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Organizing After Disaster

The (Re)Emergence of Organization within Government after Katrina (2005) and the Touhoku Tsunami (2011)

Malka Older

Thesis supervised by Olivier BORRAZ, Directeur de recherche CNRS, Sciences Po, Centre de sociologie des organisations

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Jury:

Mr. Arjen Boin, Professor of Public Institutions and Governance, Universiteit Leiden

Mr. Olivier Borraz, Directeur de recherche CNRS, Sciences Po, Centre de sociologie des organisations (thesis supervisor)

Mr. François Dedieu, Chargé de recherche INRA **(rapporteur)**

Mr. Patrick Le Galés, Directeur de recherche CNRS, Sciences Po, Centre d'études européennes

Ms. Sandrine Revet, Directrice de recherche Sciences Po, Centre de recherches internationales

Ms. Diane Vaughan, Professor of Sociology, Columbia University **(rapporteur)**

Dedication

To all the humanitarian responders and emergency managers, trained and accidental, who did their best and still feel terrible that they couldn’t do more.

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List of Acronyms

AAR: After-Action Report

ADRC: Asian Disaster Reduction Center

ARC: American Red Cross

CMC: crisis management center

DC: distribution center

DHS: United States Department of Homeland Security

DOT: United States Department of Transportation

EMAC: emergency mutual aid compact

EMON: emergent multiorganizational networks

EOC: emergency operations center

EPA: United States Environmental Protection Agency

ESF: emergency support function

FCO: federal coordinating officer

FEMA: United States Federal Emergency Management Agency

GOP: grand old party [United States Republican party]

HQ: Headquarters

IAP: incident action plan

ICRC: International Committee of the Red Cross

ICS: incident command system

IFRC: International Federation of the Red Cross and Red Crescent

JICA: Japanese International Cooperation Agency

KPI: key performance indicator

LOHSEP: Louisiana Office of Homeland Security and Emergency Preparedness

MEMA: Mississippi Emergency Management Agency

MLIT: Japan Ministry of Land, Infrastructure, Transport and Tourism

MRE: meals ready to eat

NEMIS: National Emergency Management Information System

NGO: non-governmental organization

NIMS: national incident management system

NPO: non-profit organization

NRC: Norwegian Refugee Council

OFDA: United States Office of Foreign Disaster Assistance

O-period: operational period

PD-HL: post-disaster humanitarian logistics

PoD: point of distribution

R & R: rest and relaxation

RC: refuge center

SCO: state coordinating officer

SDF: Self-Defense Forces [Japanese military]

UN: United Nations

UNHCR: The office of the United Nations High Commissioner for Refugees

US: United States of America

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Chapter 1: Theoretical Frameworks and Literature Review

Introduction

Disaster management has become an increasingly important area for modern governments. States around the world are developing disaster management agencies, plans, and procedures in an attempt to maintain their roles and services during disruption. However, as large disasters demonstrate on a regular basis, even wealthy, stable, and theoretically well-prepared governments experience failure in the wake of a catastrophe. Disasters overwhelm plans and collapse government organizations, which sometimes manage to rebuild into something new. What mechanisms do organizations use to re-emerge after a collapse? How do government organizations, specifically, balance the need to reckon with failure with the importance of maintaining authority and the image of control and stability? What does this tell us about how the State conceives of its role in disasters?

This dissertation examines these questions through qualitative readings of two disasters that overwhelmed the wealthy and democratic States where they occurred: Hurricane Katrina along the Gulf Coast of the United States in 2005, and the 2011 earthquake and tsunami off the northeastern Touhoku region of Japan known as the Great Eastern Japan Earthquake Disaster. Rather than directly comparing at the country level, the approach involves following multiple jurisdictions – local, meso-, and national – in both countries, teasing out similarities as well as differences in the vein of Przeworski and Teune's (1970) "most different systems" design. The comparison is further deepened with perspectives from international humanitarian response conducted by international and non-governmental organizations.

In order to capture different angles on the complex and varied process that is disaster response, the three substantive chapters each trace a different component of the cases. Chapter 2 addresses crisis management centers (CMCs), the physical sites and organizational procedures that form the decision-making and management structures of the responses. Chapter 3 explores operational teams, primarily those involved in shelter and logistics (purchasing/receiving, transporting, warehousing, and distributing relief goods). Chapter 4 takes a step beyond the immediate chaos of disaster responses to look at how the States self-evaluate their actions during these crises.

Each of these areas concerns different sets of actors, with their own reactions to chaos and collapse, approaches to rebuilding normalcy, and ideas about what the State should be doing under such dire circumstances. In each chapter I trace the actions of similar teams across multiple localities in two states and two prefectures in two different countries, looking at *how* they try to rebuild organizational control and *what* they think government should be doing. The approach includes a framework for examining the relationships among the permanent organization of the State; temporary organizations, the planned entities designed to deal with crisis situations; and emergent organizations, the brief, unplanned structures that arise during the responses, usually due to failure in one or both of the former.

Before discussing that framework in more detail, I will briefly review the literature on disaster response, particularly as it relates to organizations and more specifically the State. I will then describe the framework, and examine the literature on temporary organizations – both in disasters and in more mundane contexts – and on emergent organizations. With that background established, I present my research questions. The introduction continues with sections on each of the cases, including the disasters and their impacts as well as the disaster management context in each country. Finally, a methodology section describes the field research locations and data collection methodology, and also goes into more detail about the comparative approach and the use of the international humanitarian system in that approach in addition to the two cases. The introduction concludes with a brief outline of the rest of the dissertation.

Disaster Studies

Early disaster studies frequently chronicled the behavior of actors and organizations in emergencies. Mid-century disaster work touched on topics that would continue to fascinate scholars until today, such as Fritz and Mathewson's 1957 discussion of material convergence (further discussed in chapter 3) and Fritz et al.'s 1958 look at spontaneous self-organization (further discussed below). These studies, which were both published under the purview of the National Research Council of the National Academy of Sciences, did careful qualitative reviews of exactly what happened during a crisis.

There was significant interest in the question of organizations almost from the beginning. The Disaster Research Center, founded by E.L. Quarantelli, Russell Dynes, and J. Eugene Haas at The Ohio State University in 1963 and since moved to the University of Delaware, produced a plethora of research on organizations in disaster. The first entry in their report series was a

theoretical paper on "The Functioning of Established Organizations in Community Disasters" (1968) by Warheit and Dynes, followed quickly by Dynes's book *Organized Behavior in Disaster* (1970), discussed further below. This interest came both from a belief that the functioning of organizations was important to disaster response – as Warheit and Dynes note, "when a community disaster occurs, unusually heavy demands are made on the emergency organizations of that community" (10) – and because disasters provided an opportune context for studying organizations. Dynes (1970) wrote that "Crises reveal, as few situations can, how organizations are structured, how organizations maintain stability, how organizations change, and how organizations fulfill their functions" (4).

The focus in these studies was, as the title of the first suggests, very much on communities and disaster-related community organizations, such as firefighters and hospitals. At the time they were written there was no consistent agency for disaster management in the United States government, so responses were largely local and ad hoc.

The State and Disasters

More recent work has looked specifically at how disasters affect and are used by governments. Boin and 't Hart, for example, have written about "Public Leadership in Times of Crisis" (2003) and, with Stern and Sundelius, about *The Politics of Crisis Management* (2005). These works focus on the roles of leaders in a crisis, including both the demands and opportunities of situations that extend beyond the borders of normalcy. In contrast to the situation found in earlier work, where disaster response was founded on a hodge-podge of local government, semi-government, and private organizations, and came with very few expectations, Boin and 't Hart (2003) find that "Citizens expect to be safeguarded by their state; the idea that wholesale crisis cannot be prevented comes as a shock" (545).

The idea that the State is responsible for responding to disasters is a relatively new one. Dynes (2003) calls the 1755 Lisbon earthquake "the first 'modern' disaster because it was first to evoke a coordinated state emergency response as well as a forward looking comprehensive effort for reconstruction which included mitigation efforts to reduce future disaster efforts" (2). However, it took centuries for the idea of a state response to become widespread. As we will see, the degree and precise configuration of responsibility continues to be contested.

In the US, the earliest "disaster relief" at the national level took the form of Congressional grants, usually to individuals. Roberts (2013) writes that "Initially, aid from

Congress was most often issued as compensation for property losses rather than as supplies for rescue and relief" (21); indeed, such grants included, for example, "a $15,000 grant of poor relief for the white refugees fleeing St. Domingo following the slave revolution" in 1794 (Landis, 1997-1998: 977). With such ad hoc judgments, every decision required debate, with success "depending on factors particular to each instance, such as partisan control, legislative skill, or even an impassioned speech" (Roberts, 2013: 26). Roberts traces the political and social construction of what he calls a "disaster state" from such beginnings, noting that while representatives might argue that "'the Constitution confines the appropriation of public money to public purposes'", "What counted as public purposes, however, could – and did – grow" (25). Perceptions of disaster changed dramatically: "What was an event, a condition to be tolerated, or a largely local responsibility in the early nineteenth century became by the late twentieth century a disaster that requires federal government intervention long before and after the event itself" (Roberts, 2013: 16).

The original disaster relief was always local, if only because, as Roberts points out, "It might take days for news of an earthquake or flood to reach Washington, DC, and if Congress wanted to intervene, its aid would arrive only weeks later" (21). As Steinberg (2000) notes, "Cities commonly offered one another financial support in the years before the federal government became a major provider of relief. Newspapers, too, would often establish funds and solicit contributions from readers" (17). Not only that, "since, again, accepting such money could compromise a city's rugged, self-reliant image, some urban leaders were willing to risk the possibility of additional suffering" (17). Steinberg describes local, largely ad hoc and often (in the modern parlance) crowd-sourced disaster responses in Charleston in 1885 and 1886 and after the San Francisco earthquake of 1906. He traces the way law after law began to change how disaster response was funded and, eventually, implemented.

In 1934 "Congress authorized the Reconstruction Finance Corporation to begin making disaster loans to rebuild public facilities" (67). In 1950 a law "allowed the president to authorize disaster relief for reconstructing public facilities without seeking congressional approval" (86). "Even as late as 1969," Steinberg writes, "no formalized means existed to help individual citizens in the wake of catastrophes" (175). The Disaster Relief Act of 1969

> allowed the federal bureaucracy, once the president had declared a disaster area, to extend all kinds of relief to John Q. Public. Now the Small Business Administration (SBA) could offer loans with a forgiveness clause that canceled

> the first $1,800, effectively making the loan into a partial grant-in-aid. The federal government offered temporary housing. It provided money for clearing debris from private property. It extended unemployment compensation. And it distributed food and food coupons to low-income people. In short, Congress had woven for its citizens an entire disaster safety net. (176)

Fosher (2009) connects this evolution of the safety net to the movement for civil defense after World War II. She describes the back and forth across various committees and reports about how civil defense should be enacted – with or without military involvement, with funding and training at which level of government (25-28).

