	1	1	2
		Selected article	0	1	1	**2**
		Another search term				**74**
		Total articles after sampling				411

Source: Author, 2019 (Collected from the *ProQuest* and the *Houston Chronicle* Archive, date access: 21 January 2019).

The *Houston Chronicle(HC)* is the largest daily newspaper in Houston, Texas area and has a circulation of 825,000 daily readerships. The *Houston Chronicle* served as the "newspaper of record" of the Houston area, and it is one of the most influential local newspapers. It received Pulitzer Prizes in 2015. It provides coverage from the local perspective. Preliminary searches show that it contains articles regarding selected topics which are suitable for this project.

The *New York Times (NYT)* has a broad national circulation and contains substantial national and international readership. El and Cooper (1992) and Mnookin (2004) argued that The *New York Times* is a leader in the American news industry and contributes to setting the agenda for the rest of America's newspapers. The national newspaper which I am using is the *Wall Street Journal (WSJ),* a business-focused daily newspaper in New York City. The *WSJ* has a reputation for acting as a platform for

conservative and right-wing editorials. Both newspapers cover the national perspective which will bring an additional dimension to the research process.

I obtained newspaper data related to the *NYT* and *WSJ* from the *ProQuest* database. For the *HC*, I used their archival database. The analysis was carried out by using NVivo 12. Kaefer, Roper, and Sinha (2015) show how to use NVivo to perform a content analysis of newspaper articles. Their findings reveal that in the qualitative content analysis, NVivo not only analyzes the data but also makes the analytical process more flexible, transparent, and more trustworthy.

This thesis followed a deductive approach. From the literature review, I developed three key themes and frames for coding and data analysis. With the help of concept mapping, I discuss these themes and their relationship with my research questions.

Theme One: Media Framing of Hurricane Harvey

The first theme media framing of Hurricane Harvey helped me to identify which frame received the highest media coverage and which one received the lowest consideration. Five of these frames comes from Harbert's (2010) study, and these are human interest and personal stories; economic consequences; environmental consequences; response and rebuilding; and morality frame. From my literature review, I have added two more frames: risk, vulnerability, and inequality; and blame, conflict frame and attribution of responsibility. These frames also helped to provide the socio-economic, environmental and political impact of Hurricane Harvey (see Figure 2)

Figure 2: Concept Map for Research Question Number Two
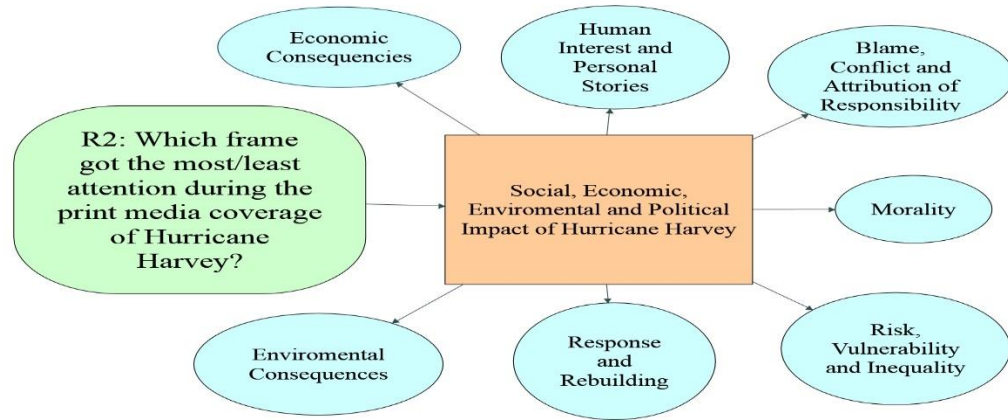
Theme Two: Government and Private Sector Response to Hurricane Harvey

The second theme addressed research question number 3) to what extent does print media coverage offer a positive, neutral or negative tone of government and private sectors response of Hurricane Harvey? To answer this question, I conducted two phases of analysis. The first phase examined how media assigned tones for government and private sectors based on their involvement in Harvey's response and recovery process. The official response was divided into three parts: local, state, and federal. The analysis looked at the data to identify whether there is a positive/negative tone associated with the media coverage of Hurricane Harvey for the three levels of government. I assigned positive/negative/neutral tone and used twelve descriptors: prepared/unprepared; fast/slow; efficient/inefficient; equitable/inequitable; active/passive; successful/unsuccessful; encouraging/discouraging; intelligent/unintelligent; transparent/non-transparent; coordination/lack of coordination; hopeful/doubtful; and reliable/unreliable.

Hurricane Harvey has different characteristics from other natural disasters because a hurricane is not a sudden event, and it is possible to give the warning sign before the disaster happened. So, the prepared/unprepared categories will explore how the government deals with the risk of hurricanes. Fast/slow will show the quick and delayed response process. Efficient/inefficient demonstrated how the government used its resources to respond and recover from hurricane Harvey. The last category demonstrated how government provided its service and facility to the affected community. For example, in the case of relief or evacuation, is any community left out because of their low economic condition or because of their race, ethnicity, or citizenship.

In the second phase of analysis, I explored how the print-media coverage depicted the role of private sectors in Hurricane Harvey's response and recovery process. I used two categories favorable/unfavorable which were derived from Harbert's (2010) study. Harbert divided the responsibility frame into two categories: favorable/unfavorable. I used both categories and divided the private sectors into for-profit and nonprofit organizations. The for-profit organizations were sub-divided into five categories: hotel and resorts, corporations, retailers, real-estate developers, and insurance companies. If the news outlet described those sectors as a positive agent of change, for example, kind, helping hand and altruistic, then it is showing a positive tone. While if the news-media describe them as a harmful agent of changes, for example, showing signs of blame, describing them as a profit-driven sector or criticizing them for making money out of the misery of disaster-stricken populations, then the coverage is showing a negative tone. Figure 3 shows all the categories I have used for this study.

Figure 3: Concept Map for Research Question Number Three
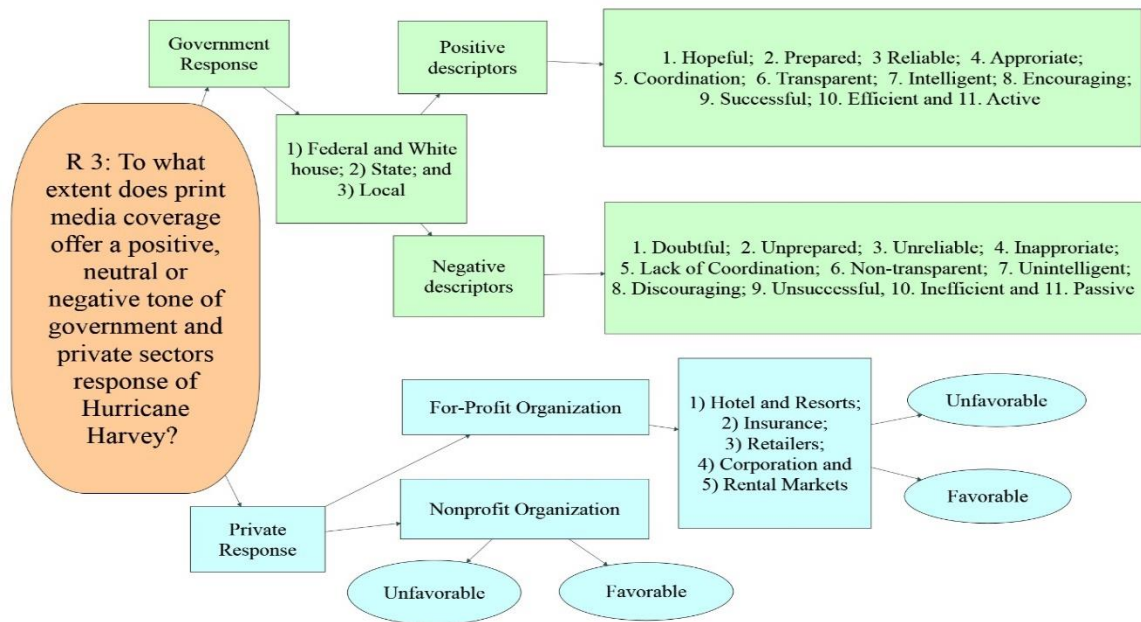
Theme Three: Crisis as an Opportunity for Capital Accumulation

The final research question was "To what extent does print media coverage of Hurricane Harvey's response and recovery processes reflect disaster capitalism as operationalized from the literature? To find the answer, initially, I have carried out a simple calculation to see how many news articles contain the word "disaster capitalism." However, the initial search showed very little use of the term in print media coverage. Newspapers cover a wide range of populations, and they cover the news in a way which will be accessible to a range of audiences. That is maybe one of the possible reasons why the print media is not using the term exclusively in their coverage. To overcome this limitation, I have developed an operationalized definition of disaster capitalism, and this definition was tested through my third theme "crisis as an opportunity for capital accumulation."

My third theme helps to answer my fourth research question by exploring the news-media coverage of Hurricane Harvey. After carefully examining empirical evidence and based on my literature review, I have decided to use the frame "crisis moment (natural disaster) as an opportunity for financial capital accumulation" to test the operationalized definition of disaster capitalism. I used nine frames/indicators: disaster-induced eviction; corporate land grabbing; use of political lobbying to get the publicly funded project and no-bid contact; tax reform and tax exemption; price gouging; disaster driven policy changes and inequality; dependency on privatizing disaster response; militarized disaster response; and disaster profiteering. Figure 4 showed all the categories that I have used as an indicator of disaster capitalism.

Figure 4: Concept Map for Research Question Number Four
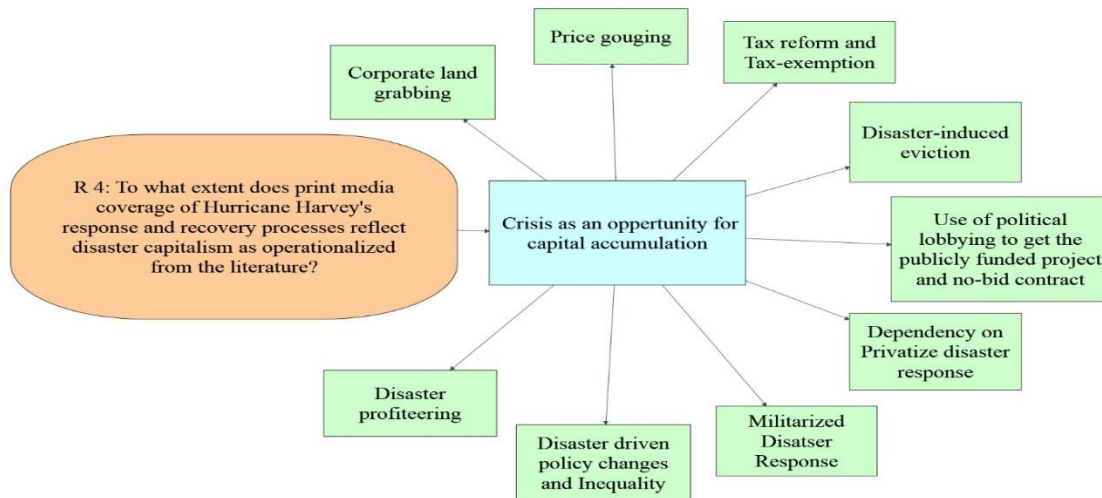
CHAPTER IV

ANALYSIS AND FINDINGS

In the previous chapter, I described the methodology of my research in which I proposed an exploration of media framing and agenda setting of the Hurricane Harvey news coverage. Also, I discussed my plan to identify the scope of the term disaster capitalism. In this section, I present findings that emerged from the data analysis process. This chapter is divided into three parts. First, I provide an overview of media coverage. Next, I present an analysis of media framing and tone for government and private sector responses. I end the chapter by discussing the indicators of disaster capitalism that appeared in the print media coverage of Hurricane Harvey.

An Overview of the Media Coverage and Section Analysis

On August 13th, Hurricane Harvey began as a tropical wave off of the African coast, and on August 17th it became a tropical storm moving towards the Caribbean Sea. It then lost intensity and was downgraded as a tropical storm as it entered into the Gulf of Mexico on August 22nd. However, between August 23rd and 25th Harvey rapidly intensified and was upgraded from a tropical depression to a category four hurricane (see Figure 5). Hurricane Harvey made landfall along the Texas coast the morning of August 25th and brought massive destruction (National Weather Service 2019), ranked as the

second-costliest disaster after Hurricane Katrina with damage of around $125 billion

(World Vision 2017).

Figure 5: History of Hurricane Harvey

Source: The Weather Channel, 2019

The *New York Times (NYT)* started their coverage of Hurricane Harvey on August

23, 2017, with a headline "Remnants of Tropical Storm Harvey Gain Strength and

Hurricane Watch Is Posted." They stated the storm has the potential to make landfall and

may affect the cities of Corpus Christi, Houston, and New Orleans. *NYT* pointed a

tropical storm, and storm surge watches from the Rio Grande to Port Mansfield and San

Luis Pass to San Luis Pass to 60 miles northeast to High Island, Texas.

The *Wall Street Journal* (WSJ) started their coverage on August 24, and the title

of their first report was "Hurricane Harvey Threatens South Texas Coast; Storm is

supposed to make landfall late Friday or early Saturday, could bring up to 35 inches of rain". The *WSJ* noted that for 30 Texas counties including densely populated Harris County, Gov. Greg Abbott declared a state of disaster. They also narrated the activities of city officials: for example, Corpus Christi officials distributed sandbags to residents for safeguard against flooding; Houston's fire department prepared themselves for water rescues and barricading intersections prone to flooding.

The *Houston Chronicle (HC)* started their coverage on August 24, 2017, with a title named "Storms grows into Texas threat: Harvey expected to bring heavy rain, then linger, spurring fears of flooding." They warned that Tropical Depression Harvey is coming towards the Texas coast, and it could turn into life-threatening flooding for the Houston area with at least 8 to 12 inches rain and landfall close to Matagorda Island. All three newspapers continued their coverage of Harvey from August 24, 2017, through December 31, 2018.

This section provides a short overview of Harvey media coverage. The next section highlights how Hurricane Harvey acted as a triggering event to make a significant impact on the news outlet, and the news outlet was affected by a trend known as "media hype."

News Coverage and Media Hype

Several researchers discussed the phenomena of media hype and how a triggering event impacts the coverage of news outlets. Vasterman (2005) pointed out that media hype is most prominent within the initial period of the triggering event, then it slowly disappears. Vasterman defined media hype as:

"a media generated, wall-to-wall news wave, triggered by one specific event and enlarged by the self-reinforcing process within the news production of the media. During a media hype, the sharp rise in the news in the result of making news, instead of reporting news events, and covering media-triggered social response, instead of reporting news events, and covering media-triggered social response, instead of reporting developments that would have taken place without media interference" (2005:515).

Wien and Elmelund-Praestekaer (as cited in Stomberg 2012) argued "the rise and fall of coverage during a media hype happens approximately three times and that media hypes last about three weeks. The initial onset of hype will eventually die because editors and reporters feel readers have lost interest so they move to the next top that will hold their readers' attention. The following two rises in coverage can come from a follow-up story that generates enough interest or new developments in the story" (2012:26).

In the coverage of Hurricane Harvey, I found several signs of media hype. The natural disaster (Hurricane Harvey) served as a triggering event, and all the three newspapers started their coverage from 2-3 days ago before Harvey made landfall. After the event (which happened on 25 August), the news media began to increase its coverage related to different aspects of Harvey, how the city officials prepared themselves for this disaster and (like response and recovery). In the first three months (from August to October), there was a rise in the coverage of Harvey news.

I have divided the timeline into six different time periods (see Figure 6 and 7), and the coverage percentages are as follows: August to October (35%), November to December (17%), January to March (13%), April to January (14%), July to September (16%), and October (5%). If I break down the coverage as a media source, the *NYT* published 128 articles (out of 154), *WSJ* published 76 articles (out of 84) and *HC* publish 73 articles (out of 188) between the period of August to October (2017). So based on the

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result, the national newspapers (both the *NYT* and *WSJ*) followed the trend of media hype and decreased their coverage as time proceeded. However, a different direction in the coverage was observed in the *Houston Chronicle*'s coverage. They continued to publish articles and follow up stories throughout 2018. There was a rise in counts during the period of July through September 2018 because the *Houston Chronicle* published articles in a specific section called "Harvey: One year later." The *HC* also covered the stories related to the recovery process of different counties that were affected by Harvey. The data revealed that the national newspapers followed the trend of media hype, but the local newspaper showed a mixed pattern and continue to publish several articles related to Harvey.

Figure 6: Number of Articles related to Hurricane Harvey
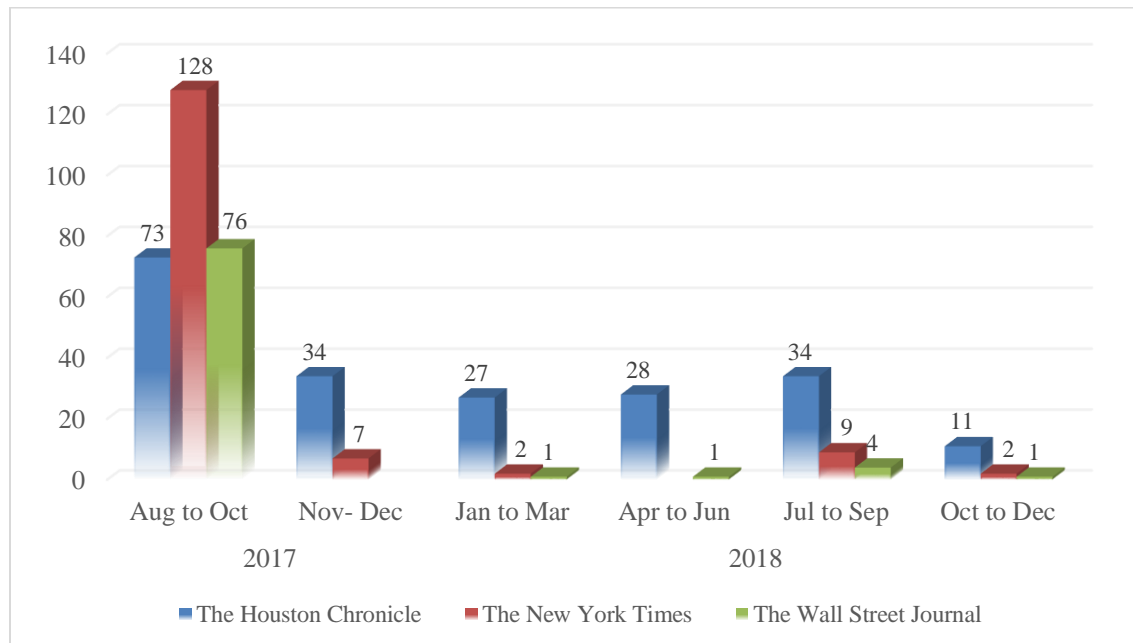
Figure 7: Coverage Percentage of Newspaper Articles Related to Hurricane Harvey between the Periods from August 17, 2017, to December 31, 2018.
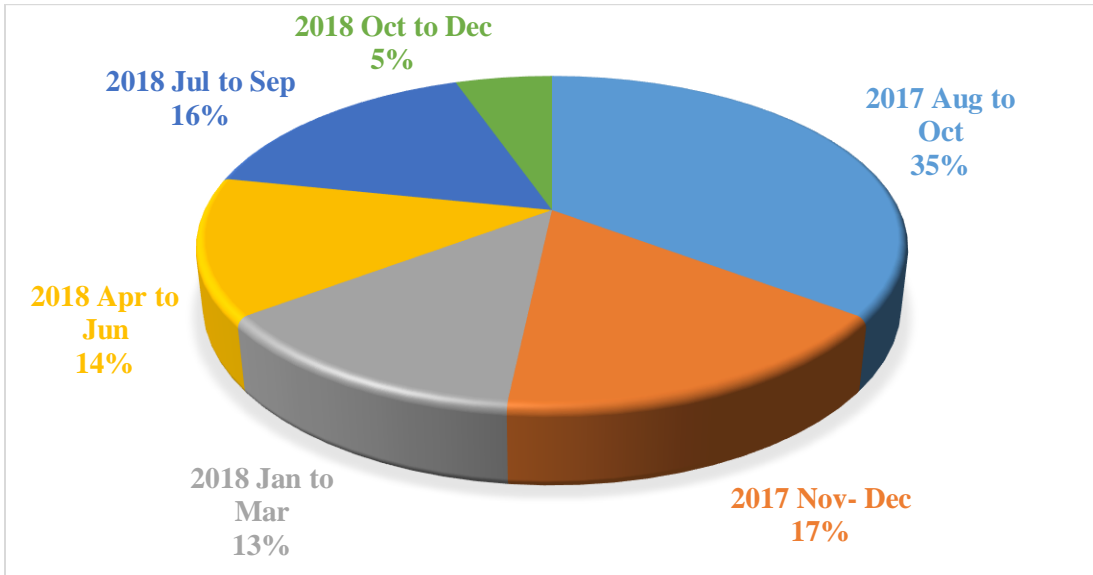
This study also looked at which sections whose stories were published. Most of the articles in the *Houston Chronicle* was published in Editorial and Opinions (10%), News (18%) and City & State (14%). In the *New York Times*, the most number of articles published in the US (55%), Opinion (17%) and Business (9%). For the *Wall Street Journal*, the percentage followed at US (47%), Economy (11%) and Markets (26%). Compared to *NYT* and *WSJ*, the news coverage of Hurricane Harvey was more diverse for the *HC*, and they appear to have more sections related to Hurricane Harvey news (for details see Figure 8, 9 and 10).