Collier and Lakoff (2008) also trace a legacy from civil defense to key characteristics of US emergency management, in particular the concept of emergency federalism. This idea was born out of a central conundrum identified in part from the results of the United States Strategic Bombing Survey of the effectiveness of their campaigns in Europe during the war: "civil defense worked well in cases where there were both principles of local 'self-protection' and clear hierarchical command and control" (13). This seeming-contradiction echoed the central question of US governance: independent, sovereign states united in a single country. Or, in this specific case, the "tensions between centralization and decentralization, between the collective demand for organizing for civil defense and the presumptive priority given to local sovereignties" (14). Emergency federalism resolved this at least partially in that "it sought to minimize, to the extent possible, direct federal intervention – and to limit the financial impact of civil defense planning – by distributing civil defense functions among a range of public and private actors, and by devising systems for coordinated planning and response in the event of an emergency" (14).

In practice, this meant a combination of self-protection – civilian evacuation drills, for example, and individual preparedness – and coordinated response led by the State, including both mutual aid and mobile response (15). According to Collier and Lakoff, that emergency federalism, along with other aspects of what they call distributed preparedness, spread beyond civil defense into the full structure of emergency response in the United States, including the Federal Emergency Management Agency (FEMA), instituted in 1979, and eventually the Department of Homeland Security (DHS), which swallowed FEMA in 2002 in the aftermath of 9/11.

Steinberg (2000) takes a slightly different view. His phrase "disaster safety net" suggests a closer relationship with the New Deal and other social policies implemented around the same

time the Federal government was taking the first early steps towards being a substantial player in disaster response. For Steinberg, these government policies "worked to sever risk from space. […] the risk associated with living in, say, a flood- or earthquake-prone area was now amortized to taxpayers across the country" (xxiv). The system enforces existing inequalities, Steinberg writes: "the federal system of disaster relief is set up to respond financially when a natural event causes physical destruction to property. In this sense, the response to disaster is biased in favor of the owners of wealth" (180). It also separates between so-called "natural" disasters and others:

> The federal response to disaster is premised on bankrolling only those disasters the government deems sufficiently 'natural' to warrant federal intervention. […] these are events beyond human control – unpredictable and unforeseen acts of nature or God – and it is only proper for the government to step in to right the situation, say liberals and conservatives alike. […] Of course making this distinction helps to hide the fact that such 'natural' calamities are as much if not more the product of a social order founded on the maximization of private property than they are the workings of the natural world. (184)

The impacts of disaster are amplified by poor housing, education, nutrition, and other attributes of poverty. Steinberg writes that "It is no accident that some of the worst federal relief operations have occurred among the poor. In part this is simply a question of political clout. But there are more fundamental reasons why the federal disaster response has failed the poor so miserably. It is simply very hard to figure out where the effects of a disaster begin and end" (190). He quotes a FEMA official as saying "'We were set up to respond to emergencies not to build affordable housing,'" (190); the government mandate, in this schema, is to deal with the urgent and temporary, not with the slow long-term crises of modern life, even if they lead to the same result. Landis (1997-1998) comes to a similar conclusion from the opposite angle, writing that "the origin of the American welfare state is found in the narratives of blame and fate that surfaced originally in eighteenth- and early nineteenth-century contests over 'disaster' relief" (Landis, 1997-1998: 969).

The growing involvement of governments in disasters triggered another wave of disaster scholarship, in which researchers like Agamben (2005) and Aradau and van Munster (2011; 2007) examine how the State uses its role in emergencies and the expanded notion of risk management to extend its power. While Agamben looks at the declaration of a state of exception as a means of enacting, consolidating, and broadening State powers, Aradau and van Munster (2011) note that "Although exceptionalism has been mostly associated with illiberal and

sovereign practices, catastrophe can also be the moment of radical change" (11) and consider the ways that extreme disasters upend traditional methods of considering risk. The catastrophe acts as a break in government control, as well as the potential government control of risk management, thus opening a space for change as well as for greater control.

The influential work that has been done on technological disasters and their organizational roots also impacted work on the State and its interaction with so-called "natural" disasters. While authors like Perrow (1984) and Vaughn (1996) were looking at how organizational mechanics combined with technology to *cause* disasters, the language and frameworks they developed proved helpful in describing how organizations navigate the aftermath of disasters as well. Boin et al. (2005), for example, echo Perrow's emphasis on the degree of coupling in technological systems to talk about financial systems as well as low-tech crises such as riots.

Similarly, Collier and Lakoff (2015) observe a conceptualization of "collective life as dependent upon a complex of critical systems that are vulnerable to catastrophic disruption" (20), a societal version of a tightly coupled technological system. They build on Foucault's concept of biopolitics, in which the State draws its legitimacy in part from the degree to which it can "ensure the health and wellbeing of national populations." Unlike the more traditional form of biopolitics, what Collier and Lakoff call "vital systems security" is addressing risks caused by modernity and modern systems, by the infrastructure of the State, and therefore unprecedented and unpredictable.

In this modern risk society, crisis management becomes a key system for conceptualizing and enacting governance. According to Borraz and Cabane (2017) "crisis state renews the promises of the Welfare state […] it also refers to changing scales of government, redefining the limits of the state, and managing the consequences of policies derived from neoliberal ideas of regulation and market instruments" (397). The omnipresent potential for crisis, the default understanding that government is responsible for both preparing and responding, offer a new area for the State to enact control and new threats to that control.

These varying perspectives in disaster scholarship tend to reinforce each other without contradiction. Together, they paint a situation in which the State is facing a number of paradoxes. The social construction of what constitutes a disaster has expanded significantly over the past two centuries, while the government apparatus charged with managing disasters has adapted only

haphazardly; as Roberts writes about the United States, "the contemporary disaster state is more of an accident than is normally acknowledged" (11). Crises are a break with normalcy that offer an opportunity for the State to accumulate more power, but also threaten to uncover the fragility of the stability on which governments base their legitimacy. Furthermore any such expansion of authority and control also ties the State to greater responsibility; taking on a larger role in a disaster opens the government up to potentially regime-ending blame, particularly in democracies. Although governments may not have changed their principles much from the initial focus on replacing the assets of the elite and in some cases critical infrastructure, citizens now expect the State to take responsibility for protecting their lives, health, and dignity as well, leaving a critical gap between what government agencies are designed and required to do and what they are expected to do.

Merely acknowledging the possibility of disasters, their importance as a matter of public policy, is a dilemma. To prepare for unexpected catastrophes is to admit that the government, with its associated expertise and technology, cannot protect its citizens from every occurrence. Identifying vulnerabilities highlights the links between the increased risk of disasters and long-term government failures, such as poverty, substandard housing, and lack of public transportation. And yet, failing to prepare leaves governments open to accusations of incompetence or callousness when disasters do hit and they are not able to manage them.

Permanent, Temporary, and Emergent Organizations Within the State

States therefore split the difference by creating temporary organizations to enact governance over chaotic situations while maintaining a degree of distance from the permanent organization. We can refer to States as "permanent" organizations, not because they are literally permanent, but because they cultivate the illusion of being so. Lundin and Söderholm (1995) describe permanent organizations as "more naturally defined by goals (rather than tasks), survival (rather than time), working organization (rather than team) and production processes and continual development (rather than transition)" (439). States, which plan into the indefinite future and act as immutable entities, meet those criteria.

This seeming permanence can be threatened by crisis, and particularly any emergency for which the State is perceived to have responsibility. As we have seen, while disasters were once considered acts of God or incidents of individual misfortune, modern States have created for themselves the responsibility of managing unexpected crises. To simply ignore disasters, or to

expressly delegate them to non-governmental organizations, would be to cede an area of government control relatively recently accrued and threaten the evolving conception of the State as a comprehensive protector of its citizens.

At the same time, governments believe that their existing organizational structures are not the most appropriate for the exceptional demands of crises. There is a perception of emergencies as a special category of collective action that requires different organizational processes and structures. The characteristics of government organizations, designed (or evolved) for long-term, deliberative policy setting and program management seem ill-suited for the fast-paced needs of disaster response; the checks and balances and red tape appropriate for the massive, contentious expenditures of normal government business are antithetical to quick decision-making (‘t Hart et al., 1993; Bigley and Roberts 2001). As Boin et al. (2005) write, “Getting public bureaucracies to adapt to crisis circumstances is a daunting – some say impossible – task in itself. Most public organizations have been designed to conduct routine business that answers to values such as fairness, lawfulness, and efficiency. The management of crisis, however, requires flexibility, improvisation, redundancy, and the breaking of rules” (12). In addition, disasters are politically dicey, and governments tend to want at least a little distance from the fallout.

To resolve this contradiction, governments prepare and plan temporary organizations, time-limited sub-structures of the permanent organization, to take on the task of dealing with disasters. Temporary organizations, made up of laws, procedures, plans, and sometimes agencies, take a variety of forms. They often involve new decision-making procedures, changing authority structures and lines of hierarchy, or the secondment of personnel. For example, the Japanese Disaster Countermeasures Basic Act (1961; updated 1997) authorizes the local executive (governor, mayor, or village head) to “establish a headquarters for disaster control” when a disaster has occurred or is imminent (article 23; ADRC provisional translation). The Disaster Countermeasures Basic Act provides for these headquarters being chaired by the local executive that establishes them, but the structures underneath, while not mandated in the law, necessarily differ from the normal structures of the locality. In the United States, the Stafford Act (1988; subsequently amended in 2000 and 2006) requires the appointment of new positions (federal and state coordinating officers, sec. 302) and the formation of new structures (emergency support and response teams, sec. 303).

Beyond these legally mandated changes, individual jurisdictions and agencies may make

subtler or more drastic shifts in pursuing the form of temporary organization most likely to meet their needs in crisis. For example, a disaster-specialized temporary organization may seek to streamline resource request and allocation processes, changing its procedures; or expand its staff through volunteers (as, for example, local Red Cross agencies), thereby also extending its organizational structure. Task forces and crisis management groups rearrange hierarchies and decision-making processes. In some cases, this may involve members of a permanent agency or department taking on crisis roles outside of their normal purview (such as FEMA officials leaving their desk jobs to deploy to field positions). In other cases government officials take on new titles for the duration of the response to reflect their new, crisis-specific role. Even if the person in charge of the jurisdiction remains the same, as is often the case, the powers vested in that position are likely to change: a governor or a mayor might have wider powers during an emergency, or while remaining nominally in charge they may cede some of their authority to an emergency manager. Similarly, the structures below that decision-maker are very likely to shift in terms of groups and sub-groups, reporting lines, and resource allocation.