Figure 8: Number of Articles Divided by Sections (the *Houston Chronicle*)
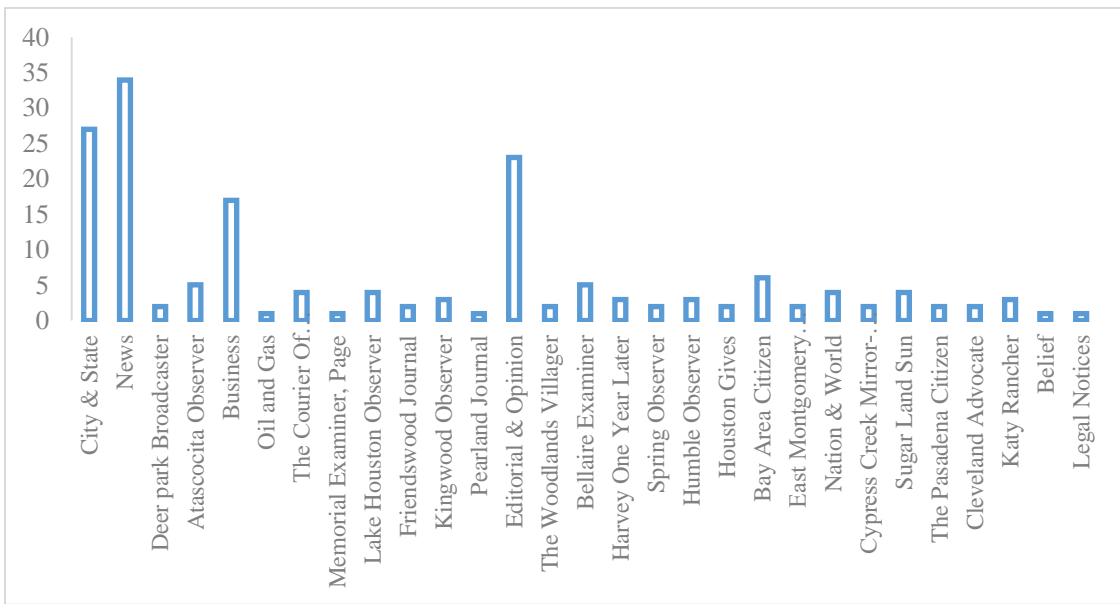
Figure 9: Number of Articles Divided by Sections (the *New York Times*).
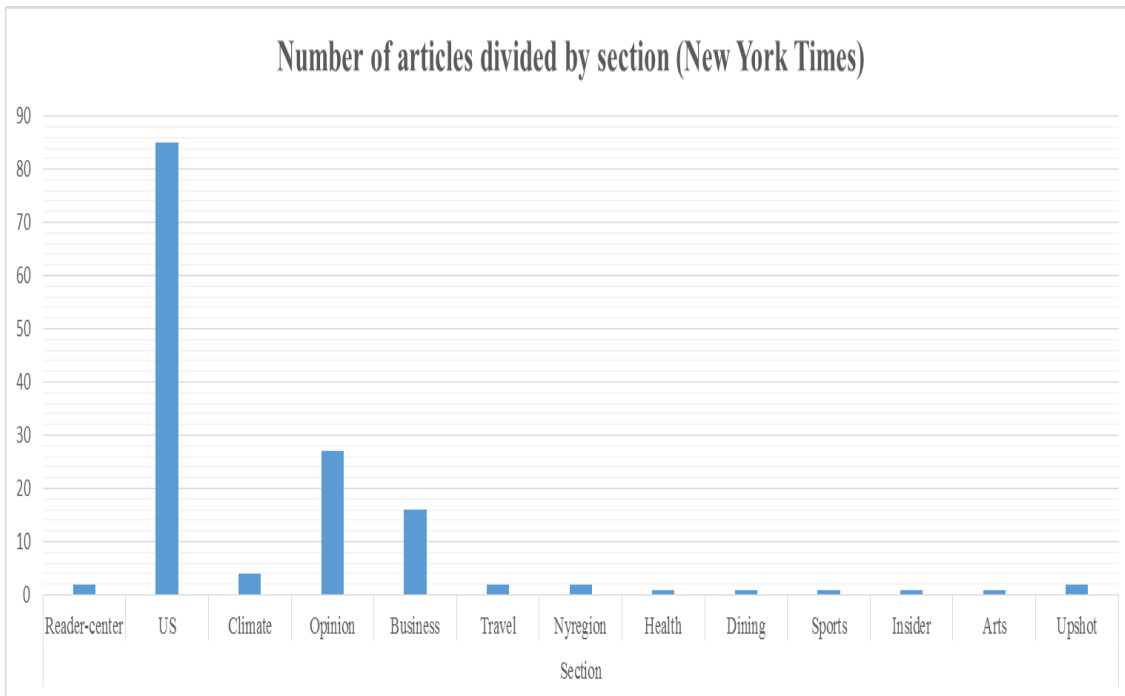
Figure 10: Number of Articles Divided by Sections (the *Wall Street Journal*)
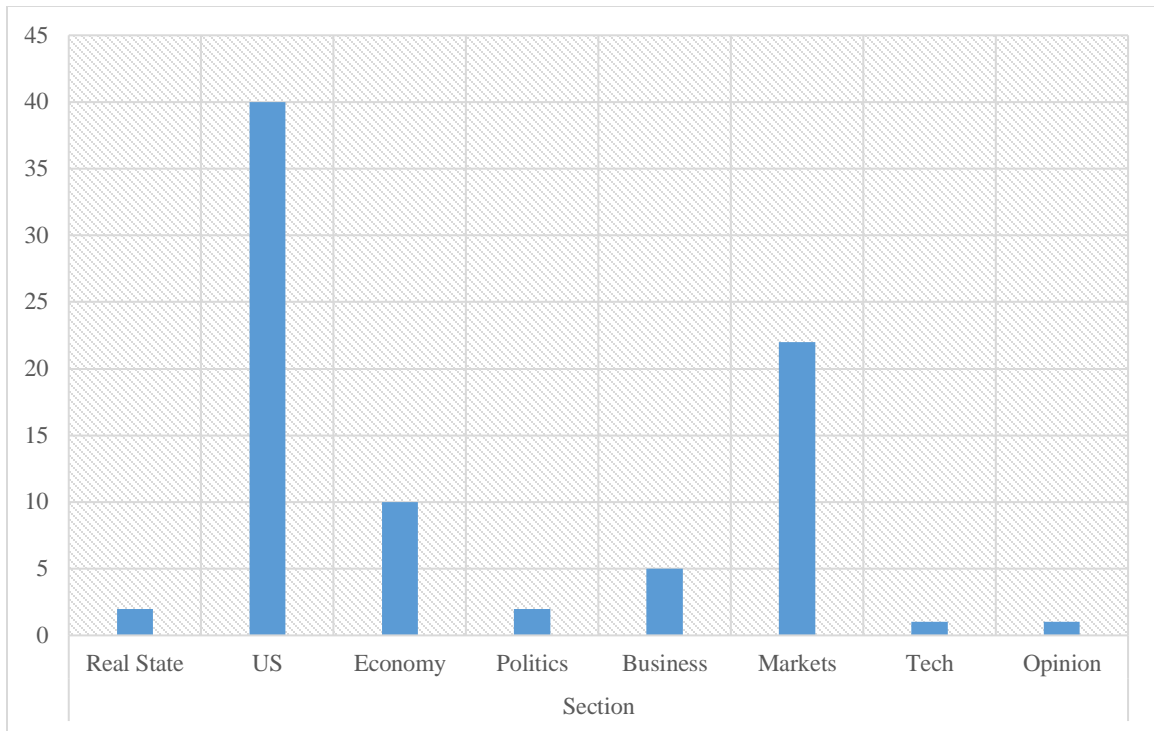
Media's framing analysis of the coverage of Hurricane Harvey: A comparative analysis of the New York Times, the Wall Street Journal and the Houston Chronicle

For this study, I used nine media frames derived from Harbert (2010) and my literature review. Those frames included human interest, conflict, responsibility, economic consequences, and morality. The literature review revealed four more frames: attribution of responsibility; risk, vulnerability, and inequality; repair, rebuild and resilience; and conflict frame (see Figure 11). The most popular frame was the human interest frame, and the least popular was morality. Based on these frames, I offer a narrative related to the social, economic, environmental and psychological impact of Hurricane Harvey.

Figure 11: Media's Framing of Hurricane Harvey News
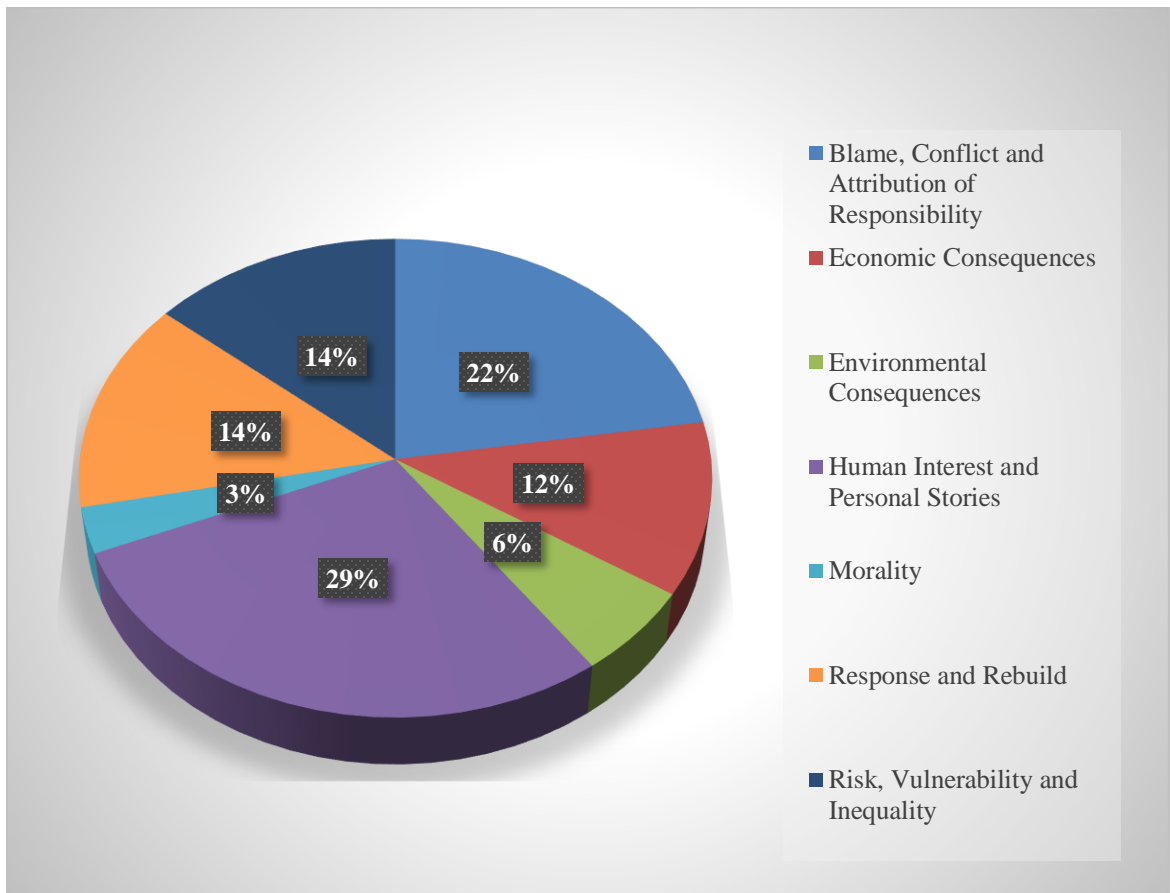
Human Interest and Personal Stories

A significant portion of reports related to Hurricane Harvey belongs to human interest and personal stories. Within this frame, all three newspapers showed the helplessness of the disaster survivors, the sign where the respondent blamed the authority for inadequate response and how their life was affected by the hurricane. In several places, articles consist of the first-person narrative to demonstrate the suffering of the respondent. For example, the *Houston Chronicle* reported the distress of Avant's family who was affected by Hurricane Harvey. Avant's family consists of four members, four-

year-old Maggie Avant, her father Drew Avant and mother Jaclyn Avant. To demonstrate the situation, *HC* used a quote from Drew Avant:

> "Even after the storm had passed, we were still living in a perpetual storm," Drew Avant said. "The rebuild. The girls being in one place and me being in another. Working, going to work on the house while Jaclyn was working and going to the apartment, or going to the hotel and taking our daughter — it was a vicious cycle. It was like, 'Well, I will see you on Facetime, or I will see you this weekend." (Feuk 2018: LH2)

Like previous studies of natural disasters, the coverage of the immediate aftermath of Harvey was also dominated by the news of death, damage, and destruction. The *NYT*, *WSJ,* and *HC* published several articles that offered an image of property damage, loss of life and post-storm chaos. One of the *NYT* reports stated:

> "The storm slammed through a wide swath of East Texas far beyond Houston, and officials said this week that at least 63 deaths in the state were storm-related or suspected to be storm-related so far. However, no one knows yet how many people are missing across the state, partly because it is difficult to distinguish who went missing as a direct result of the storm, and partly because many local officials are overwhelmed by the post-storm chaos." (Fausset 2017)

Articles also reported the effect of Harvey on infrastructure and utility services. For example, *NYT* articles described the effect and response to Harvey in the following passage:

> "Water rose in the basement of Ben Taub Hospital, a major county trauma center in the vast Texas Medical Center campus that had spent billions of dollars on flood protections after being devastated in Tropical Storm Allison in 2001. Officials announced an evacuation Sunday, but hours later, a hospital spokesman said it had not yet begun because the hospital was surrounded by water and rescuers could not reach its 350 patients. On Monday afternoon, a call went out on local radio for a vendor to provide food for the hospital" (Fink & Blinder 2017).

Panic, Looting, Scams, and Disaster Myth

The *NYT*, *WSJ* and *HC* mention panic, looting, scams, and disaster myth in their report. For example, *HC* published a bunch of urban myths followed by Hurricane Harvey. An article in *NYT* compiled a list of Harvey myths, and some of these were:

> "1) Shark in the fast lane. When Fox News' Jesse Watters, co-host of a show called "The Five," tweeted a photo of what he said was a shark on the freeway in Houston, he was not talking about some jerk cutting someone off while speeding at 80 miles per hour. He was referring to the real deal, an actual junior Jaws swimming along with traffic, and he had the picture to prove it. However, the image turned out to be a doctored photo that has been making the rounds online for years. Heck, this same shark was in New York for Hurricane Sandy, too. Watters apologized the following day.
>
> 2) Where are your papers? One of the more persistent rumors was that officials were demanding immigration papers of those requesting assistance at shelters or food banks. Houston Mayor Sylvester Turner took to social media to swat them down in six languages. "The rumor that we are asking for immigration papers is FALSE! This rumor is NOT true!" he said. "We will NOT ask for immigration status or papers from anyone at any shelter."
>
> 3) Do not drink the water: speaking of water, many seemed to believe that the city of Houston's water supply had been contaminated. Despite flooding at one of Houston's water plants, the supply remained safe, though the city did request people "minimize water use during this time." It was a different story in Beaumont, where the sources of drinking water were knocked offline, prompting the city to issue a statement saying, at this time, there is no water supply." (Darling 2018: D1)

Response and Rebuilding

Freudenburg and Jones (1991) talk about the emergence of "therapeutic community" or "altruistic community" which emerged after a natural disaster. The media discourse of response and rebuild provide several examples of philanthropic community where people, organizations and even strangers help each other. An article in the *HC*

reported that even though Harvey was considered as one of the costliest natural disasters, it created history in disaster fundraising (Ackerman 2018: K9). In just a few months after Harvey, foundations, corporations, and individuals donated nearly $ 1 billion to help the Gulf Coast recovery process (see Figure 12).

Figure 12: Harvey's Charities by For-Profit Organizations

RAISED $518.8m

$126.1m TO BE DISTRIBUTED	Red Cross	
$114m RAISED / $3.5m TO BE DISTRIBUTED	Greater Houston Community Foundation	
$100m RAISED / $49.13m TO BE DISTRIBUTED	Rebuild Texas Fund	
$87.5m RAISED / $51.6 TO BE DISTRIBUTED	Samaritan's Purse	
$61.4m RAISED / $29.2 TO BE DISTRIBUTED	United Way	
$37m RAISED / $6.5m TO BE DISTRIBUTED	J.J. Watt Foundation	
$30m RAISED / $18m TO BE DISTRIBUTED	Salvation Army	
$14m RAISED / $9m TO BE DISTRIBUTED	Center for Disaster Philanthropy	

Harvey charities

Of the nearly $1 billion raised for regional recovery after Hurricane Harvey, nearly a third has yet to be distributed.

Source: Chronicle survey of area agencies

Houston Chronicle

Source: Houston Chronicle 2019

The *New York Times* also reported several heroic activities during Harvey. One article in *NYT* describes the activities of a volunteer group called "Cajun Navy." The Cajun Navy has little organizational experiences and consists of volunteers with bass boats, airboats, and other recreational vessels. They already provided emergency support during Hurricane Katrina in 2005 and the catastrophic floods in Louisiana in 2017. A narrative from the *NYT* about the Cajun Navy was:

"We are trying to do what we can," said Ben Theriot, an engineer whose house near Baton Rouge was flooded in last year's storms. "I had people that I barely knew showing up to help me. The best way you can thank somebody for helping you is to go help somebody else." (Fountain and Trip 2017)

Another event that caught the media's attention named "the One America Appeal." The hurricane recovery effort was initiated by five former Presidents: Jimmy Carter, George H.W. Bush, Bill Clinton, George W. Bush, and Barack Obama (see Figure 13). The *Houston Chronicle* reported:

> "This campaign raised more than $41 million following Harvey in Texas and Hurricanes Irma in Florida and Maria in Puerto Rico and the U.S. Virgin Islands. In Texas, money from the presidents' effort went to the Hurricane Harvey Relief Fund and the Rebuild Texas Fund" (Ackerman 2018: K9).

Figure 13: Five former US Presidents Act Together to Raise a Relief Fun

Source: Yi-Chin Lee (the Houston Chronicle 2018)

Risk, Vulnerability, and Inequality

Risk, vulnerability, and inequality discourse were apparent in all three newspapers. However, the *New York Times* tended to cover more news related to this frame. Comparing death, damage, and destruction as an act of God; this frame argued that existing structural, social, and political contexts contributed more towards

destruction in the aftermath of Hurricane Harvey. This frame also demonstrated how race, class, and ethnicity affected the disaster recovery process and how marginalized people faced hardships to get disaster assistance. For example, the *New York Times* published an article after one year of Harvey to compare the recovery process based on social inequalities. Their findings showed both sides of recovery. On the one hand, Houston and other Texas cities made a significant recovery with the help of federal aid and donations; many residents returned to their refurbished or new build homes. On the other hand, many low-income neighborhoods were still suffering and found it difficult to recover. The problems were more acute in African American and Hispanic neighborhoods. The following passage from an *NYT* article reported a survey result which further contributed to this argument:

> "A survey last month showed that 27 percent of Hispanic Texans whose homes were badly damaged reported that those homes remained unsafe to live in, compared to 20 percent of blacks and 11 percent of whites. There were similar disparities with income: 50 percent of lower-income respondents said they were not getting the help they needed, compared to 32 percent of those with higher incomes, according to the survey by the Kaiser Family Foundation and the Episcopal Health Foundation" (Fernandez and Panich-Linsman 2018).

Several articles in the *NYT* also indicated that although the residents of these low-income communities received assistance from officials and volunteers, some other reasons hinder their recovery process. For example, because of their low economic conditions, they were ashamed of their living arrangements, they felt shy to ask help, and as a consequence, they suffered privately. Also, some community members were ill, disabled, and unemployed, and they or their relatives still struggled to cope with post-Harvey stress with medication and counseling.

Few articles in the *NYT* and *HC* highlighted the history of unplanned economic growth, lack of zoning laws, and segregation of the Houston area. These articles indicated that much low and middle-income neighborhoods were located in flood-prone areas and closer to industrial plants making them more vulnerable to a disaster like Harvey. Further, the flood protection systems in these neighborhoods were inadequate, and most of the residents were not likely to have flood insurance. As a result, they suffered more damage compared to the high-income neighborhoods who had better storm-water management systems and flood insurance. Several other articles reported about the low lying geography of the Houston area, the poor draining, and age-old sewage system and showed how this discrepancy made the city more vulnerable in times of flooding. For example, one of the cases in the *NYT* discusses how Houston's sewer system struggled with overflow, especially in the rainy season. The articles indicated that Houston has been negotiating with the Environmental Protection Agency (EPA) regarding the requirement of upgrading the city's pipes and maintenance systems. The following passage from an *NYT* article discussed the whole issue:

> "Houston's had problems with their sewer system in the past. They already had cracks and leaks that were allowing stormwater to get into the sewers," said Erin Bonney Casey, research director at Bluefield Research, a water-sector consultancy based in Boston. "When it rains, the sewer pipes get infiltrated with stormwater. The pipes exceed their capacity, and you get a discharge of a mix of sewer water and stormwater," she said. "As you can imagine, this raises major concerns around disease and contamination of local water supplies" (Tabuchi and Kaplan 2017).

Economic and Environmental Consequences

Both the *HC* and *WSJ* published several articles regarding the economic impact of Hurricane Harvey which included the effects on the oil refinery, gasoline, retailers, and

the real estate market. Articles also discussed the dropping of home-selling prices and how Harvey forced people to sell their flooded homes at lower costs. The following passage from the *HC* shed light on the argument and showed how Hurricane Harvey initiated adverse lifestyle changes among some Houstonians:

"In February, Sam Scott said goodbye to the Memorial Bend home he and his wife raised three children in and painstakingly renovated over two decades. After Harvey flooded his neighborhood and a nearby wastewater treatment plant overflowed, filthy sludge sat in the house for days. The Scotts felt they had no choice but to tear it down. They put their nearly 10,000-square-foot property up for sale for $550,000, a discount from what lots were selling for pre-Harvey. After dropping the price by $25,000, they accepted a builder's offer for $500,000. Teardowns were selling for $600,000 back during the boom in early 2014, Scott said." (Sarnoff 2018: A1)

While disaster brings misfortune for some, it also creates opportunities for others.

An article in the *HC* described the whole contradictory scenario in the following passage:

"Many residents returning home this week to assess the damage from Hurricane Harvey will find their cars missing--towed away to several locations, including a racetrack in Houston, as auto insurers attempt to sift through the wreckage. The situation will affect the two opposite ends of the car business. Displaced car owners will return to the market as U.S. demand for new vehicles is cooling, providing a potential boost for automakers and used-car sellers. Meanwhile, scrap yards and auto recyclers are bracing for a glut with the flow of more wrecked vehicles expected to depress pricing for scrap metal and salvaged car parts." (Rogers, Mahtani, and Colias 2017)

The *Houston Chronicle* published articles related to the psychological impact of Harvey on the residents of Harris County. According to the latest flood data, more than 200,000 homes and apartment buildings were damaged by Harvey in 2017. At the end of December and early January 2018, the University Of Texas School Of Public Health surveyed residents to identify the post-traumatic stress of the respondents in Harris County. The following passage from *HC* summarizes their findings:

"The survey found serious psychological distress, or SPD, in 18 percent of all respondents, compared to the region's 8 percent rate reported in the same team's 2010 survey and the average national rate of 4 percent. The previous Houston rate and the latest national rate did not come in the aftermath of disasters" (Ackerman 2018: SO3).

The stress level was more concerning to the respondents (48%) who have experienced significant damage to their homes. In addition to that, the *Houston Chronicle* published another report which consists of two follow up surveys conducted jointly carried out by the Houston-based Episcopal Health Foundation and Kaiser Family Foundation. Both surveys were carried out between three and six months after Harvey, and the researchers performed a series of focus groups with low-income communities from Houston, Port Arthur, and Dickinson. The respondents were adults, and they were asked a series of questions regarding their attitudes of recovery and personal experiences. Their findings reveal that 8% of the respondents whose homes were severely impacted by Harvey were still displaced, 19 % had a hard time controlling their emotions, 10% took a prescribed drug for the treatment of mental illness, and 8% drank more alcohol than usual. Their findings also indicated that only 8% of the respondents in Harris Country received counseling or mental-health treatment. A quote from one of the respondents showed the continuation of post-traumatic stress from Hurricane Harvey nine months after the events:

> "My girl is traumatized," a Houston mother told the survey focus group. "Every time she saw it got cloudy she says, 'Mommy, is it going to fill up again? It is going to fill up?' We had to move from there because I felt like I was already creating trauma to the girl. She does not even want to see a pool. We have not even gone to the pool because she is scared. She says she is going to drown." (Deam 2018: A1)

Blame, Conflict, and Attribution of Responsibility

Several articles pointed out the conflict between city and state authorities regarding the evacuation decision. An *NYT* article reported the disagreement between Mayor Sylvester Turner and Gov. Greg Abbott. While the mayor was not in favor of an evacuation order and requested the residents to stay at home, Gov. Abbott strongly urged the residents to leave. Another event that caught the media attention was the controlled released of Addicks and Barker reservoirs which increased the risk of flooding along Buffalo Bayou (Snyder 2017). This decision from public officials received severe criticism when several neighborhoods flooded from the controlled release and resulted in dozens of lawsuits for compensation by the damaged homeowners. Both of these reservoirs were maintained by the U.S. Army Corps of Engineers. A *WSJ* article reported the experience of affected homeowners and stated:

> "'I figured, they know what they're doing, and are releasing water only when it won't cause harm to everybody else,' said Jennifer Arriaga, 44 years old, whose home in Houston's Memorial Bend neighborhood largely survived the storm before being flooded with 18 inches of water from the Addicks dam release. Her family faces an estimated $220,000 in damage in the house they'd only just built a year ago and is pursuing litigation." (Randazzo, 2017)

So far, I have discussed several pre-defined frames like personal stories, economic and environmental consequences. However, I have also examined several emerging frames that emerged in the data coding and the next section, I have provided a details analysis of these emerging frames.

Emerging Frames

The research design used several media frames and mostly followed a deductive approach. However, pre-defined media frames were not able to capture all the discourses

efficiently. By keeping that in mind, I included several frames which emerged in the coding phases. Three noticeable themes were technological and Natech disaster, climate change and social media. Using Nvivo 12, I prepared three separate word clouds for these themes.

Technological Disaster and Natech Disaster

The last two decades experienced several technological disasters like Deepwater Horizon/BP oil spill, the Concorde crash, radiation leaks, and chemical spills. Both natural and technological disasters affect the community, but they have distinct characteristics. According to Lindsey et al., "A technological disaster is an event caused by a malfunction of a technological structure and some human error in controlling or handling the technology. Technological disasters can be considered a human-made disaster, meaning there is an "identifiable cause" characteristic" (2011:1). Gill and Picou (1998) argue that technological disaster happens when there is a failure in industrial and bureaucratic organization systems which leads to devastation and contamination of the natural and built environment.

Gill and Ritchie (2018) pointed out six characteristics that can be used to make distinctions between natural and technological disasters. They are etiology; physical damages; disaster phases; post-disaster processes; vulnerability; community; and individual reactions. Etiology refers to the root cause of the disaster. If the triggering event was natural (like meteorological, geological or hydrological), then it is considered as a natural disaster. However, if the triggering event was not natural, it happened

because of human error, structural failures, design flaws or policy/regulatory failures, then it is considered as a technological disaster.

In terms of damage characteristics, the damage caused by the natural disaster is more visible and more accessible to calculate. They are quantifiable, and they can measure in commercial scale. However, it is often difficult to estimate the damage caused by a technological disaster. For example, radiation and oil spills may or may not be visible to human eyes and debate may emerge regarding the financial consequences. However, adding to the monetary loss, these disasters create sociocultural and psychosocial impacts which often create a state of distrust, stress, and post-traumatic disorder.

Both natural and technological disasters differ in terms of the disaster life cycle. Drabek (1986) propose eight phases of the disaster life cycle model which start with a warning and as followed by a threat, impact, inventory, rescue, remedy, recovery, and rehabilitation. Although natural disasters follow a linear pattern, technological disaster tends to follow a non-linear model (Gill 2007; Gill and Ritchie 2018) and become trapped in the warning-threat-impact cycle. Individual and community responses also differ to a fine margin. Where in the case of natural disasters, communities came together as a unit and helped each other to tackle the adverse conditions, technological disaster brings mistrust, dispute, and recreancy among the victims. Freudenburg defined recreancy as "the failure of experts or specialized organizations to execute responsibilities properly to the broader collectivity with which they have been implicitly entrusted" (2000:116). Gill argued that these "collective and individual responses threaten ontological security and contribute to psychological and emotional trauma" (2007:620). The survivors tended to

blame the authority/organization for their condition. Literature also pointed out another type of disaster called "Natech" disaster. Gill and Ritchie (2018) defined "na-tech disaster" as an event where a natural disaster acts as a catalyst for technological disaster. For example, the Tohoku earthquake and tsunami in 2011 acted as a triggering event for the Fukushima Daiichi nuclear disaster in Japan.

Although Harvey was a natural disaster, the aftermath of Harvey shows several components of natural, technological and Natech disaster. In the case of a disaster life-cycle model, we see technological disaster mostly involved with contamination and follow the loop of the warning-threat-impact model. An examination of the keywords the *NYT*, the *WSJ,* and the *HC* used in their coverage reveals a range of stories related to the environmental impact of the hurricane caused by mechanical and technological failures. These newspapers used keywords like "chemical spill," "contamination," "hazardous waste," "toxic emissions," and "pollution." Newspapers also showed several examples of a warning-threat-impact model for technological disaster. For example, an *NYT* article warned against chemical pollution and indicated a series of explorations around a chemical plant in the northeast side of downtown Houston. They reported the cooling system which kept the chemicals stable was closed because of floodwater. Another article reported an increasing amount of health diseases and stated:

> "From the moment the waters began rising in Texas last month, the disease was on health officials minds. Floodwaters, after all, are filthy. When Hurricane Harvey finally moved north, and the feet of flooding drained, hospitals saw a spike in the skin and gastrointestinal infections, but Texans were spared some of the most severe illnesses that contaminated water can spread: cholera, for instance, and typhoid" (Astor 2017).

Later in their report, they indicated two deaths from the contamination. The first one was a 77-year-old woman, a resident of Harris County, and the reason for the death was "necrotizing fasciitis: a gruesome and often deadly infection commonly known as flesh-eating bacteria." The second death took place in Galveston County and the victim Clevelon Brown died by sepsis which was caused by a different bacteria originating in the floodwaters (Astor 2017).

Mechanical and bureaucratic failures also contribute to the emergence of technological disaster and several studies showed how communities and individuals tended to respond with mistrust, fear, stress, blame, and recreancy. Houston Chronicle published several articles regarding the presence of benzene, the carcinogenic substance dioxin, and pit poison resulting from massive flooding. An example from a *Houston Chronicle* article articulate:

> "Hundreds of families in riverfront neighborhoods east of Houston have been complaining for the past month that massive flooding around the pits poisoned the river, likely fouled their land and contaminated wells with sewage, industrial pollution, and toxic sediment. One resident shot a drone video that he said showed damage to a cap covering a portion of the waste pits" (Olson 2017: A1).

The Wall Street Journal published some articles regarding the activities of the City Authority and Environmental Protection Agency. In one of their reports, they highlighted the presence of benzene in the Manchester region of the Houston area. Another report put forward their concern about hazardous emissions and stated:

> "The majority of the Harvey-related reports involved hazardous emissions triggered by the shutdown of operations as the storm approached, said Shaye Wolf, an ecologist and climate science director at the Center for Biological Diversity. Such shutdowns can cause emissions that escape via a mechanism known as a flare, which relieves the pressure that builds up when operations cease quickly, she said. Other Harvey-related emissions reports, including Valero's disclosure, involved storm damage to tanks, boilers, and power systems that led to

hazardous emissions, according to report data available on TCEQ's site" (Evans 2017).

From the above analysis, we can observe different ways technological, and natech disasters unfolded in the media coverage of Hurricane Harvey. To further analyze the issue, I developed a word cloud. The word cloud showed the frequency of single words used in the news articles. The larger the word size, the more common that word was used in the coverage. A careful examination of the word cloud reveals the names of organizations who held responsibility for the chemical spills such as "Arkema," and "Valero" (see Figure 14).

Figure 14: Word Cloud for Technological Disaster

Several other words like "chemical," "explosions," "plants," "spill," and "emissions" indicated environmental contamination that had taken place in the Houston area during the aftermath of Harvey. Another common word was "Manchester," neighborhood consisting of low-income people located very close to an oil refinery and chemical plant. Because of this low economic condition and proximity to the plant, the

neighborhood was more vulnerable to a chemical spill, and the residents suffered

adversely from the contamination.

Climate Change

A second emerging theme was climate change. Several articles explored the

relationship between climate change and global warming. They used scientific facts to

explain how climate change contributed to the increased intensity of natural disasters in

recent decades. For example, one article published in the *NYT* argues that human-induced

climate change increased the chances of extreme rainfall in the Gulf Coast, making

hurricanes more destructive and frequent. By using the reference of a study conducted by

the American Geophysical Union, they stated: "the seven-day rainfall from Harvey

increased by at least 19 percent, and perhaps by as much as 38 percent, compared with

similar storms in the mid-20th century, when the reservoirs designed to save the rest of

Houston were built" (Romero 2018).

Another article in the *NYT* discusses how global warming was affected by the

factors like temperature, atmospheric moisture, and sea level rise and how the

combination of these factors influenced extreme events in the United States and around

the globe. The following passage describes their key argument and research area:

> "First, hurricanes arise from warm waters, and the Gulf of Mexico has warmed by
> two to four degrees Fahrenheit over the long-term average. The result is more
> intense storms. Secondly, as the air warms, it holds more water vapor, so the
> storms dump more rain. That is why there is a significant increase in heavy
> downpours. Nine of the top 10 years for heavy downpours in the U.S. have
> occurred since 1990. There is also a third way, not yet proven, in which climate
> change may be implicated: As Arctic sea ice is lost, wind systems can meander
> and create blockages —like those that locked Harvey in place over Houston. It
> was this stalling that led Harvey to be so destructive" (Kristof 2017).

A word cloud was prepared for the climate change articles shows several exciting facts (see Figure 15). The most common words used in this discourse were "climate," "change," "happening," and "scientist." If you put these word in the context, it indicated climate change is happening around the globe and scientists are working to examine the reason behind those changes. Some keywords like "warming," "hot," "rise," "sea area" indicated that the effect of climate change on the environment. Finally words like "extreme," "expected," "increased," "cyclones" indicated a belief that more climate-related disaster is coming in the future with higher intensity and these will make several parts of the world more vulnerable to instability, disease, and hunger.

Figure 15: Word Cloud for Climate Change

Social Media

A third emerging theme was social media. All three newspapers covered a range of stories regarding social media. After analyzing the articles, two media discourses

emerged: a warning that social media can be used as a platform for scams and rumors, and that social media can also act as a medium where people go to ask for help and offer assistance.

A *NYT* article reported misinformation and false claims that were spread online by social media users and national media outlets. For example, some of the old photos of the previous floods were presented as Harvey photos. For example, ABC World News Tonight in its Monday night broadcast showed a mosaic of photos that included "a family forced to use a floating refrigerator to save their child." However, later it was found that the photo belongs to a previous disaster which happened in April 2016. In response to that, the organization offered a correction and apology and said:

> "ABC News accidentally aired an image, including on 'World News Tonight' and 'Good Morning America,' from a previous Houston flood in 2016. The image has been removed from our platforms. We apologize for the error" (Qiu 2017).

Viral fake news also contributed to politically held beliefs. An example can be given where hyper-partisan website Daily Dems published an article where President Obama is giving thanks to the emergency medical worker for their effort in Houston. Even though the content was right, the way the photo used was entirely out of context. To describe Mr. Trump's actions negatively, the photo was edited and "paired an old image of Mr. Obama with a headline comparing him to Mr. Trump: former President Obama Tweets about Houston Flooding; Now THIS Is How a President Should Act" (Qiu 2017). Many users started to believe that Mr. Obama was serving Houston and it goes viral as a Twitter post which was retweeted at least 7,000 times. Later it was found that the photo was taken on Nov 2015 when Mr. Obama and his family served Thanksgiving dinner to a

homeless shelter in Washington D.C. and it was in no way related to the Hurricane Harvey.