Although these planned temporary organizations are designed for crises, they do not always survive them. When the disaster is devastating enough, the planned structures collapse. At that point, new structures may emerge to replace them, as isolated, disaster-struck people cobble together new forms of organization to face their immediate challenges. Rather than temporary organizations that are planned by the permanent organization and designed to be time-limited, these are unplanned, improvised, emergent organizations. They may not even think of themselves, initially, as organizations, but simply as people working together to do what needs to be done, and doing it in an unplanned way because the plans failed. As they evolve they may attempt to return to the outlines of the temporary organizations they had planned for, or they may continue the new forms they started from scratch, developing an entirely new structure based on existing needs.

These re-emergent organizations are newly improvised in direct response to the failures – planning, training, logistics, communications – of the permanent organization. However, they are still composed of and managed by members of that permanent organization. The actors involved still consider themselves government employees running government institutions. There may be frustration or anger about government failures, but these emergent organizations – unlike those studied by Lanzara (1983), for example – do not position themselves in opposition to the

permanent organization. Most actors react with relief when the permanent organization is able to reassert control and assist them in reinstating the planned temporary organization. Once this has been achieved the emergent organization dissolves, although elements of it may survive by being adapted into the planning for future temporary organizations. In the retrospective of evaluations reports, there is no break in the organizational continuity, just heroic efforts to continue responding and valuable lessons learned. Rhetorically, continuity is provided over chaos.

Nonetheless, the break exists. Emergent organizations present new organizational structures, operational sectors, and decision-making processes. They teach us about organizational dynamics, demonstrating both emergence and development as they adapt to complex needs. They struggle to impose order over a context that is not only chaotic, but ruptured. Representing the collective action of government employees and volunteers working largely without guidance, these emerging organizations offer insight into how these actors see the government's role is in disaster response: who is in charge; what actions are prioritized; where they see the limits of their responsibility.

Temporary Organizations: Literature

Temporary organizations are fairly common in certain areas of private sector enterprise. Lundin and Söderholm (1995) survey the literature on the use of temporary organizations in the private sector and offer some examples:

> Efforts to renew businesses and to change existing operations in business firms are often organized as projects. Sometimes special task forces, program committees or action groups are formed, organized or appointed to handle a felt need for action by addressing particular problems in order to 'make things happen' within or among organizations. These are all variations on the temporary organization theme. (437)

Lundin and Söderholm use the concepts of time, task, team, and transition to differentiate temporary organizations (438-439). Time is (as suggested by the categorization as *temporary*) the most fundamental. These organizations are necessarily of a limited duration; they are not expected to last forever, but rather to complete their task and then disintegrate into components that can return to the permanent organization or reintegrate into a new temporary structure. As Lundin and Söderholm note, this may mean that "their very existence may be the best way of spreading a sense of urgency" (438).

The task concept emphasizes that these organizations are not pursuing the large abstract

goals of an entire firm (*make money and continue doing so indefinitely*) but rather specific, limited tasks. "Task definitions then provide the *raison d'être* for the temporary organization" (438); the organization is created in order to complete an element of the permanent organization's goal. The team is formed around the task, as opposed to more personnel hired for generalized skills and expected to contribute to the broader organization in different ways over an indeterminate time. Finally, Lundin and Söderholm postulate that transition is another important element: "Some change is needed, and the temporary organization is the means for achieving it. There is an expectation that there should be a qualitative difference in the temporary organization 'before' and 'after'" (439).

The temporary organizations created by governments to manage crises adhere to many of these concepts. They are created with the idea that the will exist only a short time, and they are strongly focused on a single, if poorly defined, task of managing the crisis. They are allocated short-term teams, and they should navigate the transition from crisis to normalcy. However, they also differ from their private sector cousins in several respects. Most obviously, they are based in government, not in firms, with all the related differences in objectives and practices.

Furthermore, while private sector temporary organizations are generally created to further the objectives of the firm – to improve a specific aspect of operations, for example, or to accomplish a short-term project – disaster-specific temporary organizations are responding directly to a change in the environment. While that change may be predicted – both the disasters studied in the cases here were predicted in significant detail – the timing is not. Therefore, unlike firms, which see an opportunity and develop a structure to address it, disaster management temporary organizations are planned, and sometimes rehearsed, long before they are brought into practical existence.

Like the temporary organizations that firms may spin off to implement projects, disaster-focused temporary structures are usually role-based. While some outsiders (consultants, for example) may be involved, they are usually staffed by long-term government personnel shuffled into positions and a hierarchy that, planned beforehand, is relatively stable regardless of who fills them. Bechky (2006), in a study of film crews, finds that "these organizations are organized around enduring, structured role systems whose nuances are negotiated in situ. […] what drives coordination in these temporary organizations and maintains continuity across projects is the negotiated reproduction of role structure" (4). Governments at the national, meso-, and local

levels have spent significant effort in trying to develop, explain, and propagate specific roles planned ahead of time for temporary disaster organizations; the incident command system (ICS), in particular, focuses on roles for individuals to slot into interchangeably – temporarily leaving their normal titles behind when they do so.

There are further important differences between these more commonly studied private-sector temporary organizations and disaster-related, government versions. Bechky (2006) suggests that "[corporate or firm] Temporary organizations contrast with traditional hierarchical organizations as they are governed through networks of relationships rather than by lines of authority" (3). Although Bechky cites theories that "With greater uncertainty, firms shift away from coordinating via formal organizational structures such as rules, schedules, and division of labor, and move toward the use of interpersonal coordination mechanisms such as liaisons or informal communications" (4), disaster-related temporary organizations tend to be *more* hierarchical, based on a belief that clear lines of decision-making are important in crises and a much-debated idea that command and control is more effective than consensus in crisis decision-making (see, for example, 't Hart et al. 1993).

As we will see, these temporary organizations sometimes fail in practice. However, they are not entirely "fantasy documents" of the kind Clarke (1999) describes. Many of them are put into practice frequently to respond to smaller disasters, giving them some basis. The incident command system (ICS) used in the US, for example, is often activated on a small scale. In Japan, disaster plans are regularly drilled in simulations. As organizational frameworks, they are usually less detailed than the plans Clarke cites, without the specific leaps of imagination he found. However, they are still performative. Lundin and Söderholm write that "Well-elaborated and elegant plans show that the planners are competent and efficient and can be trusted with responsibility for the temporary organization" (448), a conceit not dissimilar to Clarke's fantasy documents.

The plans are also, at least with regards to large catastrophes, aspirational and imaginary. They outline what is considered important enough to include; what kind of organizational structure is believed to be the best in crisis; who should be in charge: the self-image that the government wants to project in disaster management. When these principles fall apart in a large, media-intensive disaster, it is easy to blame the problem on participants not being well-trained in the system, or the disaster simply being "too big"; by these means the supposed government

values remain theoretically intact. The United States House of Representatives report on Hurricane Katrina criticizes a sweeping range of actions and decisions taken during the response, but although some agencies or field sites are censured for not using ICS or using it improperly, there is no questioning of whether ICS itself is the optimal structure for responding to disasters (House, 2006).

Lundin and Söderholm classify temporary organizations as repetitive, in which the team understands the task and has performed it before (i.e., in the construction industry) or unique, in which the team needs to find ways to complete a new task. The temporary emergency management entities we discuss here are often unique for some actors and repetitive for others. The experience is unique for those who have never dealt with a large disaster before, including non-emergency managers at the local, meso-, and national level, as well as emergency managers and their staff at the local or meso-levels, who may have managed small incidents but not the qualitatively different disruption of a major emergency. However, it is repetitive for career emergency managers. Obviously, no two disasters are exactly alike, but nor are two construction projects, or accounting jobs. For "a repetitive task, the actors know what to do, and why and by whom it should be done" (Lundin and Söderholm, 1995: 441); this describes the situation for professional emergency managers working on a typical disaster. Unlike their less experienced counterparts, they are familiar with the parameters and, perhaps more importantly, with the surreal and highly charged atmosphere.

Further, some elements of a response may be repetitive (for example, the establishing of a disaster management headquarters, which happens "automatically" in Japan for any disaster) while others are unique: the Fukushima Dai-ichi accident added elements to the tsunami response that were outside of experiential knowledge. Sometimes the difference is in scale: the need for temporary houses was foreseen and had been dealt with before in Japan, most notably after the Hanshin-Awaji earthquake, but the quantity needed after the tsunami raised new difficulties that were "unique" to that emergency. There are corresponding examples in the US case: instituting ICS was standard procedure, but the breaking of the levees raised elements that were completely new; opening shelters had been done before, but the overrunning of the Superdome was "unique"; etc.

The disaster management structures are supposedly designed to deal with this uniqueness. Their purpose is to be flexible where the permanent organization cannot be, to provide structure

over the threat of chaos, to be prepared for any possible eventuality. Of course, no preparations can inoculate against every eventuality. When the disaster is not only unique, but also so destructive or unexpected as to render the planned temporary organization meaningless, participants experience what Weick (1993) calls a cosmology episode: "when people suddenly and deeply feel that the universe is no longer a rational, orderly system" (633). This typically is most severe at the local level, where people experience the disaster directly, but it may also reverberate to higher levels. The structures and plans that are supposed to manage chaos fail, leaving actors without guidance or reference points. At this point, actors may try to recreate those structures, sometimes adapting them to the unexpected circumstances. They may be supported in this by other levels of government or other local governments. However, that is not always possible, and help is not always available. Some organizations fail completely, and at least for some period of time offer no coherent structure of governance or cooperation. Alternatively, new organizations may develop, along the lines of Lanzara's (1983) ephemeral or emergent organizations.

The emergent organization, in this schema, arises out of failure - the failure of the temporary organization to do what it was designed to - and absence of any other alternative. It is triggered by urgent needs, both for action (Lanzara, 1983; Czarniawska, 2009) and for meaning (Weick, 1988). Those drivers – action and meaning – evolve rapidly over the first days of a crisis response, and emergent organizations evolve with them, developing ever more elaborate hierarchies, procedures, and rules. Action and meaning converge into an effort to return to a normalcy that, often, is no longer possible.