Media discourse showed the limitation of an emergency response system, and on many occasions, 911 became overwhelmed with a massive amount of calls. As a consequence, people failed to reach 911 operators. On many occasion, they started to use new types of civic infrastructure like Facebook, Twitter and messaging apps like Zello (which can work in a low-bandwidth with old-fashioned walkie-talkies). These social media apps have some useful features which make them effective in the times of a natural disaster. For example, in 2014 Facebook launched a new tool called "safety-check." By using the tool, people can mark themselves as safe in an emergency. Many residents also posted their address on Facebook and location on Twitter, and they were evacuated successfully.

The word cloud for social media shows several exciting findings (see Figure 16). The most common words used in this discourse were "people," Facebook," "Twitter," "media," "social." Putting those in context, it demonstrates the importance of social media in the context of a natural disaster. Another keyword like "president," "Trump," "government," showed that not only the residents but also the government officials were active in social networks.

Figure 16: Word Cloud for Social Media

The first part of the analysis showed the frames used by the media in their coverage of Hurricane Harvey. These frames included human interest and personal stories; economic consequences; environmental consequences; repair and rebuild; morality; response and clean-up; rick, vulnerability and inequality; technological and Natech disaster; climate change; and social media. The next section analyzed the tone used by the media to describe government and private sectors responses to Hurricane Harvey.

Media's Use of Tone for Government and Private Sectors Response

In this section, I examined the media's tone for government and private sectors response related to Hurricane Harvey. The government was divided into three sectors: federal, state and local. The private sectors were divided into for-profit and nonprofit sectors. These results were obtained by using the hierarchy chart at Nvivo (results of the hierarchy chart were given in Appendix B) and analyzing the positive and negative

descriptors. This section started with government response and followed by for-profit and non-profit sectors.

Tone Analysis for Government Response (Federal, State, and Local)

Overall, the media tone for government responses was neutral, but evidence both for both positive and negative descriptors was found. By using examples from these negative and positive descriptors, separate analysis for federal, state and local levels of government was conducted.

The most common descriptor for the negative tone for federal, state, and local government was inefficient/efficient. For example, several articles in the *NYT*, *WSJ*, and *HC* highlighted the inefficiency of the flood insurance program which was administered by the Federal Emergency Management Agency (FEMA). The flood-insurance program was created in the 1960s to protect the homeowner from huge losses. All three newspapers highlighted the shortcomings of the flood insurance program. They criticize policies associated with the flood insurance program that encourage people to rebuild their home in the same flood-prone area. Federal policies were not helping people to relocate other places. The Natural Resources Defense Council described this tendency as "flood, rebuild, repeat" and $5.5 billion spent between 1978 and 2015 to repair or rebuild more than 30,000 properties that had already flooded multiple times" (Schwartz 2018). Another article in the *NYT* put forward the inaccuracy of the flood-insurance program. Although FEMA made few attempts to improve their flood map accuracy, for example, they made more than 150,000 map changes in the last five years and many cases "lots were raised, and in others, levees, drainage systems, water-detention ponds, and other

methods changed the calculated flood risk for a swath of land. However, in the Houston area, a Times analysis of FEMA documents show, at least 6,000 properties in redesigned zones were damaged during the flooding caused by Harvey" (Schwartz, Glanz, and Lehren, 2017).

Another inaccuracy evident in the flood insurance program was the declaration of 100-year and 500-year flood elevation zones. If any homeowner was below the 100-year flood zone, they were required to buy the flood insurance. If they were above the zone, hypothetically they were safe. However, the 100-year flood level does not indicate that a flood will happen once every 100 years. It means there is only a one percent chance of flooding in a given year. If we convert that into a life cycle of the 30-year mortgage, it means the possibility of flooding in that period was one-in-four. However based on this calculation, if we compare these possibilities of flooding, in the Houston area, we will observe a different outcome. Even though most of the parts of the Houston area belongs to the 100-year flood zone, Houston encountered at least three flooding events in the last three years (Schwartz, Glanz, and Lehren 2017). Again based on the prediction of 100-year flood zone provided by FEMA, many residents bought their homes in these zones without flood insurance and later suffered from flood water.

Another common negative descriptor was the lack of coordination between federal, state and local government. Articles in the *NYT*, *WSJ,* and *HC* offer criticism regarding Partial Repair and Essential Power for Sheltering (PREPS) and Direct Assistance for Limited Home Repair (DALHR) program. An article in the *HC* reported that "FEMA alone determined eligibility for its programs. State and city officials said they had no idea how FEMA routed aid recipients to specific programs; city housing

Director Tom McCasland called it a black box" (Morris, 2018, p. A1). The criteria set by

FEMA for PREPS and DALHR are as follows: if the FEMA inspector found that the

storm damage was less than $ 17,000, they are eligible for PREPS and for DALHR; "if

the estimate was higher, repairs in the latter effort could not exceed 50 percent of the

home's value before the storm" (Morris 2018: A1). Both of these criteria blocked many

deserving families in struggling neighborhoods because they had a low property value

compared to other neighborhoods.

Some articles in the *NYT* and *HC* reported that many families who deserved more

funding were getting lesser amounts. One example the *HC* gave included cases where

families who were eligible for $60,000, yet get only $20,000. When the city council sent

these records to the state and federal officials for a second look, FEMA shut those

requests down. The following passage from the *HC* provides a short description of the

whole process:

> "'FEMA's system is not designed to serve those who need it most. It is better
> suited for folks that can navigate a very complicated system,' Palay said. 'After
> you do cross the hurdles and can get the golden ticket to get some assistance, you
> are met with another set of challenges of looking at how much assistance you are
> going to get and if it is going to help you in the long run'"(Morris 2018: A1)

Even though FEMA faced many criticisms regarding its management, policy and

excellent leadership, the *Houston Chronicle* showed a different picture for FEMA's

ground level employees. In a report, they discuss the hard work and determination put

forward by the field level employees in Bear Creek, Texas. FEMA disaster assistance

team is going door-to-door to inspect the damage and help the victim regarding recovery

assistance. Apart from information, they gave the victim a light of hope which many

survivors needed to go further on the recovery road.

Figure 17: FEMA Disaster Assistance Team Visited Door-to-Door in Bear Creek to Connect People Who Need Recovery Assistance.

Source: Steve Gonzales (2018), the *Houston Chronicle*

The Hierarchy Chart (for details see Appendix B) showed that state and city have a slightly positive tone and the media discourses provide two possible reasons: State and city's strict action regarding price gouging and chemical pollution. Several articles portrayed the role played by the state and city authority regarding price gouging, and they warn the business sectors to be careful about it. One article in the *HC* summarizes the state and city authorities' action regarding price gouging. The articles used the reference of attorney general Ken Paxton and stated:

> "At the outset of Harvey, I made it clear that my office would not tolerate price gouging of vulnerable Texans by any individuals or businesses looking to profit from the Hurricane. We have allowed 127 alleged offenders to resolve these issues with our office or face possible legal action for violating state law. Our investigation of other businesses into price gouging remains ongoing" (Matos 2017: A3).

The most common positive descriptor for all the three levels of government was active/passive. The media discourse showed that all three levels of government- federal, state, and local took preparation and were actively involved in the response and recovery

phase. For example, the *HC* reported the role of FEMA's for monitoring in the debris removal process. Two companies CrowderGulf, which was renowned for debris removal, and Tetra Tech, for monitoring, received the contacts from FEMA (Taylor 2017: CA1).

The *Houston Chronicle* also documented the federal, state and city's attempt to prevent crime, looting and other disaster-related predatory crimes. Twelve coordinating agency including FBI, the ATF, and the Harris County District Attorney's Office were working together to prevent white collar and violent crimes like looting and armed robbery. Mayor Sylvester Turner issued a curfew to prevent crime and looting. In another article, *HC* reported that "during the period of 25-31 August, 40 people were arrested for allegedly looting, aggravated assault, auto theft, burglary, robbery, theft, rape, and murder. However, the reported crime was less than 22 percent compared to the previous two years" (Rogers, 2018, p. A7). One possible reason for this decreased crime rate was the effort put forward by these agencies. The following quote from the *HC* by U.S. Attorney Abe Martinez summarizes their whole effort:

> "The last thing that victims of this damage need are to be victimized again. Under the lessons learned from Hurricane Katrina, we bring a comprehensive law enforcement focus to combat any criminal activity arising from the tragedy of Hurricane Harvey and the rebuilding efforts underway" (Rogers 2017: A07).

Another significant positive descriptor was prepared/unprepared. FEMA was heavily criticized for their response during Hurricane Katrina, but FEMA learned their lesson from their previous failures. After Katrina, they worked hard to improve their emergency management system, and the outcome was visible in their response towards Harvey. Where Katrina caused 1,800 deaths, Harvey was associated with a less amount of death, around 100 people. In a report the *NYT* indicated seven reasons for this

improvement: pre-written and approved military authorization; a cascade of reforms by Congress; pre-positioned supplies of food, water, cots, and blankets in the mega-shelter; provisions for animals in emergency response; new federal laws that require all medical facilities to have emergency plans; new law which required years of management experience for FEMA's director, and improved disaster training which incorporated volunteer rescuers (Philipps 2017).

During Hurricane Katrina, it took four days to get the approval of the military. So after Hurricane Katrina, FEMA took the initiative to get the military authorization pre-written and approved. In that way, when the next disaster occurs, they will only require a nod from the authorities, and it reduces a massive amount of time and leads to a quick response. Because of the changes, when the civilian rescuers need help, the Marine Corps Reserve 4th Reconnaissance Battalion in San Antonio was able to move in the flood zone with a little delay. Since Katrina, FEMA started working on the disaster preparedness plan and spent more than $ 2 billion to train and prepare local authorities. Because of debris and flooding, many residents were not able to reach trucks of water and food during Katrina. By keeping that in mind, before Harvey, FEMA stored the food, water, cots and blankets in different Houston mega-shelters.

FEMA faced severe criticism for not accommodating pets during Katrina, and many people refused to evacuate without their pets. FEMA made changes regarding their evacuation policy. Before Harvey, Houston's main animal center evacuated kennels to make room for animals which may come from flooded homes. Michael D. Brown, FEMA director during Katrina, was criticized for his mismanagement. So, Congress passed a law which requires the new director to have at least a year of experience of disaster

management. It increased the efficiency of the FEMA management activity. For example, before appointed as FEMA's current head, Brock Long had experience of coordination regarding disaster response with the agency. The last reform is involved with citizen volunteers in rescue efforts. During Katrina, many boat rescuers were turned away by the authority. However, Harvey showed something different. Being overwhelmed with the rising water, the chief executive of Harris County asked for help. Then a volunteer group named "ragtag flotilla" came forward to help city authority in the rescue process and acted together with the city officials. A quote from the *NYT* by FEMA's former associate administrator of response and recovery described the changes in FEMA to incorporate the volunteer group and he said:

> "That is probably the biggest change in recent years. The realization that disaster response is not just a government response; it is a societal response. The federal government has a role, and so does everyone else" (Philipps 2017).

Several articles also highlighted the preparation taken by city and state for Hurricane Harvey. The *NYT* reported that the city of Dallas opened a mega-shelter that could provide accommodations up to 5,000 evacuees. Another article in the *WSJ* reported the activities of Houston mayor Sylvester Turner. Mr. Turner requested an additional 10,000 cots and other supplies from FEMA and planned to open two or three more shelters for the evacuees. Neighboring City San Antonio prepared accommodations for 6,400 evacuees from the Houston area, and the mayor Bruce Davidson told the *NYT,* "we had this experience with Katrina, and we are ready to do it again" (Gold, Frosch, Kesling and Matthews 2017).

Along with the city, the state also prepared themselves for Harvey. An article in *NYT* reported that during Hurricane Katrina, almost half of the people older than 65 died.

This massive amount of death of the older population raised a severe question regarding the disaster preparedness in hospitals and senior care services. By keeping those facts in mind, the state was more cautious during Harvey. Before Harvey, they evacuated around 3,800 resident from 53 nursing homes in Texas and arranged more safety measures for elderly care providers (Turkewitz and Medina 2017). In an article, the *WSJ* reported that Texas Gov. Abbott activated the entire Texas National Guard, and more than 24,000 National Guard members would remain activated for a month to help in rescue and recovery processes (Ailworth, Kesling, and Kamp 2017).

Tone Analysis for Private Sector response (For-Profit and Nonprofit Organizations)

For the analysis, the private sectors were divided into two sections: for-profit and nonprofit organization. Unfavorable was used as a negative descriptor, and favorable was used as a positive descriptor. Although the overall tone for the private sector response was moderately negative, it widely varied within the two sectors. Although for-profit coverage had a negative tone, the non-profit organization had a strong positive tone. These differences are explained in the following sections.

Tone Analysis for the For-Profit Organizations

The for-profit organizations used for this study were: corporations; retailers; insurance; hotels and resorts. However, the news articles were mostly dominated by the activities of corporations. The corporations have an unfavorable tone for two reasons: chemical spills followed by Hurricane Harvey and their actions related to climate change.

The chemical and petrochemical industries were heavily criticized for the chemical spills and contamination followed by Harvey. The *Houston Chronicle (HC)*

published a series of articles regarding the hazardous waste site and chemical spill in the Houston Area. For example, an article in the *HC* investigated the dioxin damage from 2001 to 2011 and identified 30 toxic hot spots (for details see Figure 18) where dioxin was settled. Most of these hot spots were located in the Houston Ship Channel and Galveston Bay. Some of the affected residential communities were Pasadena, Channelview, Baytown, Deer Park and Highlands (Olsen 2018: A1). However, Texas environmental regulators did not provide details about these hot spots, and they did not disclose to the fact findings committee in 2012. As a result, it was difficult to identify where toxic damage dispersed further during Hurricane Ike and Hurricane Harvey.

Figure 18: Hotspot for Toxic Releases after Hurricane Harvey
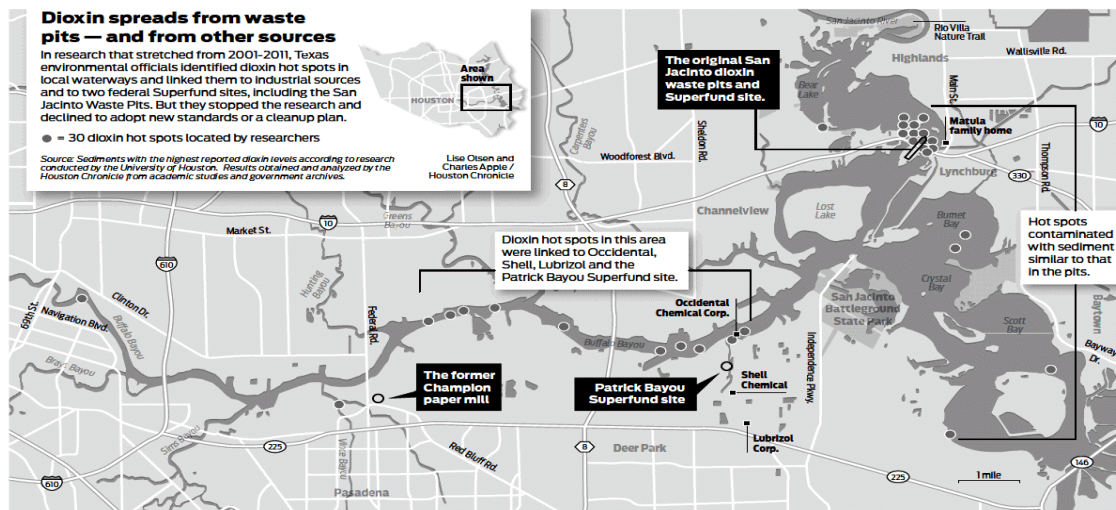
Source: Olsen and Charles 2018, the *Houston Chronicle*

In an article, the *Houston Chronicle* used the headline "Silent Spills" and reported several toxic releases followed by Harvey. The article indicated that most of these industrial chemical releases hardly reached the public. They made a top-ten list of industrial releases (see Figure 19) from federal, state, and local records. According to figure 19, ExxonMobil was responsible for the highest amount of oil and grease spills

(457 million), and Magellan Midstream Partners was accused of the second largest

gasoline spill (around 460,000 gallons). Some other spills included Valero Industrial Park

and Arkema (Bajak and Olsen 2018: A1).

Figure 19: Hurricane Harvey's Toxic Legacy.

Harvey's toxic legacy

Some spills stand out among more than 100 toxic industrial releases in greater Houston during the aftermath of Hurricane Harvey. Here's a list compiled from federal, state and local records:
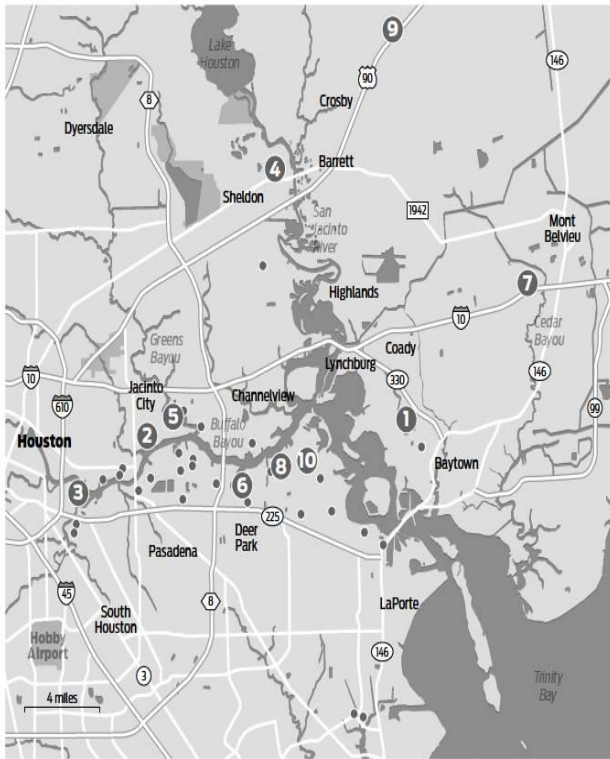
1. **ExxonMobil Corp.'s Olefins Plant in Baytown, east of the Houston Ship Channel:** For two days after Harvey hit, about 457 million gallons of stormwater mixed with oil and grease surged into an adjacent creek.

2. **Magellan Midstream Partners' terminal just east of Houston:** Some 460,000 gallons of gasoline spilled from two storage tanks with ruptured bottoms. The release was initially reported to be 42,000 gallons. It also produced Harvey's largest reported air pollution release of 1,143 tons.

3. **Valero Energy's East Houston Refinery, Manchester:** The collapse of a storage tank roof at Valero's refinery spewed some 235,000 pounds of toxic vapors and other pollutants into the atmosphere, but residents received little notification.

4. **Industrial park owned by W&P Development Corp.:** 30,000 to 100,000 gallons of oily wastewater poured into the San Jacinto River and surrounding property between Aug. 29 and 31. The site was formerly a paper mill and a landfill.

5. **Ruptured tank at the Channel Biorefinery & Terminal:** Some 80,000 gallons of methanol were released into Greens Bayou from a site near the Magellan terminal. Highly flammable and explosive, methanol can cause brain lesions and other disorders.

6. **Shell Oil Co. Deer Park refinery and chemical plant, east of Houston, on the ship channel's southern bank:** More than 3,000 pounds of benzene were released.

7. **Chevron Phillips Corp. chemical plant in Baytown:** About 34,000 pounds of lye were released, much of which escaped plant grounds. Unpermitted airborne emissions included 28,000 pounds of benzene.