Emergent Organizations in Disasters: Literature

While there is extensive literature on temporary organizations, much of it focuses on organizations "characterized by an *ex ante* defined limited period of time of interaction between members" (Bakker 2010: 466). There is far less about what happens when the planning breaks down: what emerges at that point, and how it relates to the previous, status quo structures, and much of what there is concerns new organizations, rather than emergence out of failure within the existing organization.

Emergent groups are recognized concern within disaster literature, but the focus has been almost entirely on groups that are completely new and function outside of any established authority. Quarantelli (1996) writes, "Any disaster, even of moderate magnitude, will be marked

by the presence of emergent phenomena" (13), and in a 1985 paper Stalling and Quarantelli offer a typology of emergent community organizations (damage assessment; operations; and coordinating) and suggest that plans take the potential for such groups into consideration. But they are primarily interested in community groups and other ad hoc teams outside of government. Stalling and Quarantelli do mention that what they call quasi-emergence can occur "where existing public organizations find themselves undertaking new, unexpected tasks but performing them with existing structures" and where "traditional organizational tasks must be carried out with innovative and unplanned structural arrangements" (97). However, while they offer examples they do not go into any detail about the mechanisms.

Other early disaster literature looks at the functioning of societies in emergencies when planned organizations are insufficient. Barton (1962) writes that "If neither formal organizations nor primary groups have established roles to guide behavior in a disaster, then behavior has to be individually improvised, with all the confusion and lack of coordination which this involves" (224). Rather than this improvisation leading to new organizational structures, Barton sees this as a response of the "emergency social system" which emerges somewhat automatically from a cohesive community. Organizations are preferable because "Organizations can do many things beyond the power of unorganized groups, because they have coordination, special skills, and equipment" (236-237). However, "The problems of organizations in disaster are to gather their personnel together quickly, to get men and equipment into the disaster area, and to function as an organization, with internal communication, leadership, and division of labor, under difficult conditions" (237).

The difficulty in restoring organizational function during a crisis opens the field for the emergency social system. However, "To be effective, the emergency social system requires a central coordinating headquarters which can pool information received from varied sources in the field, control appeals for outside aid, and allocate forces in the field and from outside" (252), making that construct, as well, subject to organizational needs, even if Barton does not phrase it in that way. Interested in the interaction between what he calls "the informal mass assault" (uncoordinated volunteer response efforts) and formal activities, Barton suggests organization of the former (e.g., "Such a simple technique as the assignment of a leader to each informal work group" (265)) but coming from the formal (permanent) organizations. To a certain extent, he is foreseeing the development of elaborate temporary organization planning. However, his

construction conceives informal work as potentially influenced by, interacting with, but distinct from the formal.

Thompson and Hawkes (1962), writing in the same volume as Barton, foreshadow the emphasis on action shared by Lanzara and Czarniawska:

> Within the impact area, activity is frenzied and may be inefficient; persons are behaving alone or in very small groups. […] But behavior within the impact area is not random. It is *purposive* and *direct*, in the sense that the means at hand are employed for immediate purposes, and long-linked technologies are not in operation. The rationality in the system is organized only in the coordinated efforts of groups or two, three, or four. (274-275)

Thompson and Hawkes see crises as pendulum swings: the initial chaos and, in particular, the inability to communicate, leads to a decentralization and the involvement of many non-specialist organizations; as the crisis progresses, counterweights – the need for information, the improved capacity of the organization to structure itself, the fading of urgency – lead to a renewed centralization. Within this swing, they see a phase, after the initial chaos but before "normalcy" has reasserted itself, in which "The community appears as a super-organization, synthesized from parts that have been taken out of normal contexts and reallocated and integrated in new ways" (276). Thompson and Hawkes imagine this system as emerging and "acting" in an automatic manner, which they refer to as "instinctive" (e.g. 279, 285). For Thompson and Hawkes this is akin to a natural progression unfolding; however, they also describe it as an organization, and an emergent one: "Within the impact area, then, it seems reasonably clear that the restoration of order is initially accomplished through unrehearsed, unplanned allocation of tasks, personnel, and facilities" (285). Like Barton, Thompson and Hawkes are identifying an emergent organization, but they see it as a temporary combination of the formal and the informal, a meta-organization. For them, as for Barton, the emergence of this group is a product of exogenous factors, and they focus their study there.

Dynes (1970) develops a typology of organizational functioning in disasters based on permutations of two factors: whether the organization performs regular or non-regular tasks in the disaster period, and whether it keeps its existing structure or develops a new one.

	Regular Tasks	**Nonregular Tasks**
Old Structure	Type I (Established)	Type III (Extending)

New Structure	Type II (Expanding)	Type IV (Emergent)

Figure 1: Typology of Organizational Functioning in Disasters. Adapted from Dynes 1970: 138

Although Dynes offers examples of each of the types (Type I: fire or police department; Type II volunteer-based e.g. Red Cross; Type III private sector business; Type IV ad hoc), he also notes that "the problems confronting specific types of organizations can also be experienced by *different parts* of the same established organization. Parts of an organization may be differentially affected by operations in the disaster situation. […] Certain groups (or subparts of existing groups) may continue traditional tasks, but other groups or subparts may expand, become involved with new tasks, or even emerge to cope with particular problems within the scope of their disaster activity" (179-180).

The governments in the cases discussed over the next three chapters demonstrate aspects of each type. Some parts of government may continue working as is (police, fire, etc.). Others shift into expected but non-regular activities and swell with, if not volunteers, additional human resources from other departments, from other levels of government, or from mutual aid compacts with other jurisdictions. This describes most emergency management departments, which must shift from their day-to-day preparative activities into response, often with the addition of new staff.

Dynes writes that "Type II organizations typically have many problems in a disaster. Often they are among the organized groups that undergo the greatest stress. There are undoubtedly many reasons for this, but three factors seem to be particularly involved: (1) they change both structure and function, (2) their boundaries are weak, and (3) their emergency functions are often vague" (143). This accurately describes many aspects of government disaster work. In most cases everyone in the local government is drafted into the disaster work in one capacity or another, leading to a situation in which "temporary members typically lack the skill to perform their newly assumed work roles" (Dynes, 1970: 143). This is worsened by the fact that, as Dynes supposes, "the latent but expected emergency functions for Type II organizations are usually quite vague and general. At times, even a formal directive may be no more specific than a charge 'to coordinate disaster activities' or 'to help disaster victims'" (144).

According to Dynes, "Type III organizations are made up of those groups that extend their activities into new but, for them, unexpected functions during the emergency period"; for example, Public Works departments which find themselves performing unusual tasks related to

their competencies (such as searching for water meters buried under debris) while "The work relationships among employees as well as decision-making process and authority within the organization remain similar to predisaster operations" (Dynes, 1970: 145).

Dynes finds the emergent organizations the slipperiest in his typology, going as far as to say that while the other types are "organizations," "it is perhaps more appropriate to refer to Type IV by the label 'group' which suggests less formalism and less continuity" (138-139). Like Lanzara and Czarniawska (2009), Dynes locates their emergence in action, writing that "there are new tasks, and to deal with them, new groups emerge" (140) and "The members come together as a result of their activities in a particular location" (147). Unlike Lanzara, who uses the example of concrete if marginal tasks like brewing coffee, Dynes believes these groups will engage in second-order actions, like information gathering, control, and coordination, which are "dependent upon the involvement of other three types of organizations" (140). These activities will fall to emergent organizations because "All of these tend to be new tasks which have not been anticipated" (140).

This dates Dynes; he writes for example that "The need for operations groups is sometimes anticipated but usually not" (147). In the cases studied here, by contrast, all the local governments are required to have an emergency plan, and all include some type of "operations group" (in the US, ICS requires it). However, parallels can be drawn with departments or positions that are created for other unanticipated tasks, like the disposal of bodies or the management of dangerous debris.

Whatever the task, however, Dynes sees emergent groups as emerging to "fill a gap not being filled by the other types of organizations," whether because "people are isolated from established emergency groups which normally become involved in the disaster" or because "there is a lack of information about the scope of the disaster and in which there is a lack of coordination and control among the various groups which become involved" (146). He does not consider the case of organizational failure, although he does examine the stressors on other types of organizations without explicitly tying them to the gaps that the emergent organization attempts to fill.

Weick (1993) explicitly looks at organizational breakdown in a group of firefighters. However, the case concerns very small organization during a very limited time-span: a small group of emergency firefighters parachuted into a forest fire and when the situation turned out

differently from what they expected, their hierarchy and procedures collapsed, leading to a number of deaths. Weick considers the organizational factors that may lead to break down, but after the "cosmological event," as he describes the pivotal moment, his concern is mainly cognitive, rather than organizational; indeed, the (immediate) organization he is studying all but disintegrates and does not reconstitute itself.

Lanzara (1983) examines non-governmental groups that arise when the broader structure has failed, rather than organizations reconstituting themselves after a collapse. Lanzara sees these ad hoc groups as "there to disappear, after displaying a great deal of activity" (88) but also as "the *zero-degree* of organizational phenomena" (88), a clue to "the genetic processes that 'produce' organization, that give rise to an 'organizing pattern'" (92).

Lanzara offers two main examples. The first is that of a coffeemaker, a young man presumably unaffected himself: "The fellow had come from a neighbouring area, carrying the equipment in his car. He was giving free coffee to the people: victims, survivors, rescuers, officials, and even soldiers and fireguards could be seen in the line from time to time" (75). This was such a hit that by the second day he had accumulated additional assistance, but on the third day he was gone, it is supposed because "The Army had militarized the area and had established checkpoints to control access to the village" (76). Lanzara is fascinated both by the coffeemaker's quick effectiveness and his ability to identify a niche and expand into it, and by the contentious relationship with the authorities. Similarly, his second major example is that of a student group that "With a van and a couple of cars loaded with relief materials, […] went into the area for an exploratory mission" (81). This group, too, quickly developed its organization:

> Soon a local but effective system had been put into operation consisting of (i) a collecting point (headquarters) with telephone and Ham radio equipment, where people, money, equipment, medical aid, information were collected; (2) a transportation and communication link with the village with a couple of trucks running constantly back and forth to the forefront; (3) a bridgehead in the village where materials were distributed directly to the people and volunteers helped in search and rescue activities. The system set up by the students reached a stable performance and operated autonomously for a couple of days. (81)

Once again, this system was blocked by a bureaucratic system of permissions and checkpoints operated by the army, and "The system gradually slowed down its pace of operations, the group disbanded, and individual members dropped out looking for other organizations and activities or else went back to their daily life. After ten days, almost nothing was left of the group" (82).

Lanzara describes what he terms “ephemeral organizations” as opportunist, action-oriented, and informal. They are inherently in opposition to formal government; as noted above, they may eventually solidify into more formal organizations, but in Lanzara’s conception they arise only outside of existing structures.

The National Research Council (2006) sees emergent organizations as a formalization of “unofficial helping behavior” which “form both because of the strength of altruistic norms that develop during disasters and because of emerging collective definitions that victims’ needs are not being met – whether official agencies share those views or not” (136), once again implying that these organizations emerge only outside of official structures. The Council follows Dynes in seeing a role for emergent structures in coordination, although they focus on networks: “Emergent multiorganizational networks (EMON) constitute new organizational interrelationships that reflect collective efforts to manage crisis events” (140). For the Council, EMONs are a key factor in responses “characterized by decentralized, rather than centralized, decision making; by collaborative relationships among organizations and levels of government, rather than hierarchical ones; and, perhaps most important, by considerable emergence – that is, the often rapid appearance of novel and unplanned-for activities, roles, groups, and relationships” (142). They contrast this with command-and-control style responses. Although they claim that “disaster response activities in the United States correspond much more closely to the emergent resources or problem-solving model” (142), they add that “In the wake of the Katrina disaster, the need for disaster management by command-and-control-oriented entities has once again achieved prominence” (143). In this way they situate these emergent networks within the pendulum swings between centralization (control, single decision-maker) and decentralization (flexibility, dispersed decision-making).

Bigley and Roberts (2001), in their discussion of the incident command system (ICS), consider improvisation within emergency organizations, but an improvisation that only occurs within existing parameters. They suggest that “improvisational acts spring from, and tend to be limited by, at least three distinct bases: tools, rules, and routines” (1289); of these, the most drastic is rules-based, in which “improvisation may involve more radical departures from the status quo, such as adopting tactics that directly contradict standard operating procedures” (1289). This is still, however, based on a status quo and existing rules and procedures; it does not allow for a cosmology episode that undoes actors to the degree that the rules do not occur to

them as relevant, or for cases in which the situation requires not contradicting procedures, but inventing consistent new ones.

A different approach is to look at these emergent organizations as variations on informal organizations, or the informal element in organizations. Chisholm (1989) focuses on informal systems of coordination, offering a parallel to Dynes' emphasis on coordination as a role for emergent organizations. Chisholm describes these informal coordination systems as very similar to many of the designed emergency organizations: "They tend to be flexible and adaptive. The disruptive effects of innovation in a formal hierarchy, because of its tightly coupled interdependencies, are avoided in the more loosely coupled, flat, informal system of coordination" (Chisholm, 1989: 12). More importantly for this discussion, they are emergent, rather than planned; such systems "are self-organizing in the sense that they respond to the effects of experience rather than to the a priori demands of organizational designers" (Chisholm, 1989: 12). As in our examples, this happens particularly in case of need: "where formal organizational arrangements are absent, insufficient, or inappropriate for providing the requisite coordination […], informal adaptations develop to satisfy that need" (Chisholm, 1989: 18).

While this train of reasoning seems very similar to the idea of emergent organizations, it refers to informal structures within – or coexisting with – formal organizations. Chisholm questions whether "informal organization [can] develop and be sustained outside the framework of a formal organization?" (Chisholm, 1989: 35). His example in support of the possibility is precisely the case of disasters, which "call forth more or less spontaneously the existence of informal organizations" (Chisholm, 1989: 36):

> Though formal emergency coordination mechanisms are designed 'just in case,' there are distinctive social processes of adaptation that can be called an 'emergency social system.' […] Predominant in this analysis is the idea that some sudden and large change has disrupted the existing social patterns and social roles along with the formal organization normally responsible for the coordination and provision of service.
> In extensive disasters, the capacities of formal organizations to contend with the problems generated are frequently grossly inadequate because of breakdowns in communication systems or lack of knowledge about the nature and extent of the disaster. The disaster simply dwarfs the capacity of existing organizations, or it may cover several jurisdictions. In such situations informal responses typically arise and develop coordination of emergency services at a rapid pace, albeit in a 'sporadically improvised fashion.' When the disaster is over, the formal

organizations continue much as they were before. (Chisholm, 1989: 36)[1]

Although Chisholm does not go into great detail, his "distinctive social processes of adaptation" reminds us that he's very much referring to the informal mechanisms, rather than emergent efforts to manage the formal response. Nonetheless, his description of the failures that open space for these informal actions is evocative.

Writing from a network analysis perspective, Kaufmann (2013) sees self-organization as one of the key elements of systemic resilience (59). Kaufmann writes that this self-organization "Equivalent to autonomy, […] means that systems reorganise in the absence of direction" (60); in other words, that they re-emerge after failure or loss of structure. Noting the growing popularity of this approach in "security governance," Kaufmann identifies a crucial contradiction, at least from the perspective of the parent permanent organization: "What is the relationship between self-organisation and governance, or, even more directly, how to govern a system that is supposed to self-organise?" (60). While States have developed preparedness tools that "aim to plant a specific kind of reaction in local communities" (61), such a protocol "may facilitate self-organised behaviour, but it cannot necessarily regulate what comes about in case of emergency" (62). Emergencies, by definition unexpected, will continue to spur emergent, unexpected behavior. The concept of self-organization as resilience therefore ignites another paradox for States: how do they maintain control while enabling emergency adaptation? For the local organizations, meanwhile, the question becomes how they can receive timely and appropriate assistance when they are no longer fully embedded in the hierarchical system.

Kaufmann therefore sees emergency self-organization as a mix, "a heterogeneous assemblage of self-governance including both regulated and creative self-organisation" (64); the permanent organization maintains some loose control through both protocols and norms, while the emergent organization may also break away from those norms and create its own.

Research Questions

There has been a consistent interest in organizations and disasters, but most of it has been focused on existing, permanent organizations or on groups that emerge outside the strictures of authority. In this dissertation I ask: how do organizations re-emerge within government after an

[1] Quotes within this citation are from Barton, Allen. "The Emergency Social System," in *Man and Society in Disaster*, ed. George W. Baker and Dwight W. Chapman, 1962.

organizational collapse?

How do actors improvise new organizations in a crisis situation? What are the mechanisms that individual actors use to create new organizational structures within an existing organizational identity? Does the shape of the temporary organization affect the development of the emergent? How does the permanent organization deal with the contradictions of emergent organizations?

These questions are important on their own, telling us about the behavior of organizations in crisis; how they can attain that elusive combination of flexibility and adherence to regulations. They become even more important as States direct increasing attention and resources to crisis management. More time and money spent on temporary organizations makes exploring what happens when they fail and how they affect potential improvisation more critical.

In addition to telling us about organizations in crises, the answers to these questions also tell us something about the State and how it positions itself in relation to disasters. How do governments see their responsibilities with regard to disasters? How uniform is this self-image across actors at different levels within the government? How does the State seek to elide elements that they don't wish to be responsible for? How do they attempt to resolve the contradiction between claiming control and stability and facing the inevitable disruption of a disaster?

Again, these issues become more crucial as States increasingly define themselves and their competence through their ability to respond to unexpected crises. As crises become more broadly defined, more frequent, and more important to the role of the State, governments are navigating a shift in identity that comes with a number of contradictions. The more they promote themselves as stability and permanence, the more dangerous disasters become to their image. And yet crises also enhance the value of stability and permanence and offer the State opportunities to expand their mandate by claiming a need for more governance. Governments today are actively wrestling with the shifting meaning of the nation-state and the relatively new phenomenon of democracy, and emergency management is a critical arena in which these struggles play out.

In this situation examining temporary and re-emergent organizations offers us multiple interesting perspectives on the positioning of the State. Temporary organizations show us the performative angle of how the government wishes to be seen managing emergencies. The

processes and results of re-emergence express the way individual actors reinterpret those plans when faced with broad organizational collapse and urgent needs. Combined, these tells us both about how the State wants to leverage the crises of the moment and the cracks in its positioning.

The Cases

Events: Hurricane Katrina and the Great East Japan Earthquake Disaster

In August 2005, a tropical depression developed and eventually became the hurricane known as Katrina, which made landfall in Florida and then again on the Gulf Coast of Mississippi. The hurricane is best known for the damage it did in New Orleans, where the overtopping and in some cases breaching of levees led to the inundation of approximately 80% of the city, and most of the casualties resulted from this sudden flood. However the hurricane hit the Gulf Coast of Mississippi more directly and also caused extensive damages there. Around 1,815 people were killed in Louisiana and Mississippi, and over one million people were displaced.

The dangers of a hurricane of this magnitude, including the problem of evacuating citizens of limited resources and the risks posed by the aging levees, had long been foreseen. Most of the effects of the hurricane were explicitly predicted in the Hurricane Pam simulation conducted by the government and relevant local agencies less than a year before the storm. Nonetheless, the response was viewed by many as slow and uncoordinated. Warnings were not taken seriously, FEMA was unprepared, the city's plans fell apart and its evacuation center had to be evacuated, and the state and national governments argued publicly about control over armed forces. Outside of New Orleans, as well, the response garnered criticism; both FEMA and the American Red Cross were seen as extremely slow in responding along the Gulf Coast of Mississippi, where lack of food, potable water, and fuel kept affected localities in a state of crisis for weeks.

On March 11, 2013 a massive earthquake struck off the northeastern coast of Japan, triggering an enormous tsunami that devastated around 500 kilometers of coastline, wiping away rail lines, access roads, fishing infrastructure, and in some cases entire towns. Nearly 16,000 people were declared dead with another 2,500 missing. More than 340,000 people were displaced.

This disaster, too, had long been predicted; a computer-generated simulation from before

the disaster predicted, for example, such details as the fires caused by oil tank spills. However, both the simulation and the initial tsunami warnings triggered by the sophisticated seismic monitoring systems underestimated the size of the tsunami, and were in some cases disregarded by people used to living in a highly active earthquake zone. Although parts of the response were viewed very positively, in particularly the role of the Self-Defense Forces, many local governments were entirely overwhelmed and the national government faced mounting criticism.

There are a couple of key points of similarity and difference that may not be immediately obvious. In both cases, the affected area was an economically poor one relative to the rest of the country, with dropping populations. Both also included groups that, to some degree, felt isolated from the mainstream of the country. A significant difference, however, occurs in the way the disasters were perceived. Every locality in Japan feels vulnerable to earthquakes, and most of them to tsunamis. In this particular case the tremor was felt strongly as far as Tokyo, literally shaking the seat of government into an awareness of the seriousness of the disaster. Moreover, a recent large disaster, the 1995 Kobe earthquake, had triggered concerns about the dangers of natural hazards in the modern era as well as the political risks to administrations that do not seem to be taking a disaster seriously enough.