8. **Dow Chemical Co. Deer Park plant:** Dow reported the release of about 60,000 tons of stormwater containing 50 tons of what Dow called "non-hazardous biosolids" at the company's plant in Deer Park.

9. **Arkema, Crosby:** Harvey's best known air pollution incident began when flooding at the Arkema plant in Crosby led to an explosion and the incineration of nine trailers containing the company's stockpile of organic peroxides — 23 people were briefly hospitalized and pollutants were released into the air and water.

10. **Oxy Vinyls:** This company reported unspecified amounts of releases of vinyl chloride, a known human carcinogen, for five days following Harvey's onset at various plants in the Houston area. It contends all releases were insignificant.

Sources: Spills reported to the Texas Commission on Environmental Quality, Texas General Land Office, U.S. Coast Guard, Harris County Pollution Control and interviews by the Associated Press and the Houston Chronicle   Houston Chronicle

Source: Bajak and Olsen, 2018/the Houston Chronicle

Among the spills that happened after Hurricane Harvey, Arkema and Magellan

released the highest amount of news coverage. An *HC* article indicated Magellan caused

Harvey's largest reported air pollution release, and initially, the release was reported to

the Coast Guard on August 31, 2017. Magellan had a record for the violation of air

quality standard, and since 2002; it was cited for 11 environmental violations and fined

more than $190, 000 by Texas regulators. An *HC* article stated:

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"An explosion risk prompted workers to evacuate upwind as the nearly half-million gallons of gasoline gushed out of failed storage tanks, state environmental and Coast Guard records show. The spill ranked as Texas' largest reported Harvey-related venting of air pollutants at 1,143 tons. The local fire department put down foam to suppress the fumes, records revealed, and a police call report described a vapor cloud" (Bajak and Olsen 2018: A1).

Another event receiving print media attention was when Arkema, a French multinational company received three separate lawsuits from Harris County's official and Crosby residents. Arkema was responsible for the chemical fire which took place in their Crosby plant and was accused of violations of environmental, safety and building regulations. Also, Arkema put first responders at potential risk, because of the chemical fire, around 300 homes were evacuated, and more than 300 people were hospitalized (Demsey and Blaknger 2017: LH1). An article in *HC* stated:

"On Aug. 29, four days after Harvey came ashore near Rockport in South Texas, officials ordered the evacuation of everyone within 1.5 miles of the Arkema plant. The first fire started in the early morning hours of Aug. 31, sending plumes of black smoke high into the air. Law enforcement officers and medical staff reported doubling over from the fumes, which left them vomiting and gasping for air, according to one of the lawsuits filed against the company" (Demsey and Blaknger 2017: LH1).

The *Houston Chronicle* published a series of articles related to Arkema spill with some of the headlines like "Harris County sues Arkema for chemical disaster"; "Plant's struggles in the storm"; and "Arkema facing a criminal inquiry." Discourse from these articles showed that Arkema did not take enough preparation for a disaster like Hurricane Harvey and their poor planning and mechanical failures resulted in a chemical fire. The report also indicated that Arkema's preparation was limited to less than 3 feet of flood water. So when the flood water rose to 7 feet, Arkema lost control of their peroxide which resulted in industrial wastewater leakage into county waterways. An *HC* article

showed the record from the U.S. Environmental Protection Agency regarding Arkema's

chemical spill and stated:

- o "Arkema's emergency response plan provided employees with little direction for how to handle significant flooding events. It contained one paragraph about flooding but a page and a half on handling bomb threats, records show. Arkema's main power transformers and its powerful backup generators were not high enough off the ground, causing them to become submerged with floodwaters, Arkema records show. Without power, the company could not keep its stash of organic peroxides at a safe temperature inside its refrigerated buildings.

- o The company's last resort for keeping organic peroxides cool — refrigerated trailers — also was destined to fail. The diesel-powered trailers had fuel tanks that ran along the bottom of the vehicle. More than 3 feet of water compromised the fuel tanks, causing the freezers to die"(Demsey and Crpenter 2017).

Tone Analysis for the Non-Profit Organizations

Print media coverage of Hurricane Harvey showed a moderately positive tone for

the non-profit organizations and faith-based organizations. These organizations include

the Red Cross, the Save the Children, the Habitat for Humanity, the Houston Food Bank,

the Cypress Assistance Ministries, and the Northwest Assistance Ministries. From the

analysis of the non-profit and faith-based organization, two main discourses emerged: the

role played by these organizations in the repair and recovery process; and the

coordination between for-profit and nonprofit organizations.

Several articles discussed the positive role played by non-profit organizations.

They used headlines like "Epic response," "Nonprofit helps Harvey victims," and

"Nonprofit groups continue to aid in Harvey relief as FEMA funds end." An *HC* article

described how Houston Food Bank provided their assistance in Harvey's response

process. The activities of the Houston Food Bank were not just limited to providing food; they also offer other services like water, cleaning supplies and clothing to neighborhoods that were flooded or to people who found themselves displaced. Because of the flooded highway, the Houston Food Bank was not able to offer their service until August 30. After opening, however, they distributed around 28 million pounds of relief supplies. An *HC* article reported the activities of the Houston Food Bank and stated:

> "The task of administering to a battered metropolis takes coordinated efforts, which the food bank already had in place in its major disaster plans. The Houston Foodbank opened two new warehouses with 240,000 square feet of space for the onslaught of donations; it welcomed thousands of new volunteers eager to help receive, sort and package supplies; and it expanded the scope of its service area"(Morago 2017: M30).

Several articles also discussed the coordinated effort between for and non-profit organizations in Harvey's recovery process. Corporations used the non-profit organizations to provide their disaster-aid and relief fund. For example, in an article, the Houston Chronicle reported that Entergy Texas donated $400,000 to several non-profit organization like Southeast Texas Food Bank in Beaumont, United Way of Beaumont and North Jefferson County, Community Impact Center in Shepherd, and American Red Cross (Mahoney 2018).

The previous two sections analyzed media's use of frames and tone during their coverage of Hurricane Harvey. The last and final section examines the indicators of disaster capitalism that received the media's attention and how these indicators influenced the print media's coverage of Hurricane Harvey.

Crisis as an Opportunity for Capital Accumulation: An Analysis of the Indicators of

Disaster Capitalism

The final aspect of this thesis is to identify the utility of the term "disaster capitalism" in the media coverage of hurricane Harvey. As mentioned earlier, no articles in the *NYT*, *WS*J, and *HC* directly used the term "disaster capitalism" in their coverage. However, I have tested the operationalized definition and found several indicators present in the media coverage (see Figure 20).

Figure 20: Indicators of Disaster Capitalism in Print Media Coverage of Hurricane Harvey.
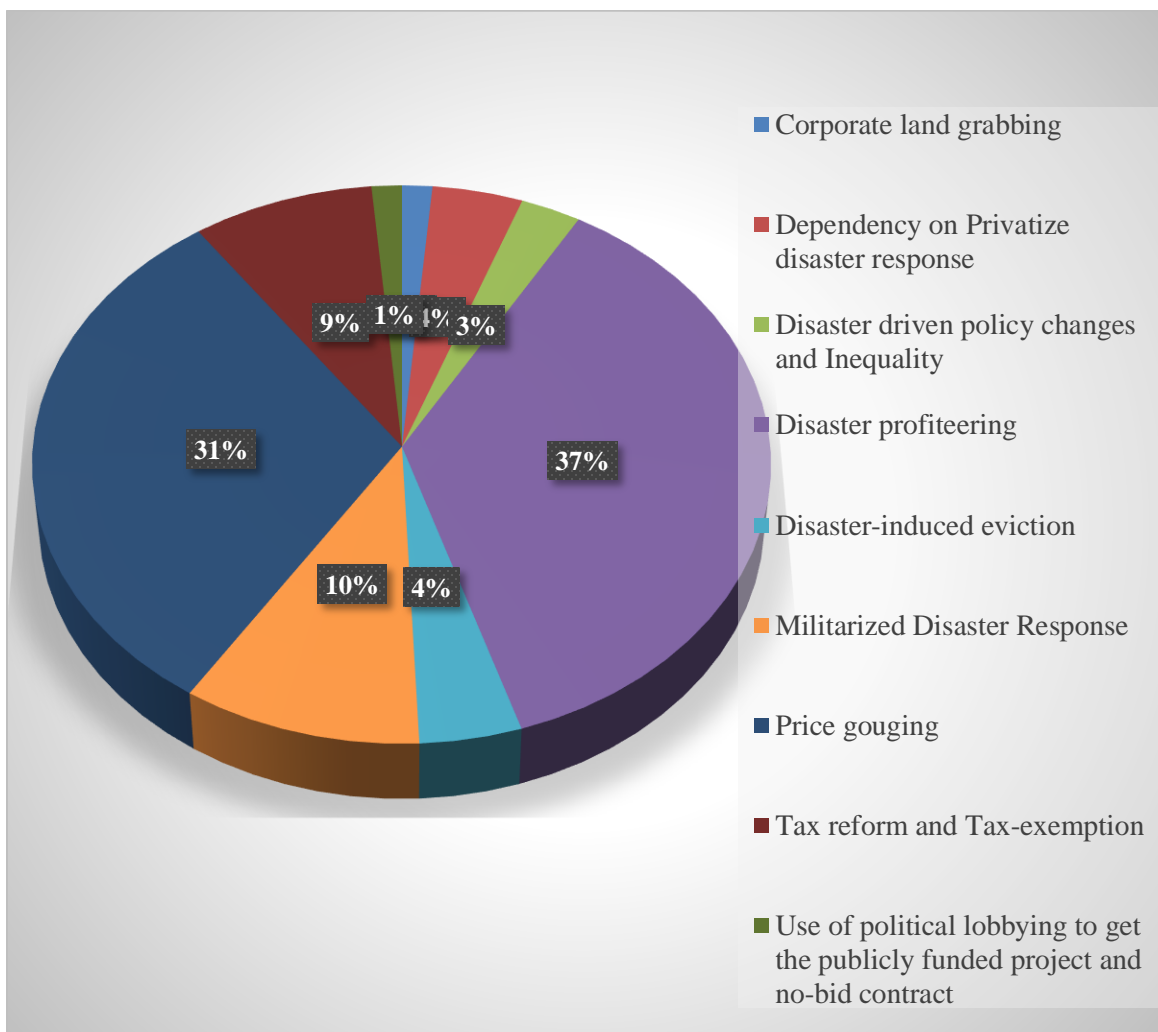
As shown in Figure 20, the most used indicators of disaster capitalism were price

gouging and disaster profiteering. All three newspapers reported several incidents of

price gouging and disaster profiteering during and after the Harvey event. The *Houston*

Chronicle reported that before the landfall, state officials started to receive complaints of

price hiking against several hotels, gas stations and other businesses in the Texas area.

The following quote of Attorney General Ken Paxton showed the intensity of the price

gouging:

> "Anytime catastrophic storms hit Texas, we witness the courage of our first
> responders and the generosity of neighbors coming together to help their fellow
> Texans. Unfortunately, in the wake of the damage from storms and flooding, we
> also see bad actors taking advantage of victims and their circumstances" (Matos
> 2017: A3).

> Even though Texas law prohibited "exorbitant or excessive price gouging" for

necessities like food, fuel, and medicine, newspapers showed several incidents. Some

articles provided examples of price hiking occurring after Harvey.

1) In Corpus Christi, Robstown Enterprises Inc. does business as Best Western
   Plus Tropic In. The average price for a king or queen room before two weeks
   of Harvey was $108 per night. However, when the storm surge hit Texas,
   Austin's KXAN-TV crew discovered that the rent increased to $ 320 which is
   almost three times compared to their average rate (Latson 2017: A2; Matos
   2017: A4).

2) Bains Brothers (owners of Texaco-branded gas station) and Encinal Fuel Stop
   charged by the state for gas price hiking. On Aug. 31, two gas station owned
   by Bains Brother cost $6.99 a gallon for regular unleaded gas. Not only that,
   the state accused that their clerk even refuses to give a receipt to a customer
   and when the customer asked about the receipt, the clerk replied: "it is what it
   is." Encinal Fuel Stop accused to charged $ 8.99 to $ 9.99 a gallon for gas
   (Latson 2017: A2).

The *Houston Chronicle* also published several articles which shows how investors

see opportunities in Harvey's affected flooded homes. Articles also discussed several

loopholes in the state and federal policies and by using these loopholes, investors either

manipulated the existing plan or gave little or no information to the residents. The *HC*

reported a surge of flood-affected home purchases by the investors and private

companies. According to city and county data, around 204,000 homes have been

damaged by Hurricane Harvey in Harris Country. An investigation carried out by the

Houston Chronicle showed that in the six months after Harvey, approximately 45,000

homes were sold, and at least 5,500 (one in eight) of them were flooded homes. However,

Professor Wes Highfield argues that that count "underestimates the number of damaged

homes that have been sold where he found more than 12,000 properties in Harris County

that sold since Harvey and had also been swamped by at least 1 foot of water" (Hunn and

Dempsey 2018: LH1).

Although the post-Harvey market was dominated by small and mid-sized private

companies, the profit started to attract wealthy investors into the housing market. The

following passage from the *Houston Chronicle* provides detailed views regarding private

investment:

> "The $4.6-billion Tricon Capital Group, of Toronto, wants to spend $600 million
> in Texas before the end of next year, according to area brokers trying to persuade
> the company to buy flooded homes in Houston. The $30-billion New York City
> private equity firm, Cerberus Capital Management, has picked up at least a dozen
> flooded homes among 980 it purchased post-Harvey. A California firm, B&P
> Investment Group, is looking to spend $400 million, targeting homes flooded by
> the release of water from northwest Houston's Addicks and Barker reservoirs"
> (Hunn and Dempsey 2018: AO3).

There is nothing wrong with the private investment in flooded homes, but the

problem arises when they transformed these neighborhoods into block after block of

rentals and interrupted the county's plan to buy out flooded properties. An article summarized the consequences of buying extensive flooding housing:

> "It prevents or delays government agencies from buying out homeowners whose houses have repeatedly flooded. Harris County said it has already lost to private party's 88 Harvey-flooded houses it wanted to buy. 2) It puts renters in harm's way since Texas law does not require landlords to tell tenants their homes have flooded or sit in a flood plain. 3) Since flood insurance is available at deep discounts through the federal government, investors are often ensuring their properties on the back of the American taxpayer" (Hunn and Dempsey 2018: AO3).

Another form of disaster profiteering comes in the shape of "wage theft." Following Harvey, there was high demand for day laborers as the country was working with the homeowners and business sectors in the rebuild and recovery process. While this opportunity created money-making opportunities for several workers, it also laid a foundation of exploitation and cheap labor. One article in the *Houston Chronicle* described the story of a Guatemalan immigrant named Cristobal which demonstrated evidence regarding the above argument.

Cristobal was an undocumented immigrant worker, so he requested to withhold his name and started to make some money ($150 per day) by being involved in tear down and warehouse roof replacement in south central Houston. In the beginning, he received his paycheck regularly, but when the project was close to the completion, his paycheck stopped. The contractor stopped responding to his calls, and Cristobal was owed $1,350. Cristobal was not alone. A survey of 361-day laborers was carried by the University of Illinois Chicago revealed that "More than a quarter of Houston's day laborers were victims of wage theft within the first four weeks of Hurricane Harvey recovery, and unpaid wages ranged from $212 to $2,700" (Najarro 2018: B1).

The news coverage showed very few examples of land grab and disaster-induced eviction. However, there were two or three incidents reported in the *Houston Chronicle*. For example, one of the reports showed the concern of the residents regarding the proposed annexation by the city council which consists of 2,500 acres in Pearland (including the airport). The properties were free from the jurisdiction of the homeowners association, and the residents said they do not need any city services such as police, fire protection, and water and sewer line as they are already satisfied with the service provided by Brazoria County Sheriff's office. However, in this case, there is not enough evidence which shows that Harvey created the opportunity to grab the land but, a quote from a spokesman, Nathan McDaniel (who is also an author of Senate Bill 6) showed a possible connection between the occurrence of Harvey and the annexation: "Something is a little fishy with this Hurricane Harvey thing. We passed this bill for a reason so these types of things would not be common without collaboration or vote" (Jones 2017: PJ1).

Other news was featured in the *Houston Chronicle* where the resident of 2100 Memorial Drive fought against the city council eviction attempt followed by Hurricane Harvey. 2100 Memorial is a public housing site, owned by the Houston Housing Authority. Most of the residents living there were seniors and veterans, and the majority of them received some form of financial assistance from the government. Although none of the individual apartments were severely damaged by Harvey, the HHA issued a sudden notice which terminated all the existing leases and gave the residents five days to leave the properties. The residents were furious, and they requested the proof of safety issues from HHA, but the HHA did not offer any conclusive evidence justifying the resident's eviction. The following passage from *HC* summarizes the whole argument:

"It is worth noting that 2100 Memorial sits on prime real estate near downtown. Many residents and the Houston chapter of Socialist Alternative strongly suspect that developers are eager to exploit the hurricane as a rationale for replacing this public housing with successful property development. As so often happens, the government — in this case, HHA officials — is not acting in the best interest of the residents. It seems they are acting precisely in a manner that could benefit profit-driven developers" (Henderson and Harrison 2017: A31).

Disaster Capitalism literature showed that no-bid contracts and political lobbying were used to get a publicly financed contract in the disaster rebuild and recovery. Although there were very few examples of these indicators in the coverage of Harvey, those that were highlighted consider incidences of political donations which might ease a path to obtain rebuilding and reconstruction funds. For example, the *Houston Chronicle* reported that "executives from several companies getting millions of dollars in contracts to rebuild homes damaged by Hurricane Harvey gave thousands to Land Commissioner George P. Bush's re-election fund within days of the contracts being signed" (Matos 2018: A4). Later in their report, they indicated three incident of such dealings. Those are:

"1) More than a dozen Horne LLP executives gave 27,500 dollars in political contributions to Bush just three days after the company signed a $13.47 million contract to assist with financial oversight and other administrative duties of federal and state Harvey recovery funds.

2) In October, James W. Turner Construction won $20 million contracts from the GLO's office to rebuild homes. A month earlier, James Turner, the president and CEO of the company, donated $5,000 to Bush's re-election campaign.

3) A few months later, Windstorm Mitigation, a Florida-based company, signed a $9 million contract to install and maintain temporary housing units. However, just over two weeks before the contract was signed on Dec. 15, Ken Cashin, the company's president, gave $2,500 to Bush" (Matos 2018: A4).

This chapter showed how print media frames Hurricane Harvey's coverage. They used several frames like human interest; response and rebuilding; environment and environmental consequences; morality; blame, conflict, and responsibility. The print

media coverage were also analyzed to investigate the response of government and private

sectors. The analysis from the three newspapers offered a neutral tone for government

response and moderately negative tone for private sector response. To break it down, the

tone for federal and White House was slightly negative, and the tone for state and local

government was slightly positive.

On the other hand, the tone for the for-profit organization was highly negative,

and tone for a non-profit organization was positive. The last section presented the

indicators of disaster capitalism that appeared in coverage. In the next chapter, I have

provided a summary of my findings with limitation and future scope of this study.

CHAPTER V

CONCLUSION

This study utilized print-media coverage of Hurricane Harvey to examine the frames and tone used to describe response and recovery processes related to this disaster. This thesis had three specific research goals: 1) identify which frame received most/least attention in Harvey's news coverage; 2) examine how government and private sectors were portrayed in print media coverage for their role in Harvey's response and recovery process and 3) investigate the usefulness of the term "disaster capitalism" in the print media coverage of Hurricane Harvey. I examine the print-media discourses of disaster response and recovery in the aftermath of the 2017 Hurricane Harvey in Texas. I carried out a content analysis of three newspapers: the *New York Times* (online), the *Wall Street Journal* (online) and the *Houston Chronicle*.

This research found that the human interest frame received the most attention and the morality frame received less attention. These findings from Hurricane Harvey news coverage aligned with Brunken's (2006) findings related to Hurricane Katrina news coverage and Herbert's (2010) findings of Hurricane Ike news coverage. However, the print media coverage of Hurricane Harvey also exhibited the importance of risk, vulnerability, and inequality frames which received a relatively good amount of coverage

with the human interest frame. These findings further contributed to the argument that events like Hurricane Harvey are unprecedented and much of the damages depend on pre-existing socio-economic and political structures and conditions of the affected community.

Emerging frames like a technological and natech disaster, climate change, and social media indicated several interesting facets of Hurricane Harvey. Print media coverage displayed that Harvey had several components of a technological and Natech disaster. The findings revealed how structural and bureaucratic failures led to the explosions of several chemical plants in the downtown Houston area. Print media also published several follow up articles related to toxic emissions, environmental contamination resulting from these emissions, and the effects on residents of neighboring communities. Climate change received relatively stable coverage, and some articles explored links between climate change and increased intensity of hurricanes. The word cloud also presented curious facts such as "denial of climate change happening" and "lack of government motive/action to minimize the effect of climate change." Social media also received a decent amount of popularity in a crisis moment like Harvey, and on some occasions, it acted as a successful replacement of emergency services like 911.

Regarding the analysis of the article tone, the private sector received a moderately negative tone for their role in Harvey's response and recovery process. However, the tone widely varies within the two sectors—while the for-profit organization received a highly negative tone, the non-profit organization received a moderately positive tone. For government responses, this study found that the media's overall tone was neutral. However, it also varies within the three levels of government. The tone for the federal

government was slightly negative while the tone for city and state was slightly positive. This outcome differs from Brunken's (2006) study of Hurricane Katrina where his findings showed the media's tone for a federal response was slightly more positive and local response received a slightly negative tone.

Crisis moments like natural disasters open the door for criticism, and the media may overly criticize the government officials for their inadequate response. However, this study showed an overall neutral tone for a government response. On the one hand, the print media's coverage showed the failure of FEMA's flood insurance program, on the other, it pointed out several attempts taken by FEMA to reform its management system and how they learned from previous failures (mainly how they responded during Hurricane Katrina). The coverage showed how city and state were blamed for their response against the toxic emissions in the aftermath of Hurricane Harvey, and it highlighted strict actions taken by city and state governments against price gouging, crime, and looting. Such findings showed that, even in a crisis moment like Hurricane Harvey, print media's coverage offered little bias and presented fair and balanced news.

This research found several indicators of disaster capitalism in the print media coverage of Hurricane Harvey. These indicators had a significant impact on the tone and frame of the news coverage. For example, frames like "disaster profiteering" showed how for-profit organizations took advantage of the crisis moment and exploited the situation to grab more profit. It presented large private investment in flooded homes and how this investment hinders the county's plan to buy out flooded properties. Another frame, disaster-induced eviction, displayed an eviction attempt at a Memorial Drive by the city authority. Even though the neighborhood was hardly damaged by Harvey's floodwater,

the city authority tried to relocate the existing residents (most of them were senior citizens) by using Harvey as an excuse.

Several disaster studies (for details see Fischer 1994 and Stomberg 2012) consider price gouging as a disaster myth. However, this study showed that price gouging occurred on several occasions in the aftermath of Hurricane Harvey. The frame 'price gouging' offers empirical evidence that retailers, hotel owners, and fuel station owners increased the price of their products and services to gain more profit. However, other frames related to disaster capitalism did not receive much attention. Previous studies showed an extent of privatization were carried in the aftermath of a disaster. Apart from growing private investment in flooded homes, I did not find any other example of privatization in the aftermath of Harvey.

Some indicators of disaster capitalism such as tax reform or militarized disaster response were associated with a negative connotation in previous studies. However, my research presented a different picture. Tax reform was initiated by the government to help the recovery process of small scale business community while militarized disaster responses like curfews were taken to prevent crime and looting and maintain law and order in the affected communities.

Miller and Goidel (2009), Rojecki (2009) and Harbert (2010) argue that news reporting tends to be event-focused or episodic and are weak in attempts to address a broader context. However, the findings of this study somewhat differ from these arguments. Previous disasters like Hurricanes Ike and Katrina were mentioned to not only provide a comparison but were utilized to provide a broader context for such issues as the

effectiveness of the flood insurance program. These previous disasters were also used to indicate the increased intensity of hurricanes, particularly those articles linking the destructive powers of Harvey with climate change. News articles pointed out the extensive urban growth in the Houston area and how economic and social inequality played a significant role in the aftermath of Harvey. Finally, articles mentioned several measures of mitigation and ways of reduction for future hurricane risk like improved regulations, implementation of updated flood alert technology, reformulation of the National Flood Insurance Program, making changes in the land use policy, and reducing dependency on federal recovery program by forming regional cooperatives.

This research found several differences between the coverage of the *New York Times* (NYT), the *Wall Street Journal* (WSJ) and the *Houston Chronicle* (HC). While the analysis revealed both the national newspapers (the *NYT* and *WSJ)* followed the trend of media hype, the local newspaper (the *HC*) did not follow the trend of media hype. The analysis also indicated variation regarding framing, ton, and indicators of disaster capitalism. The highest percentage of frames were found in the coverage of the *New York Times* and lowest in the *Wall Street Journal*. All the newspapers showed distinct characteristics when during their coverage of Harvey. For example, the *NYT* emphasized stories related to human interest and personal stories, while the *WSJ* focused on the economic consequences of Harvey and the *HC* highlighted more the response and rebuilding phases. Some of the topics like climate change got more attention in the *NYT* coverage while environmental contamination and technological disaster were featured in the HC coverage. So regarding media framing, all the selected newspaper differ to a certain extent (for details see Table 5).

Table 5: A Comparison between the *New York Times*, the *Wall Street Journal* and the *Houston Chronicle* Regarding Frame, Tone, and Indicator of Disaster Capitalism.

Variable	Sectors	Sections	Descriptors	Name of the Newspaper	
				Highest	Lowest
Tone	Government	Federal	Positive	The *Wall Street Journal*	The *Houston Chronicle*
			Negative	The *New York Times*	The *Houston Chronicle*
		State	Positive	The *Wall Street Journal*	The *Houston Chronicle*
			Negative	The *New York Times*	The *Wall Street Journal*
		Local	Positive	The *Wall Street Journal*	The *Houston Chronicle*
			Negative	The *Wall Street Journal*	The *New York Times*
	Private Sectors	For-profit	Favorable	The *Wall Street Journal*	The *New York Times*
			Unfavorable	The *Houston Chronicle*	The *Wall Street Journal*
		Non-profit	Favorable	The *Houston Chronicle*	The *New York Times*
			Unfavorable	The *Houston Chronicle*	The *New York Times*
Media Frame				The *New York Times*	The *Wall Street Journal*
Indicators of Disaster Capitalism				The *Wall Street Journal*	The *New York Times*

The news outlet also differs in terms of media tone. Media Tone was analyzed by using positive/negative descriptors, hierarchy chart, and tree map (for details see Appendix B and C). For government response (federal, state and local), the tone of the

Wall Street Journal was highly positive with highest percentage positive descriptors, while the coverage of the *New York Times* was associated with a highly negative tone with the highest percentage of negative descriptors. For for-profit organizations, the *Wall Street Journal* also displayed a highly positive tone with the highest percentage of favorable descriptors while the *Houston Chronicle* presented a highly negative tone with highest percentage unfavorable descriptors. Finally, the news coverage of the *Wall Street Journal* and the *Houston Chronicle* provided the highest percentage of the indicators related to disaster capitalism and the *New York Times* exhibited the lowest percentage of the indicators related to disaster capitalism (for details, see Table 5). My literature review indicated that disaster capitalism was initiated by privatized disaster response and recovery processes. The *Wall Street Journal* is a business focus newspaper which primarily emphasizes the several economic aspects like trade, commerce, business and tax, and probably this is one of the reasons why the *WSJ* has provided useful information regarding the indicators of disaster capitalism.

Limitation and Scope for Future Studies

This study only examined the print media news and was limited to the coverage of three newspapers. It excluded other forms of mass media like radio, television, online news, broadcast news, blog, magazine, and social networks. It is possible that sources like magazines, online news portals, and television used different frames and tones during their coverage of Harvey A comparative study can examine how different sources use framing and agenda setting during their coverage of crisis news for example during a natural disaster.

Another limitation of this study was that it primarily followed a deductive approach and used *a priori* coding. Most of the codes were predefined and derived from past literature. By using *a priori coding*, it is possible that I missed several potential themes. However, in addition to predefined themes, I have also discussed emerging themes like technological and Natech disaster, climate change and social media. Several articles showed the connection between climate change and increased intensity of the disaster. Findings also revealed the increased importance of social networks like Facebook and Twitter in Harvey's disaster response phases. A future study can briefly examine the role of social media during the period of a crisis and further explore the relationship between social media and traditional news outlet. Future study can also explore how media coverage of natural and technological disaster differ in terms of framing and agenda setting.

Although this study looked at the sections, quotes, images, and wording of the selected newspaper, it does not examine them in an in-depth manner. This research also included a wide variety of variables, for example, seven frames, different level government (federal, state and local), private sectors (for-profit and nonprofit) and several indicators of disaster capitalism. Some of these variables have the potential for separate studies. For example, this study explores sections like media hype, climate change, economic and environmental consequences which could be further investigated in a detailed manner. Future study can pursue more detailed investigations of these variables in a separate manner. Another potential limitation was that this study did not examine how culture affects the framing and agenda setting of the selected print media sources. It may be possible that cultural differences among these newspapers influenced

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their disaster news coverage and future studies can examine how the cultural aspect of specific newspapers made an impact in their crisis news coverage.

My literature review showed how gradually mass media has started to use the term "disaster capitalism" in their coverage of natural disasters like Asian Tsunami (2004), Hurricane Katrina (2005), Haiti Earthquake (2010) and Typhoon Haiyan (2013). However, when I examine Hurricane Harvey's coverage of the *New York Times*, the *Wall Street Journal* and the *Houston Chronicle*, with the search term "Disaster Capitalism," very few results were found. I considered that my selected newspapers possibly were reporting several incidences related to disaster capitalism without directly using the term. However, it may be possible that the term was used in other media sources. I would recommend future study will look at other media sources to examine to what extent, other sources like print and online newspapers, blogs and magazines used the term "disaster capitalism" during their coverage of Hurricane Harvey.

Another potential limitation of this research was that it only considered the effect of natural disasters as a triggering event for disaster capitalism. Other triggering moments like technological disasters, war, or terrorism are also capable of creating crisis moments and may have different effects on disaster response and recovery processes. More research and additional data are needed to see how other forms of disaster (not natural) affect the process of disaster capitalism. The disaster response and recovery phases may vary within the context of developed and developing countries, urban and rural areas, and even in the context of city and metropolitan areas. More field-based studies and comparative research should be conducted to identify how the impact of disaster and

disaster capitalism processes varies with different places and what are causes behind this variation.

The selected newspapers have a different political stance. The Media Bias/Fact Check (2019) displayed the *WSJ* has RIGHT-CENTER BIAS because their news reporting was associated with a strong right based editorial stance. The *NYT* has LEFT-CENTER BIAS because of their wording and story selection favor left based stance. Finally, the *HC* has LEFT-CENTER BIAS because of their editorial position favor more towards left based stance. In the previous section, my analysis disclosed the difference between farming and tone among the three newspapers. It may be possible that the political position of these newspapers and their culture may have an impact on their crisis news coverage and further research need to carry out to investigate these dimensions in a details manner.

Media sociology consists of communicators, audiences, owners, producers, government officials, policymakers and employees. All these actors were interconnected and dependent on each other. In The Power Elite (1956), Mills pointed out two sociological characteristics of mass media: first, mass media plays a vital role in communication where a small number of people were able to communicate to a large number of audiences; and second, even though, media had a direct and powerful impact on the audiences, the audience has a little scope to answering back which makes the mass communication primarily a one way process. So, it is crucial to expand the field of media sociology and explore the connection between media studies and crisis event like a natural disaster.

Even though few studies were conducted to examine the role of media in the context of natural disaster, but most of them were largely dominated by Hurricane Katrina. In this study, I provided a descriptive analysis of media framing and the tone the print media attached to actors involved in recovery and rebuilding efforts for Hurricane Harvey. My exploration was guided by the academic and non-academic study of disaster capitalism, framing and agenda setting theory. I believe the methodology proposed in this study was highly promising for media studies and in several ways, my thesis research contributed to the field of sociology of media and sociology of disaster studies. First, it examined the media frames that were used in coverage of Hurricane Harvey. While some of the frames like human interest and economic destruction was widely used in the previous disaster literature, my thesis revealed the importance of emerging frame like vulnerability and inequality, social media and climate change. Second, along with government response, this thesis also explored the media tone for private sectors. It broke down the government into federal, state and local, and private sectors into for-profit and nonprofit organizations. Then it provided a separate analysis for them and discussed why the tone varies within these categories. Finally, it tested an operationalized definition of disaster capitalism, displayed the extent to which facets of disaster capitalism appeared in newspaper coverage of Hurricane Harvey and examined d the utility of disaster capitalism in the light of media studies. However, this study only utilizes local and national newspapers. Future studies can build on the framework that I have provided in this research, and they can include regional sources and another form of mass media to investigate further how media uses frame and set the agenda during their coverage of crisis news. Future studies can explore the sociological dimension of the news outlets,

and they can examine to what extent the cultural and political context of the new outlets

made an impact during their crisis news coverage.

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APPENDICES

APPENDIX A:

TABLE 6: NEWSPAPER CITED

Date	Newspaper Publication	Article Title
28-August-2017	The New York Times	"Houston Mayor's No-Win Dilemma: Whether to Tell Residents to Stay or Go."
28-August-2017	The New York Times	"Houston's Hospitals Treat Storm Victims and Become Victims Themselves."
30-August-2017	The New York Times	"'Cajun Navy' Scours Houston Floodwaters for Stranded Residents."
03-September-2018	The New York Times	"A Year After Hurricane Harvey, Houston's Poorest Neighborhoods Are Slowest to Recover."
31-August-2017	The New York Times	"A Sea of Health and Environmental Hazards in Houston's Floodwaters."
28-September-2017	The New York Times	"'Flesh-Eating Bacteria' From Harvey's Floodwaters Kill a Woman."
23-March-2018	The New York Times	"Houston Speculators Make a Fast Buck From Storm's Misery."
02-September-2017	The New York Times	"We Do not Deny Harvey, So Why Deny Climate Change?"
28-August-2017	The New York Times	"A Shark in the Street and Other Hurricane Harvey Misinformation You Should not Believe."
19-September-2018	The New York Times	"Humans Are Making Hurricanes Worse. Here is How."
02-December-2017	The New York Times	"Builders Said Their Homes Were Out of a Flood Zone. Then Harvey Came."
07-September-2017	The New York Times	"Seven Hard Lessons Federal Responders to Harvey Learned From Katrina."
01-September-2017	The New York Times	"For Vulnerable Older Adults, a Harrowing Sense of Being Trapped."

23-October-2017	The Wall Street Journal	"In Harvey's Wake, a Rush to the Courthouse; Lawyers jockey for position in litigation against the federal government over the decision to release water from dams."
06- September-2017	The Wall Street Journal	"After Oil Refinery Is Damaged by Harvey, Benzene Is Detected in Houston Area; City and EPA investigate potentially dangerous plume after Valero Energy Partners reported leak tied to the hurricane."
29-August-2017	The Wall Street Journal	"Louisiana Braces for Harvey as Waters Keep Rising in Texas; Officials Said Already Strained Reservoirs would Overflow for the First Time Ever."
31-August-2017	The Wall Street Journal	"Federal Aid Request to Repair Harvey Damage Expected to Top Katrina; Texas Governor Estimates Federal Funding Needs 'Far in Excess' of $125 Billion."
30-August-2017	The Wall Street Journal	"Harvey Makes Landfall in Louisiana as Waters Keep Rising in Texas; Tropical Storm Makes Second Landfall just West of Cameron, Louisiana."
26-August-2017	The Houston Chronicle	"Residents report claims of gouging."
31-October-2017	The Houston Chronicle	"State accuses 127 businesses of price gouging on gasoline."
06-September-2017	The Houston Chronicle	"Law enforcement agencies coordinate against looting, scams."
02-May-2018	The Houston Chronicle	"Family displaced by Hurricane Harvey gifted free home in Atascocita with a grant."
25-October-2017	The Houston Chronicle	"Residents fight proposed Pearland annexations."
24-January-2018	The Houston Chronicle	"Corporate Harvey donations paid in full."
26-August-2018	The Houston Chronicle	"Harvey makes history in disaster fundraising."
08-November-2017	The Houston Chronicle	"State accuses 127 businesses of price gouging on gasoline."
29-April-2018	The Houston Chronicle	"Real estate in a new reality."
18- October-2017	The Houston Chronicle	"A gift to Habitat helps homeowners rebuild after Harvey's devastation."
05-April-2018	The Houston Chronicle	"Harvey looter sentenced to 20 years in Walmart burglary."

17- January-2018	The Houston Chronicle	"After Harvey, how should greater Houston grow?"
06-May-2018	The Houston Chronicle	"State ignores the spread of dioxin in key waterways."
19-September-2017	The Houston Chronicle	"'Do not give up': FEMA team reaches out to those in need."
September-2017	The Houston Chronicle	"Worker's paychecks can still be a victim of Hurricane Harvey."
12-November-2017	The Houston Chronicle	"Stop shameful eviction of needy tenants."
11-April-2018	The Houston Chronicle	"Survey: Harvey's psychological distress unrivaled."
30-September-2017	The Houston Chronicle	"EPA: Dioxin leaking from waste pits."
11-June-2018	The Houston Chronicle	"Complaints rise against post-Harvey contractors."
03-February-2018	The Houston Chronicle	"Execs give to Bush after firms win Harvey bids."
23_November-2017	The Houston Chronicle	"Workers hit with a storm of wage theft."
18-October-2017	The Houston Chronicle	"County debris removal begins as contract secured."
30-December-2018	The Houston Chronicle	"More aid to come, but FEMA's repairs lag."
04-October-2017	The Houston Chronicle	"A month after Harvey, questions concerning dam releases linger."
01-June-2018	The Houston Chronicle	"Greater Houston."
02-May-2018	The Houston Chronicle	"Harvey registry to track health impact."
25-March-2018	The Houston Chronicle	"Silent Spills."
29-November-2017	The Houston Chronicle	"Harris County sues Arkema for chemical disaster."
16-May-2018	The Houston Chronicle	"Investors see opportunity in flooded homes."
26-June-2018	The Houston Chronicle	"HUD OKs Harvey housing recovery plan."
26-November-2017	The Houston Chronicle	"Epic response."
23-August-2018	The Houston Chronicle	"A year later, Harvey still distresses."