In the United States, on the other hand, hurricanes are considered relatively isolated risks, not shared by the whole country, much as earthquakes are considered a problem for California to worry about. Washington DC, along with most of the rest of the country, was completely insulated from the direct effects of Katrina. Although Hurricane Andrew in 1992 was something of a wake-up call for the Clinton administration, which proceeded to commit resources to disaster response, it had nowhere near the symbolic force of Kobe, or later Katrina.

Disaster Management Contexts

In the United States, as we have seen above, federal involvement in disaster response is fairly recent. The Federal Emergency Management Agency (FEMA) was established in 1978 as the bureaucratic and technical arm for implementing elements of response. In some ways this is a natural progression: once the money was mainly federal, the emergence of a federal structure for overseeing the use of that money was almost inevitable; from closer and closer oversight of grants, it was not difficult to shift into more or less direct operations. However, there was a certain amount of drift or vagueness over time in terms of FEMA's role. Schneider (2008) writes that "In most major disaster situations, the Federal Emergency Management Agency (FEMA)

has the task of mobilizing the broader resources of the federal government" (719) rather than having its own self-sufficient resources, and one of the agency's main talking points after Katrina was that it was not and never had been a "first responder" (Senate 2006). Nonetheless, the fact that FEMA participated directly in disaster preparedness and response, as well as the substantial resources of the federal government, seem to have raised confusion on this point both within and outside of FEMA. The role of the agency was further muddied after the establishment of the Department of Homeland Security, into which FEMA was subsumed before Katrina.

It is also worth noting that federal engagement in emergency response is not monolithic. Even within the national level of government, emergency management combines elements of executive and legislative powers. Steinberg (2000) points out that "Only in 1950 did Congress pass legislation allowing the president to make disaster declarations to aid state and local governments in repairing public facilities (prior to this it required a special legislative enactment to receive such aid)" (175). The president (or, at the state level and with fewer consequences, the governor) may declare a state of emergency, which makes possible federal assistance; however, beyond a certain level further funding must be approved by Congress, which particularly in recent years has led to acrimonious claims about representatives prioritizing certain regions (their own) while emphasizing budgetary concerns about others. In practice, this system of checks and balances leads to a great deal of uncertainty.

In Japan, by contrast, most disaster response activities fall under existing structures, including fire and police but also other civil servants. A disaster triggers the creation of disaster response headquarters at every level, usually led at least nominally by the head of the administrative unit, so that the disaster response headquarters of a locality will be led by the mayor and the national HQ by the Prime Minister. In addition, the Disaster Relief Act (1947, revised 1984) requires the central government to cover fixed percentages of disaster response costs on a scale tied to the impact of the disaster on the prefectural revenue projections. The national government will cover 50% of any disaster costs up to 2% of the prefectures revenue projections, but 80% of the costs between 2 and 4% and 90% over 4%, legally limiting the liability of prefectures. The same law requires prefectures to set aside funds for a disaster relief fund.

Further assistance in disasters is provided by the Self-Defense Forces (SDF), the Japanese military, which is legally constrained from aggressive action overseas. In the United

States, on the other hand, use of the active duty forces of the American military (as opposed to the National Guard reserves under state control) in domestic operations is highly fraught and legally questionable, requiring exceptional circumstances.

In both countries local authorities legally have the primary role in disaster management. In the United States statements of this principle tend to come with rhetoric about local rights and implicit or explicit concerns about the infringement of those rights by a distant and powerful central government. In both countries the importance of local knowledge is generally brought up, as well as the practical consideration that localities are the first responders; there is always some kind of delay in the arrival of outsiders, however well equipped.[2]

However, this legal and structural push towards decentralization has been convoluted by the growing financial, political and symbolic engagement of central governments in the business of disaster prevention and response. For example, in both countries the simulations that almost exactly predicted the disasters were heavily influenced by national government financing. In the US, the 2004 Hurricane Pam exercise, a simulation intended to improve preparedness at the federal, state, and local levels for a scenario very similar to that of Katrina, was federally funded and run. While it was successful in predicting many aspects of Katrina's disaster, the exercise

> faced repeated delays due to funding constraints. It took nearly five years for the federal government to approve the state's initial funding request, and the limited funding finally granted necessitated last-minute cutbacks in the scope of the exercise. Follow-up workshops were delayed by funding shortfalls […] that either the state or federal government should have remedied. (Senate, 2005: 13)

In Japan legally required local disaster planning was largely based on computerized simulations of tsunami impacts that came from the national government. Those simulations underestimated the reach of the 2011 waves and many shelters placed in areas marked safe in to local maps based on the national simulations were destroyed.

While localities might be expected to argue for greater autonomy, the potential political and economic costs of disaster response sometimes act as incentives for renouncing authority. For example, Birkland and Waterman (2008) explore the idea that federal involvement in disaster response in the US is an example of coercive federalism, but also note that "while many

[2] In Japan, for example, emergency services aircraft will take off for air assessments without waiting for orders after earthquakes above a certain size, and in addition there are documented requests for deployment of the SDF within minutes of the earthquake, and therefore well before the tsunami; nonetheless, in some cases it took the SDF one or two days to reach affected areas.

programs look like coercion, state and local governments have rather willingly ceded leadership and funding to federal authority, particularly given the promise of vast funding flowing from Washington to the states" (694). This tension influences the type of structures that are developed for emergency management and reconstruction and how they function in practice, as well as illuminating intergovernmental power relationships in non-emergency times.

Methodology

Locations

Research was conducted in multiple locations affected by each disaster. In the US, New Orleans was an obvious and necessary choice, but also a problematic one. The vast majority of the writing on Katrina, in academic literature, in government reports, and in media, was focused on New Orleans, offering considerable existing data. In addition, New Orleans was significantly affected by a technological failure – the levee breach – making it something of a special case, akin to the prefecture of Fukushima in Japan, where the post-tsunami situation was complicated by the nuclear accidents. To make matters more complicated, the Mayor of New Orleans during the hurricane was in jail at the time of my research on corruption charges.

Therefore, while I conducted interviews in New Orleans, including two city councilors, several academics, and other people involved in civil society, I also drove to Mississippi to speak with officials in the coastal counties. I had a few contacts from people I knew who had worked there, but I found the majority of my interviews by walking into county or city halls and asking to speak with people about Katrina, and then snowballing from there. In this way I spoke to people directly involved in the government response in Hancock County, Harrison County, and Biloxi. On the recommendation of some of these officials, I also spoke to two people in Pearl River County, just north of Hancock County. Although Pearl River County is not on the coast, and therefore did not experience storm surge, the rain and wind still caused devastation, including the highest recorded wind speed in a gust. I also felt it was useful to have perspectives from a less-affected, but still damaged, county. To get the state-level view, I went to Jackson, the state capital, to speak with people at the Mississippi Emergency Management Agency headquarters.

Similarly, in Louisiana I went to the state capital, Baton Rouge, to talk to people at the Louisiana Office of Homeland Security and Emergency Preparedness. Most of the people I

spoke with there had been based in other parishes during Katrina, most notably the former president of Saint Tammany's Parish. While in Baton Rouge I was also able to speak with the Katrina-era Acting Deputy Director for Emergency Management for the Louisiana Office of Homeland Security and Emergency Preparedness at his current office.

In Washington, D.C. I was able to speak with FEMA officials who had been involved in the response. I also spoke to additional, retired and current FEMA officials by phone, along with an emergency manager from Florida who had traveled to the Gulf Coasts during the response.

Overall, I took two trips to the Gulf Coast, in 2013 and 2014, spending approximately five weeks there, with additional time in Washington, D.C., and spoke to nearly forty people, most of them in person.

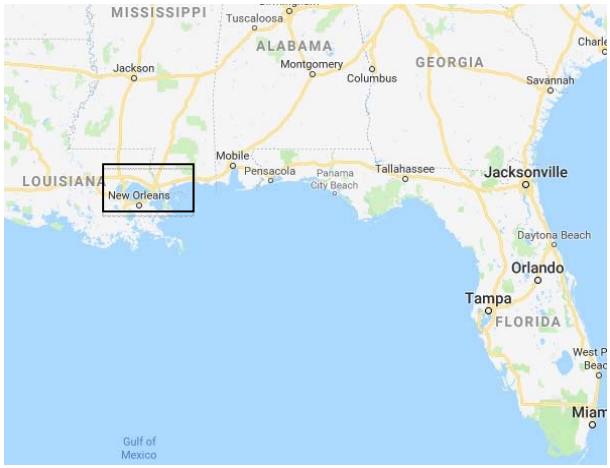


Figure 2: Southeastern United States (Google Maps)

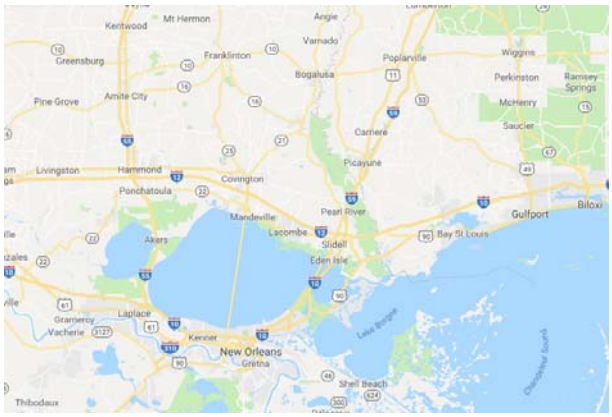


Figure 3: SE Louisiana & SW Mississippi (Google Maps)

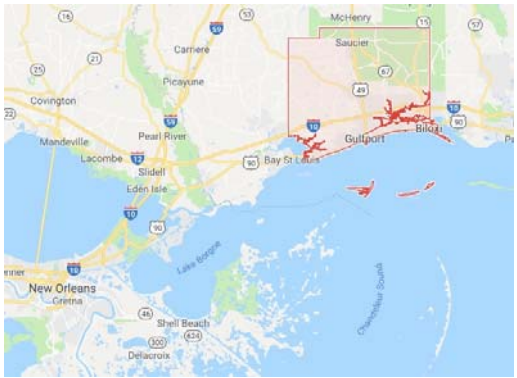


Figure 4: Harrison County, MS (Google Maps)

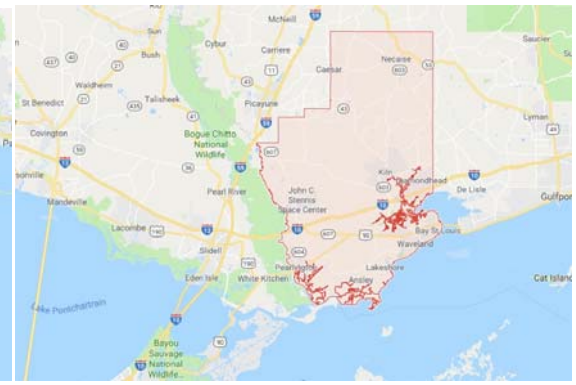


Figure 5: Hancock County, MS (Google Maps)

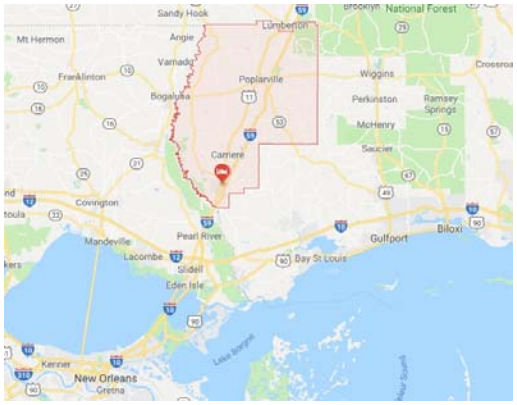


Figure 6: Pearl River County, MS (Google Maps)

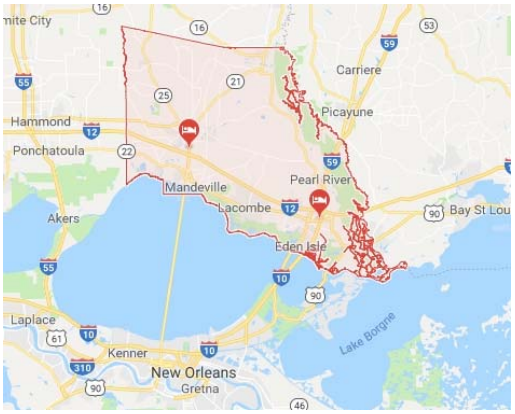


Figure 7: Saint Tammany Parish, LA (Google Maps)

In Japan, I initially based my interviews around the area where I worked, first as Team Leader for the International non-governmental (NGO) Mercy Corps, and then as Economic Recovery Manager for the Japanese NGO Peace Winds Japan, for approximately three months in 2011. I focused particularly on Kesennuma, in the north of Miyagi Prefecture, and Rikuzentakata, in the south of Iwate prefecture. During my initial field visit to Japan in 2013, I spent three weeks working for my former employer, Peace Winds Japan, based in Kesennuma, to give me more time and access in interviewing people there.

I found further informants through the approach of walking into government buildings and asking, particularly in Sendai, in Ishinomaki, and at the Miyagi and Iwate Prefectural headquarters, in Sendai and Morioka respectively. Through colleagues and friends, I was able to arrange interviews with national government officials in Tokyo, with academics in Tokyo and Kobe, and with the mayor of Higashi Matsushima City. I also spoke to NGO leaders, city planners involved in the reconstruction, and community leaders.

Overall, I took two field trips to Japan, in 2013 and 2015, spending a total of around nine weeks, and spoke to nearly forty people, almost all of them in person.



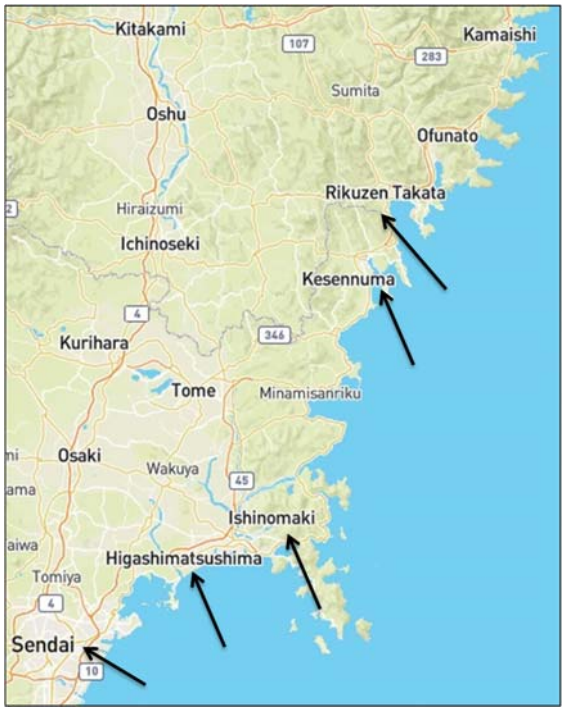


Figure 8: Northeastern Japan (Google Maps) Figure 9: Research sites in Japan (Google Maps)

Data Collection

The majority of the data was collected through semi-structured interviews with informants. While some interviews were brief, most lasted at least an hour and many more than two hours. I took notes during interviews and also recorded and transcribed them. The Japanese interviews were conducted primarily in Japanese, unless the informant preferred English for some or all of the interview. On some of the Japanese interviews I was accompanied by native Japanese speakers, who clarified points or asked questions occasionally. Native Japanese speakers checked my transcriptions of Japanese interviews and, as necessary, difficult translation points.

Most interviews began by describing the research project and asking permission to cite the informant, then asking the informants to explain their role in the disaster response and talk through their experience of it. Follow-up questions focused on the issues around intergovernmental coordination; deviation from plans; improvisation; the functioning of the CMC and/or the sectors of shelter and logistics as appropriate; evaluations; coordination with other entities. I tried to get as thorough an understanding as possible of the organizational mechanics of what occurred: who made decisions and on what basis; who told whom to do what and in what order; what systems were eventually put in place; and so on. I was also interested in

the perceptions and emotions of these actors: what frustrated them and what they were satisfied with; what they saw as success and what as failure.

Interviews were supplemented by documentary evidence in both English and Japanese. Some of the documents, like national evaluations, for example, were very publicly available and continue to be available on the Internet. Some of the documents were provided by informants; for example, draft evaluations before the evaluations were finalized (whenever possible, final versions have been used) or evaluations like the Louisiana After-Action Report that were not made public. Many informants also shared, for example, PowerPoint presentations that they had made publicly at some point. All quotes from Japanese documents were translated by the author unless otherwise noted.

Qualitative "Most-Different Systems" Comparison

This dissertation uses data from multiple jurisdictions to examine the emergence, elaboration, and disappearance of re-emergent organizations within government during disaster response over two cases: Hurricane Katrina, which struck the Gulf Coast of the United States in 2005; and the tsunami that hit the northeast coast of Japan in 2011. While the two different disasters, occurring in two different countries, make for the most obvious line of demarcation, this dissertation is not structured as a strict comparison across two countries or even two cases.

Instead, I work from a variation of what Przeworski and Teune (1970) call a "most different systems" design. As Przeworski and Teune write, "*The point of departure of this design is the population of units at the lowest level observed in the study, most often individuals*" (1970: 36; emphasis in the original). When individuals show no interesting difference, the study moves up to the next level of analysis, and then the next. Therefore, many of the sections in this dissertation observe the different approaches of two different individuals in the same jurisdiction; or the different actions of two localities; or the variation between two individuals in similar positions in different prefectures.

In some cases, this does continue to the country level, and it becomes useful to look at how the United States and Japan did things differently when faced with somewhat comparable disasters. However, rather than using nationality as an exogenous variable that explains the difference, the question becomes what is different across the two countries to cause that difference. Przeworski and Teune note that "In all of these examples 'systems differ.' But to say that systems differ is to say that some characteristic that distinguishes these systems influences

the observed relationships. Whenever identification of particular social systems contributes to explanation, one must ask what it is about these systems that influences the phenomenon being explained" (48).

There are of course many variables across the two countries that can lead to differences in the responses: government structure; history; organizational culture; and emergency management planning, to name just a few. Given all these seemingly fundamental differences, it is as interesting for us to look at what is *the same* across the two countries *despite* all that variation. Many sections of the dissertation therefore highlight similarities as well as differences.

Indeed, the research questions are not about the comparison per se as much as about the re-emergent organizations: how they emerge, function, develop, and disappear. Comparing across multiple cases is useful to get a sense for what is, if not universal, at least common among such re-emergence, as well as for what differs. We are more focused on learning about re-emergence and government conceptualization of disasters than about the specific cases of the United States or Japan.

International Non-Governmental Disaster Response

As further context for this comparison, I draw on my experience working in an entirely different tradition: the international humanitarian community. I have more than decade of experience working with non-governmental organizations, including four natural-hazard triggered disasters (one of them Great East Japan Earthquake Disaster) as well as conflict-related complex emergencies. The understanding of that approach to disaster response, which is deeply different from those of the two governments here but necessarily shares many of the same concerns and constraints, fundamentally informs my understanding of the data.

Comprised of the United Nations (UN), non-governmental organizations (NGO), the International Federation of the Red Cross and Red Crescent (IFRC) and the International Committee of the Red Cross (ICRC), and governments both in the roles of donors and hosts, the international humanitarian community can trace its origins to the establishment of the ICRC in 1863. It began to evolve into its current form after World War II, at the same time that disaster response was becoming a more critical issue for States. This was partly because of the experience of aiding and resettling refugees during and after the war but also because as States were expanding their domestic disaster responsibilities they were also, inspired in part by the Marshall plans of post-war reconstruction, getting more involved abroad. Much of this was done

indirectly, by funding those "international organizations."

As the money ballooned, so did the bureaucracy: "in the 1990s humanitarianism became a field, with regular interactions among the members, an increase in the information and knowledge that members had to consider, a greater reliance on specialized knowledge, and a collective awareness that they were involved in a common enterprise" (Barnett, 2005: 729). The international humanitarian community has put a lot of time and resources over the past decade towards attempting to formalize, agree upon, measure, and ultimately improve humanitarian response. This includes a structure that goes into place with limited permutations when assistance is requested; tools such as minimum standards, coordination mechanisms, and specific guidance for certain common projects; and in some cases independent response-wide evaluations conducted by practitioner-researchers including participatory as well as quantitative components. The existence of standardized tools and metrics demonstrates that each disaster does not need to be treated as a unique and exceptional event. Disaster response can be approached using the same efforts at rationalization and professionalization that have been employed in other public policy areas, like health care and education. However, among governments this has occurred to a much lesser extent if at all.

If the international humanitarian practice became more standardized, however, the structure remained ad hoc, a motley collection of NGOs with different mandates, home countries, cultures, skill levels, funding, and sizes clustered around but not subordinate to the UN and more or less united by the humanitarian principles[3]. There is no legal obligation for NGOs to meet standards or to coordinate with each other or with the UN system (while they are typically required to register in the country of operation, this process varies from country to country and may be rigorous or, often in the case of urgent emergency needs, lenient). NGOs may be receiving funding from the UN branch that oversees the standards in their particular sector, or they may not. There are no legal or standard definitions of an organizations area of responsibility; these are usually defined on the fly, with more or less coordination, as a crisis unfolds. The system is held together not by laws or constitutional provisions, but by a combination ethical and market incentives.