APPENDIX B: Hierarchy Chart for Government and Private Response

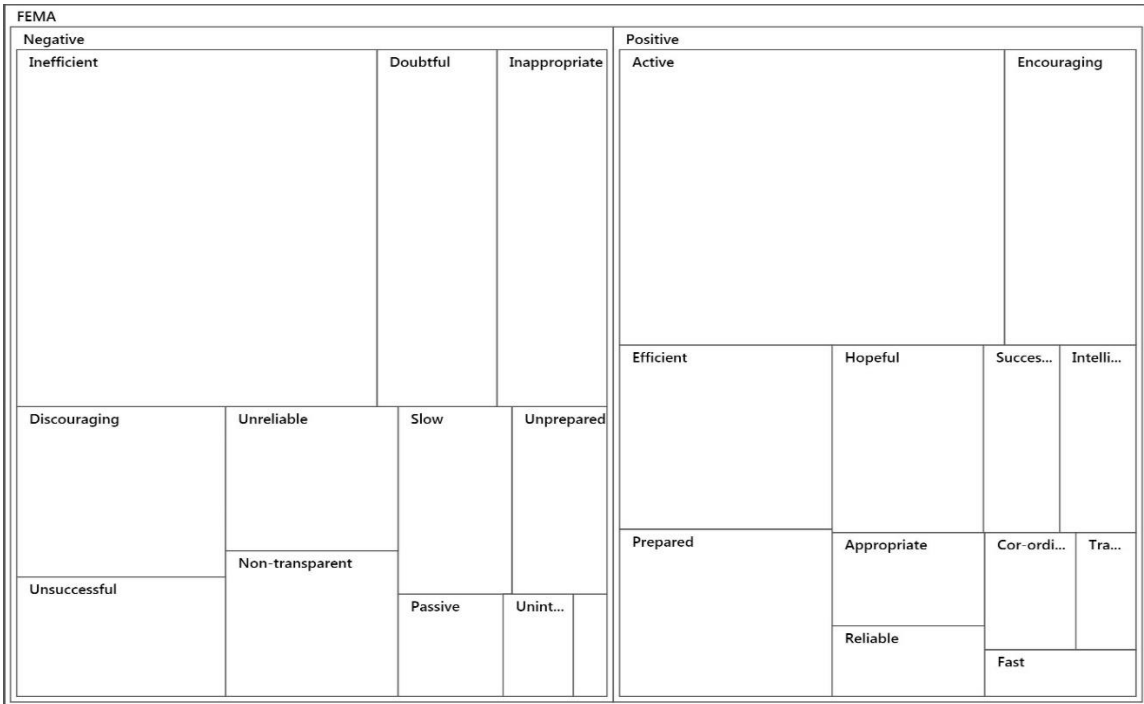Figure 21: Hierarchy Chart Analysis for FEMA

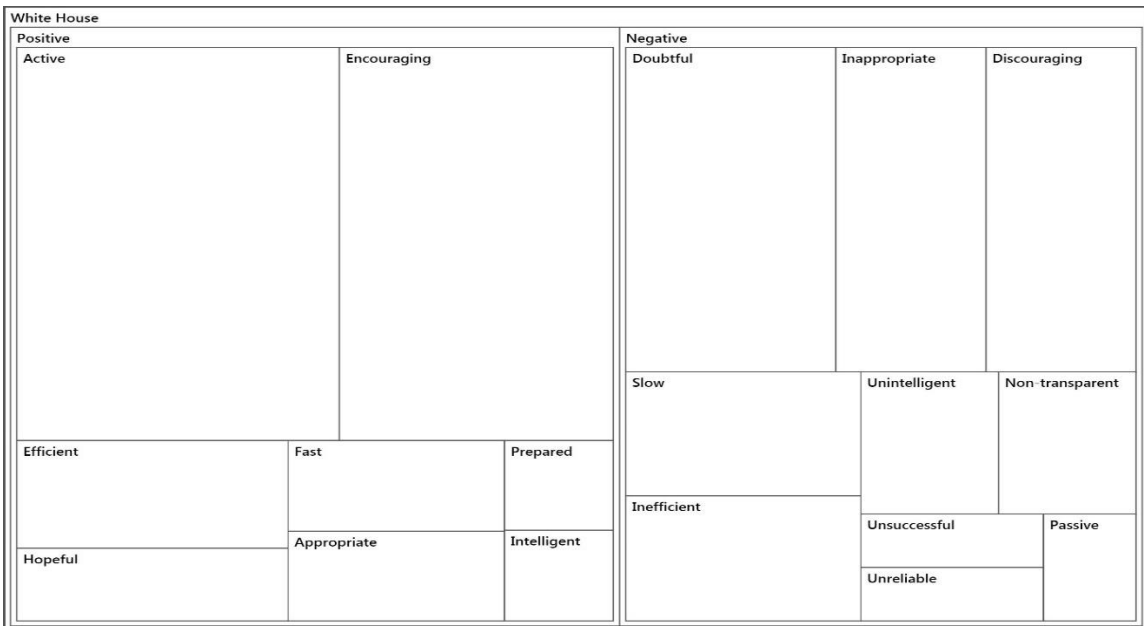Figure 22: Hierarchy Chart Analysis for White House

Figure 23: Hierarchy Chart Analysis for State Government

Figure 24: Hierarchy Chart Analysis for Local Government

Figure 25: Hierarchy Chart Analysis for For-Profit Organizations

For-profit organization				
Corporation		**Rental Markets**		
Unfavorable		Unfavorable		Favorable
		Insurance		**Retailers**
		Unfavorable		Unfavorable
		Favorable		
Favorable				Favorable
		Hotel and resorts		
		Unfavorable	Favorable	

Figure 26: Hierarchy Chart Analysis for Non-Profit Organizations

Non-profit organization	
Favorable	Unfavorable
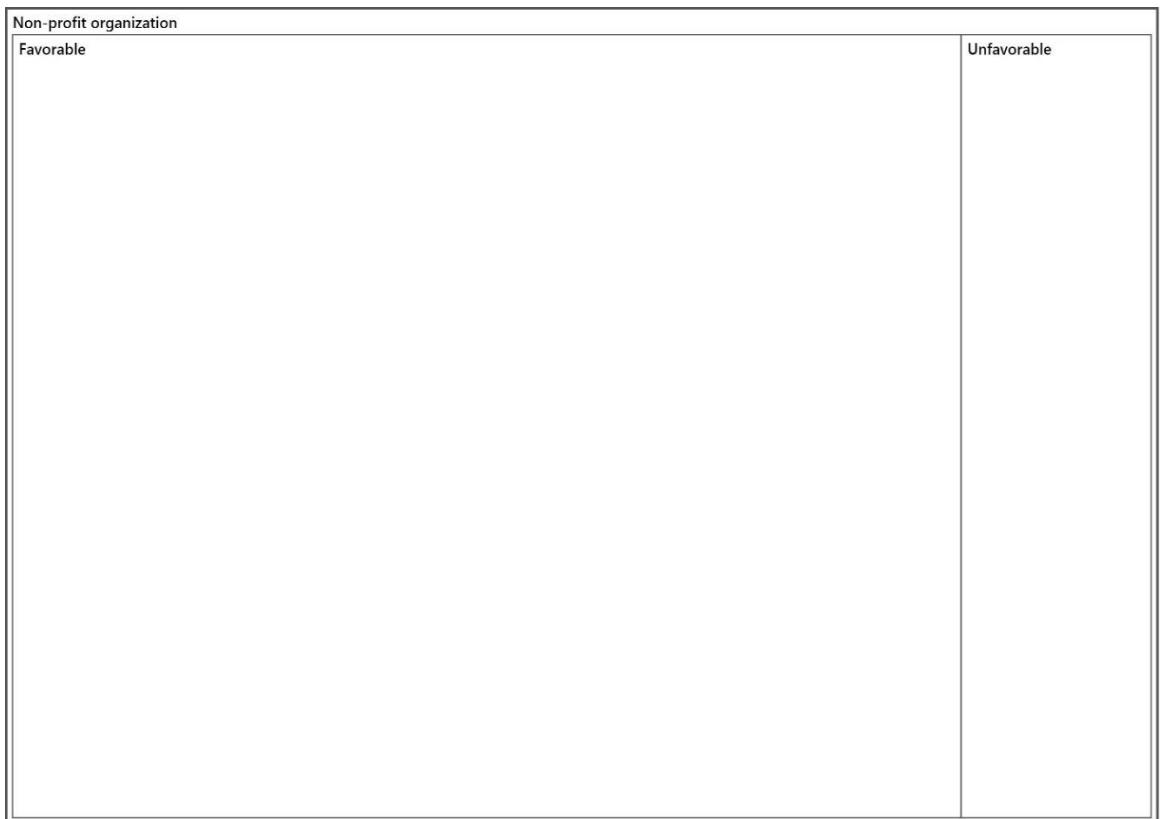
APPENDIX C: Tree Map to Compare the Coverage of the New York Times, the Wall Street Journal and the Houston Chronicle.

Figure 27: Tree Map to Analyze the Media Frame
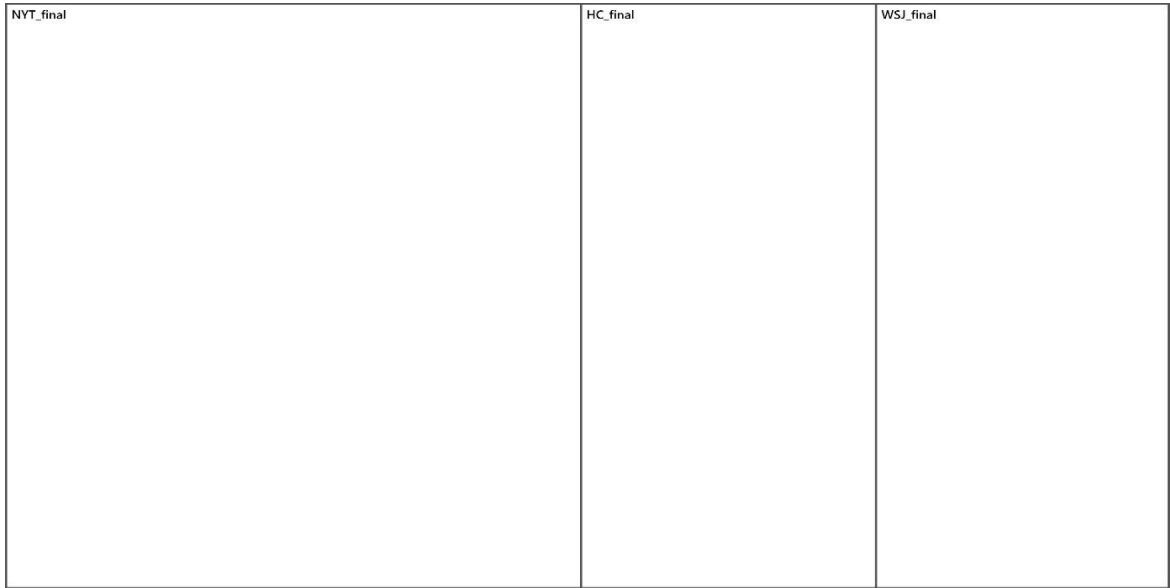
Figure 28: Tree Map to Analyze the Media Tone for FEMA (Positive Descriptors)
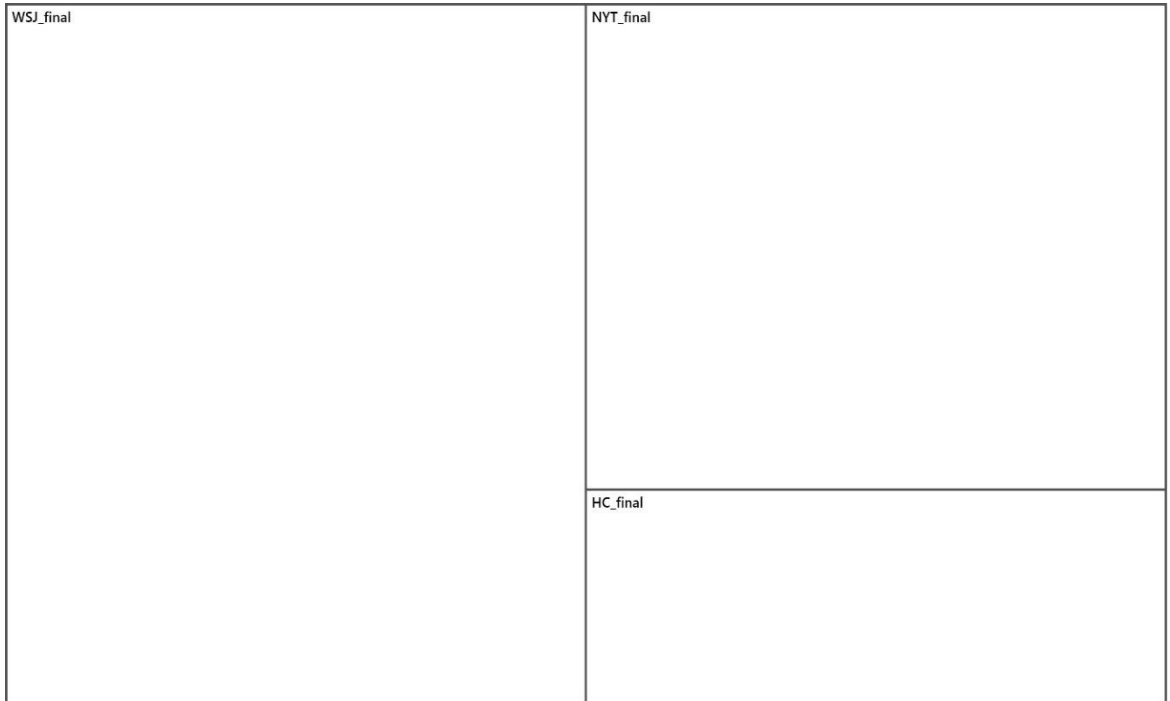
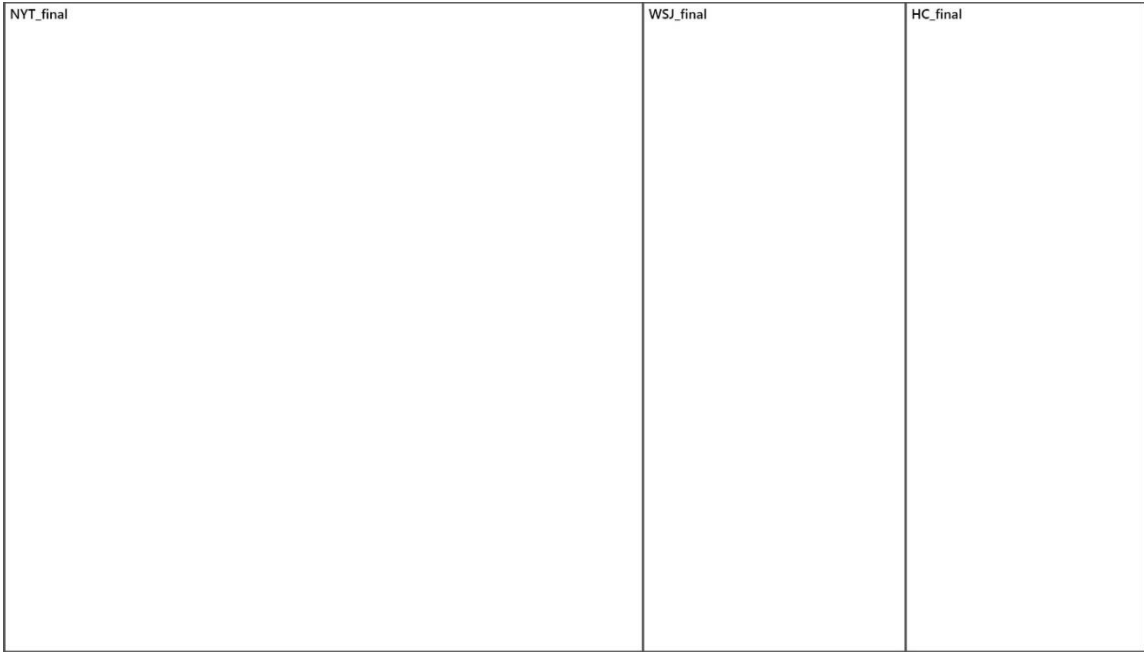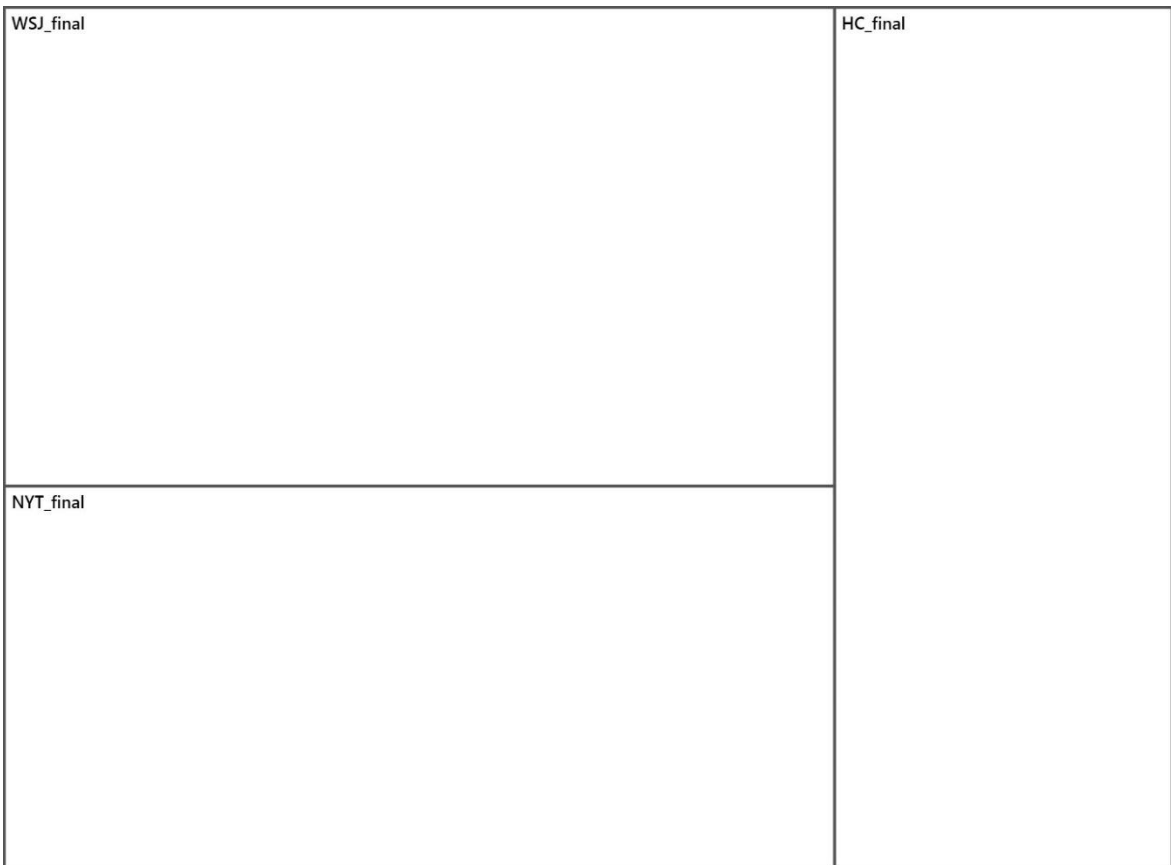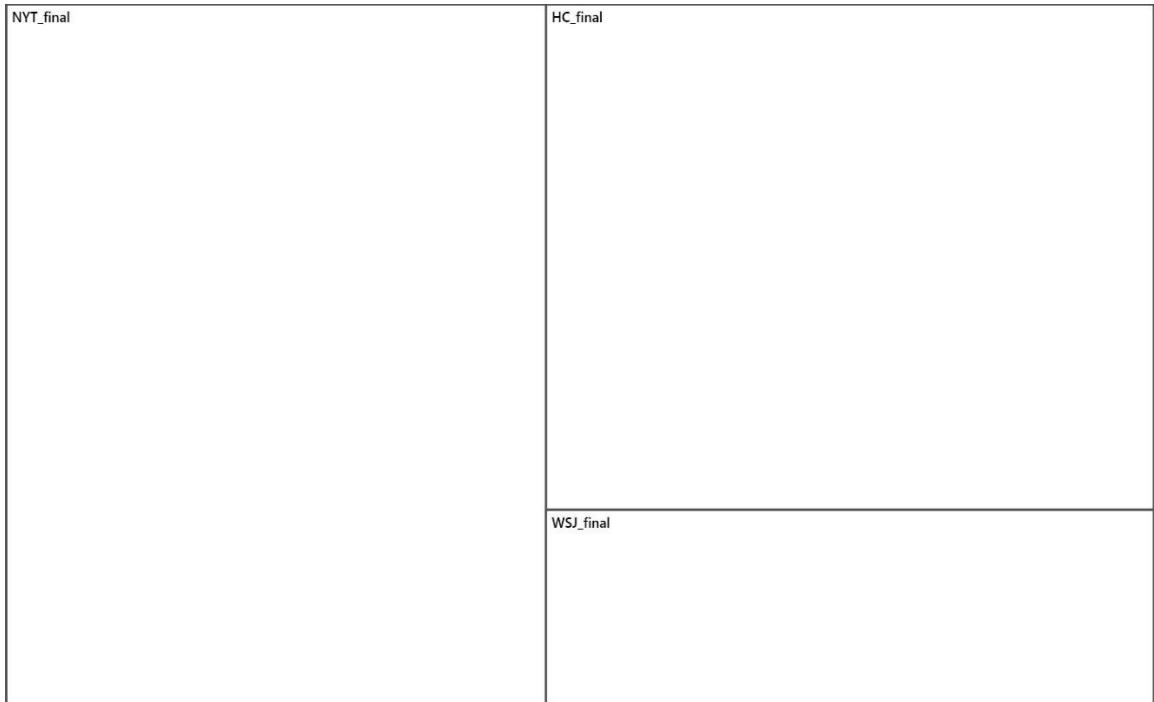Figure 29: Tree Map to Analyze the Media Tone for FEMA (Negative Descriptors)

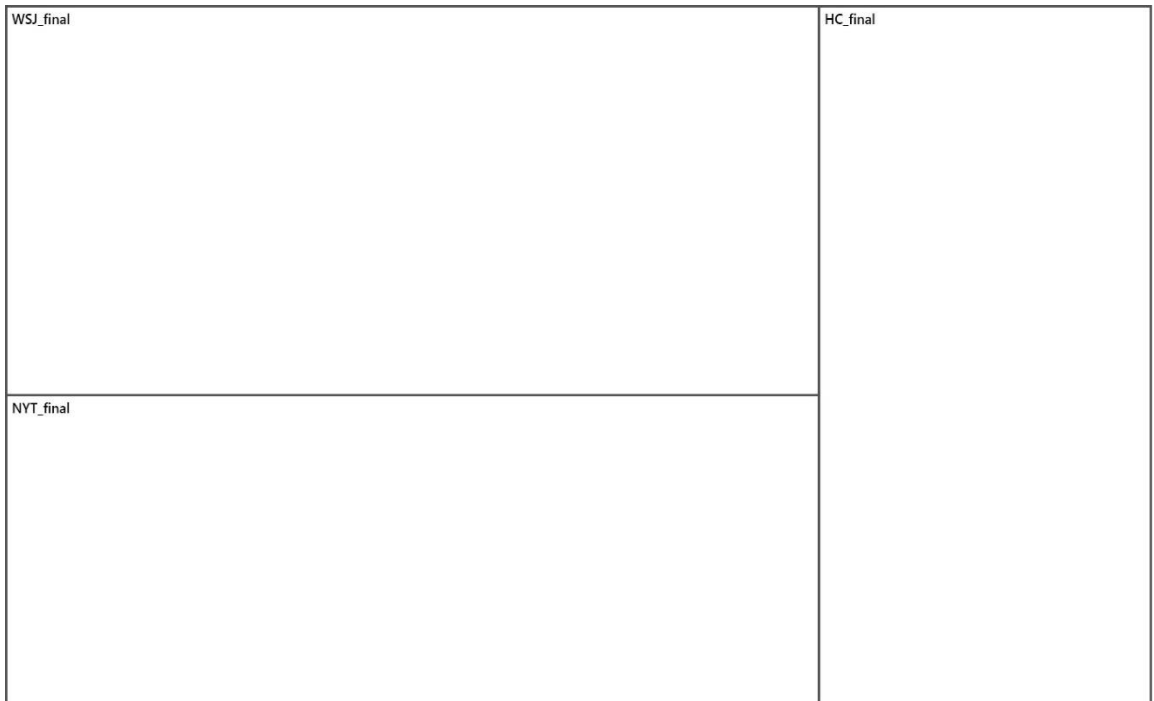| NYT_final | WSJ_final | HC_final |
| | | |

Figure 30: Tree Map to Analyze the Media Tone for State (Positive Descriptors)

WSJ_final	HC_final
NYT_final	

Figure 31: Tree Map to Analyze the Media Tone for State (Negative Descriptors)

NYT_final	HC_final
	WSJ_final

Figure 32: Tree Map to Analyze the Media Tone for Local (Positive Descriptors)

WSJ_final	HC_final
NYT_final	

Figure 33: Tree Map to Analyze the Media Tone for Local (Negative Descriptors)

WSJ_final	NYT_final
HC_final	
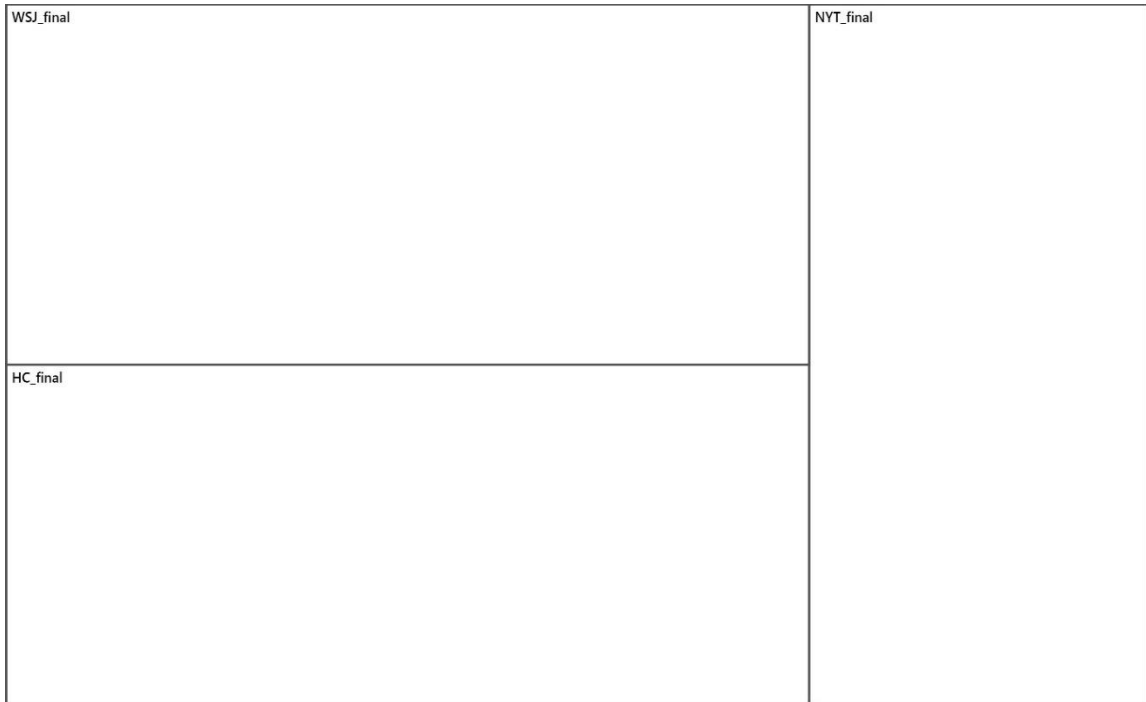
Figure 34: Tree Map to Analyze the Media Tone for For-profit Organizations (Positive Descriptors)

WSJ_final	NYT_final
HC_final	

Figure 35: Tree Map to Analyze the Media Tone for For-Profit Organizations (Negative Descriptors)

Figure 36: Tree Map to Analyze the Media Tone for Non-Profit Organizations (Positive Descriptors)
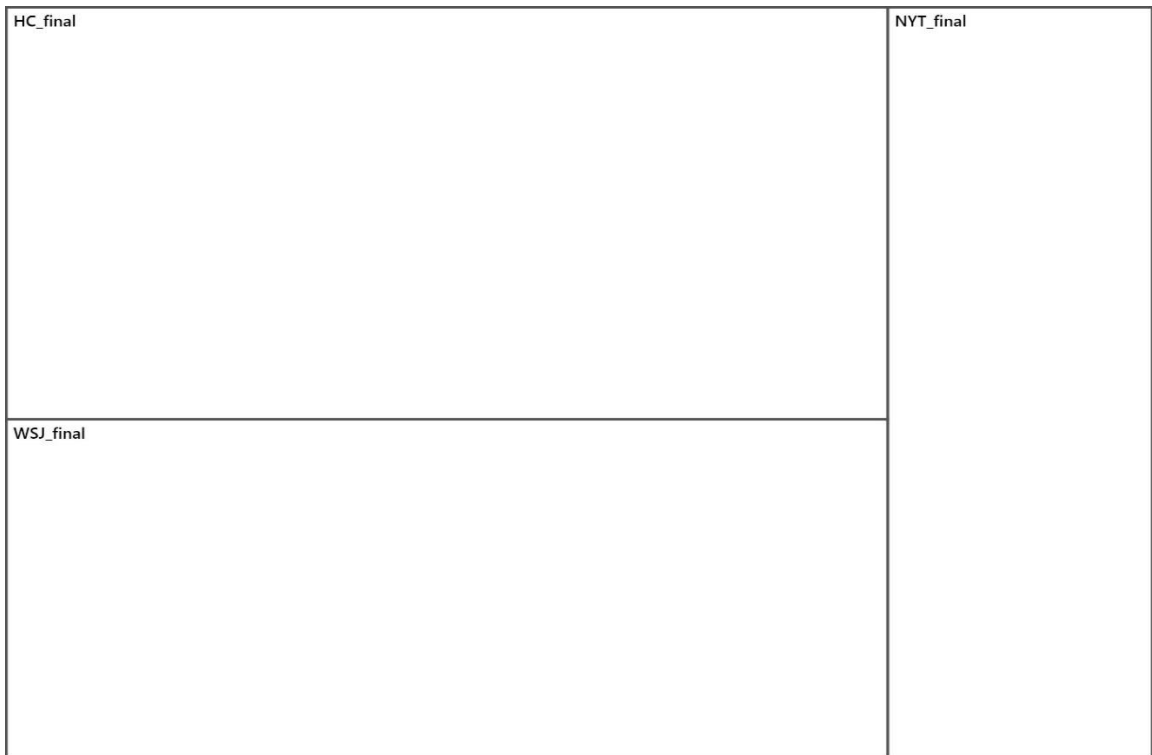
Figure 37: Tree Map to Analyze the Media Tone for Non-Profit Organizations (Negative Descriptors)
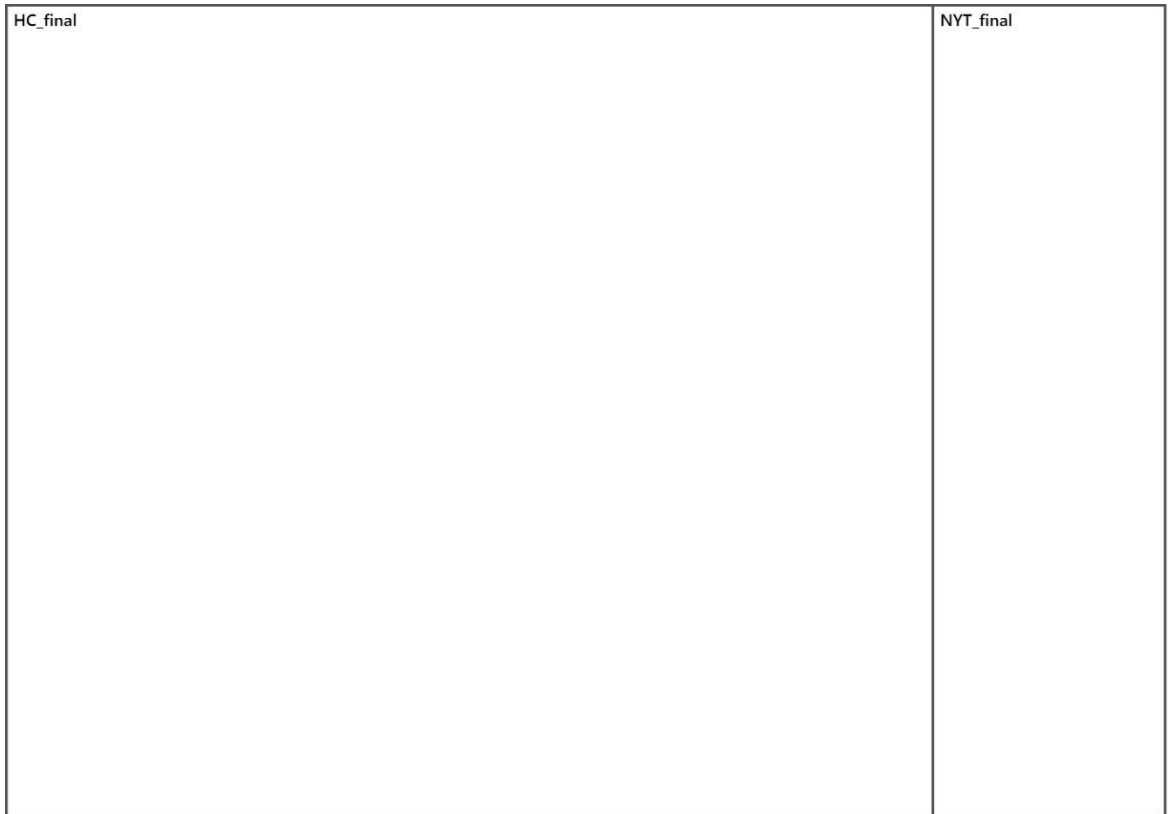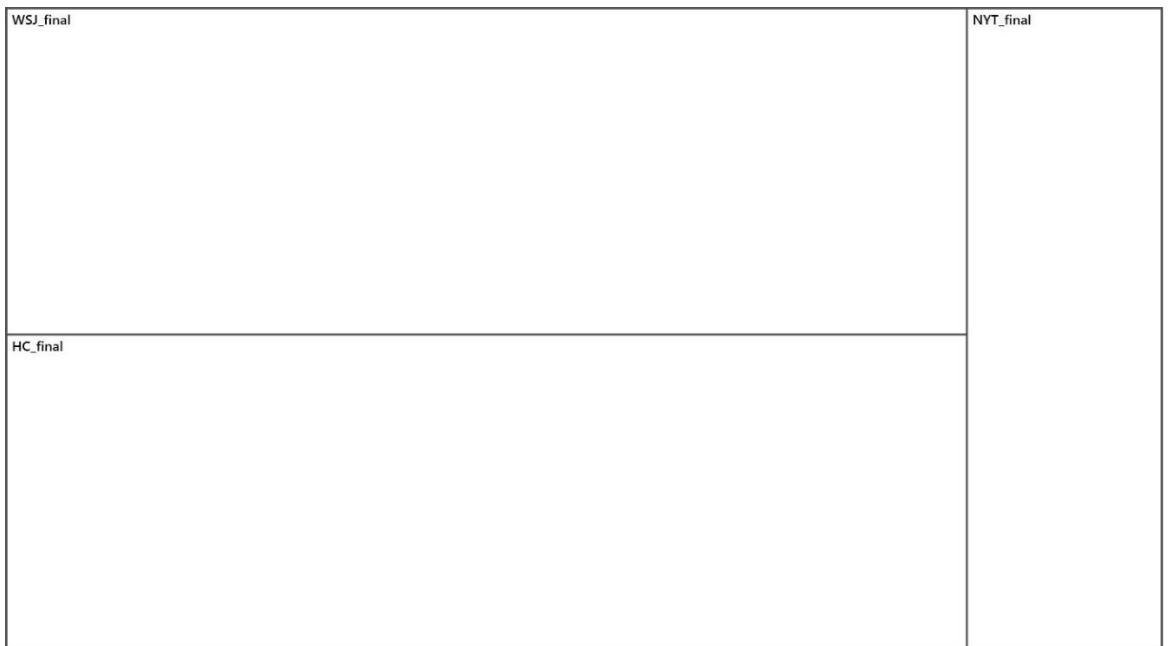
HC_final	NYT_final

Figure 38: Tree Map to Analyze the Indicators of Disaster Capitalism

WSJ_final	NYT_final
HC_final	

APPENDIX C: Codebook

TABLE 7: CODEBOOK

Research Question	Theme		Frame	
R 2) Which frame received the most/less attention during the print media coverage of Hurricane Harvey?	Media's use of Framing		Human interest and personal stories. Economic consequences. Environmental Consequences. Response and clean up. Morality frame. Conflict frame. Attribution of responsibility. Risk, vulnerability and inequality. Repair, rebuild and resilience.	
	Stories of response and recovery of Hurricane Harvey and role played by different recovery actors.	How news-media describe the response, recovery process and role played by recovery actors	Government	
			Categories	Federal, State and Local
			Private Sectors	
			Categories	For profit organization: retailers; real-estate developers; and corporation and insurance companies Non-profit organization.
			Government (positive/negative/neutral)	
				Prepared/Unprepared. Fast/slow.

				Efficient/Inefficient.
R 3) To what extent does print media coverage offer a positive, neutral or negative tone of government and private sectors response of Hurricane Harvey?		Is there any positive/negative tone associated with their coverage?	Categories	Equitable/Inequitable. Active/Passive. Successful/Unsuccessful. Encouraging/Discouraging. Intelligent/Unintelligent. Transparent/Non-transparent. Coordination/Lack of coordination. Hopeful/Doubtful. Reliable/Unreliable.
			Private Sectors (positive/negative/neutral)	
			Categories	Favorable/ Unfavorable
R 4) To what extent does print media coverage of Hurricane Harvey's response and recovery	The utility of the operationalized definition of disaster capitalism as a framing device in the news coverage of Hurricane Harvey.		Crisis as an opportunity for capital accumulation	
				Disaster-induced eviction. Corporate land grabbing. Disaster driven policy changes and inequality.

processes reflect disaster capitalism as operationalized from the literature?		Categories	Use of political lobbying to get the publicly funded project and no-bid contract. Dependency on privatize disaster response. Tax reform and Tax-exemption. Price gouging. Militarized disaster response; Disaster profiteering.
	Other Theme / Frame and Categories		

VITA

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