Where governments seem to have a "common sense" (Collier and Lakoff, 2015: 20) responsibility in disasters that by its very obviousness goes unexamined, non-governmental

[3] See https://www.unocha.org/sites/dms/Documents/OOM-humanitarianprinciples_eng_June12.pdf

organizations infringing on sovereign territory need to justify and demarcate their purpose. This includes both overarching values like the humanitarian principles and the humanitarian charter[4] and the individual mandates of each organization – one perhaps dedicated to children, another to the elderly, one driven by faith, another focused on a specific skill set. Where governments, as Steinberg points out, tend to draw a careful line between the needs caused by a disaster and the effects of their long-term policies, many NGOs act in both the humanitarian and the development sectors, and often look to disasters as both a way into a country and a source of funding to support less popular long-term work. They are, however, removed from the constraints of long-term governance. Organizations and organizational representatives are neither elected nor appointed. There is a lot of talk in the aid world about "double accountability," meaning to the beneficiaries (aid recipients) as well as to the donors; in effect, though, this is hard to achieve. There is some recourse for communities who prefer one organization (or none) over another, but it is tenuous and generally based on very imperfect information.

In other words, it is a system of disaster response from which governance, in the traditional parameters faced by governments, has been removed. There are other forms of governance involved – as aforementioned, there is a lot of talk (and some action) about accountability. However, the constraints and the incentives are very different. For the purposes of a study on the governance of disaster response, this contrasting tradition offers some possibility of isolating aspects of State involvement, as well as highlighting elements of the international system that have not been developed by either of the governments in question, and therefore might otherwise go unnoticed.

Governments may have a standing emergency management agency, like FEMA; however, they are unlikely to see as many disasters within their territory as an NGO emergency team covering more or less the entire world. On the other hand, those experienced professional disaster responders from an NGO are almost always parachuting (figuratively, very rarely literally) into foreign territory, working for a few weeks, and then leaving at a minimum for a week of mandated rest and relaxation (R & R) and often to cede their position entirely to a fresh team. While FEMA and mutual aid groups may work that way during domestic emergencies, it is the local officials, themselves directly affected by the disaster, who are supposed to be in charge; they may not get a single day off for weeks or months.

[4] http://www.sphereproject.org/handbook/the-humanitarian-charter/

This study was inspired in large part by the Japanese local officials I met while working on the tsunami response there in 2011. I was shocked both by their lack of knowledge about disaster response – one official in charge of distributing water to evacuation centers not only had no idea what the standard minimum of drinking water per day was, but had no idea there even was a standard, and did not care – and by their courage, desperation, and capacity for adjusting to their new normal. As international responders – previous to that deployment I had worked in Sri Lanka, Uganda, Darfur, and Indonesia – it was easy to imagine that we were there to help countries unable to do a proper job themselves. Seeing the response implemented by Japan, which I considered one of the most prepared countries in the world, and remembering what I had heard about the response to Hurricane Katrina, I wasn't sure that any country was able to do a proper job themselves. And yet both Japan and the US – and many other countries where I had worked – hesitated to request international assistance (and often bungled its management when it arrived), effectively claiming a responsibility that was all but impossible to fulfill.

This made me very curious about the ways in which domestic governments define their responsibilities in disaster response. Since beginning this research, I have found it repeatedly shocking how little learning from the international community (or, for that matter, from academic literature) has permeated into the planning and action of either government studied here. One realization was that while governments deal with disasters, aiming to mitigate the upheaval and return as quickly as possible to the status quo – emergency management – international disaster responders are typically driven by the humanitarian imperative to offer assistance to all in need. These are very different motivations, and I try to be clear about when my humanitarian training gives a normative tinge to my analysis in this dissertation. However, the objectives are often, if not always, the same, and knowing about the tools, mechanisms, and approaches available in the humanitarian community enable me to contextualize the efforts of domestic governments in these two cases.

Outline

Disaster responses are complex, multifaceted events that unfold simultaneously along multiple fronts. In part because of the elements of social construction at play in both the disaster itself and in the response, they are perceived very differently by people in different positions and with different roles in the response, as well as by people who are more or less affected by the initial hazard.

To attempt to capture as full an impression of the response as possible, the three substantive chapters of this dissertation each examine different aspects of the responses. Chapter Two begins with crisis management centers (CMCs), the headquarters where elites and organizational representatives gather. Focused on coordination and planning, CMCs supervise the response in both the literal and figurative senses, gathering and transmitting information to the oversee the government's actions while also making the decisions and giving the orders that triggered many of those actions. They are the points of communication for information transfer between layers of government as well as arenas for negotiation, information sharing, and collaboration across associated and external entities (e.g., the military, private sector utilities, non-profits, etc.). CMCs embody of order and hierarchy, performing the supervisory and policy aspects of government in the post-disaster chaos, and when CMC procedures, locations, or communications collapsed, they left a vacuum for decision-makers to try to fill with new structures.

Chapter Three follows operational teams working to provide shelter and logistics (purchasing/receiving, transporting, warehousing, and distributing relief goods). While they often responded to strategic priorities from the CMCs, operational teams interacted directly with affected people and made many of the more immediate day-to-day decisions independently. The planning for these teams tended to be less detailed and their personnel less experienced, sometimes transferred from entirely different functional areas to do what they could solving the concrete problems of the response. These teams frequently developed elaborate unplanned organizations with little oversight, offering a different perspective both on how organizations re-form, and on what they thought government should be doing.

Chapter Four analyzes the reports produced by the State at different levels to understand how these governments perform the evaluation of their own actions. The chapter looks not only at the content of the evaluations, but also at the process involved in producing them, showing that while the reports seek to retrospectively standardize and render coherent the perturbations of the crisis, they are themselves ad hoc and improvised. Where the first two substantive chapters explore the emergence and functioning of new organizations cut off from the permanent government structure, the evaluations chapter examines how the permanent organization assimilates those unexpected breaks into its ongoing narrative.

The combination of these lenses offers a view of the organizations that re-emerge within

governments in a crisis from their initiation to their dissolution, including the actors supposedly in charge, the actors implementing concrete actions in the field, and the actors making sense of the aftermath. Taking into account the similarities and differences across the multiple locations, the data offers a well-rounded view of how organizations improvise after a collapse; the variations at different levels of work; and the relationship with the unaffected parts of the permanent organization. Through this we are able to sketch a picture of how these two governments, and their constituent actors at different jurisdictional levels, conceive of their roles and responsibilities when facing a catastrophe.

Chapter 2: Crisis Management Centers

Introduction: Governance in a Crisis Setting

When a modern State plans for the management of crises, the centerpiece of that planning is the crisis management center (CMC), also known as emergency operations centers (EOCs in FEMA-speak) or disaster response headquarters[5] (as they are called in Japan). Composed of groups of staffers with defined hierarchies and decision-making processes, usually clustered in a dedicated location, CMCs are the nerve centers of planned temporary organizations, the structures intended to function during disruption. In many ways, they embody the governmentality of planned temporary organizations. They are not simply responding to the disaster in ad hoc and isolated ways; rather, they are a structure with a central entity that observes, takes decisions about, and orders the response.

CMCs are designed to be different from the "normal" government in the ways that disasters are seen, or constructed, as different from "normal" times: flexible to deal with unpredictability, streamlined to deal with urgency, and most of all temporary, because in this framing disasters are aberrations that appear and then fade back into normality. It is because disasters are different from normal times that these new structures are necessary: otherwise the normal organization would work perfectly well. Because CMCs are tailored to those differences, they will, the theory goes, be able to bridge this gap in history and return us to normality (relatively) rapidly and painlessly.

Through their actions and in particular through their organizational structures, CMCs are instrumental in building the government narrative of the response. Not only do they collect information, aiming for "situational awareness"; they also decide how the response is broken up temporally and sectorally. They set strategies and goals, thereby controlling at least one set of success measures. They act as point of contact for external actors (including other governmental jurisdictions), becoming the internal face of the government response. They aim for a kind of control over the unfolding of the disaster, and often act out that control even when they do not fully achieve it.

In the cases covered here, many of the CMCs lose control entirely for at least part of the response, overwhelmed by the magnitude of the disaster and the failure of their plans and

[5] 災害対策本部

procedures. Extended collapse sometimes follows, but in most cases the actors within the CMCs reorganize and rebuild their way into relevance. Through doing so they express, and to some extent create, the State's idealized image of itself responding to crisis.

These coordinating and supervisory bodies are a relatively new element of planned disaster structures. Without multiple agencies, levels of government, and mutual aid partners involved, along with the idea that someone should be managing the response from above, there would be little or no need for a CMC. There's a reason why Dynes (1970), Hawkes and Thompson (1962), and other early disaster researchers found the meta-organization of coordination a fertile space for emergence: that area was empty in the formal sphere. And when there was no planning for coordinating bodies, they tended to emerge. In 1962 Hawkes and Thompson wrote that

> In virtually every report of American community disasters, some over-all headquarters appears, to which the several active organizations attribute authority. It seems clear that whatever its base (local government, state police, or spontaneous leadership), this headquarters gradually comes to coordinate authoritatively the efforts of local governmental agencies, private utilities, voluntary organizations, and representatives of state and national organizations. (292)

Such consistent emergence suggests that either the idea of such coordination was deeply ingrained or it was genuinely useful, and felt to be lacking when missing.

Today, these headquarters are obsessively planned, outfitted, and housed, a crucial extension of government into the realm of chaos and a symbolic bulwark against the inefficiency of catastrophe. These elaborate temporary organizations of today are a result of the emergent coordination centers of the past.

For both countries in this study, the CMCs at different levels were the primary means of deciding strategic priorities, coordinating among governmental levels, and representing the government response at each jurisdictional level. Although the CMCs spin off from, and continue to interact with, the existing structure of government, they are marked as distinct: different people come in to join existing staff, bringing new organizational principles; or members of the permanent organization take on new titles and form a new structure for the extent of the crisis. Moreover, these temporary organizations are predicated to a certain degree on an understanding that working in a disaster would be different: that it would involve greater urgency, less time for discussion, greater fellow feeling, greater unity of purpose. In the US,

FEMA's "coordination" role was devoid of any power to order other agencies to participate, leading to, at best, a dependence on the executive to push things forward. The cherished idea of locals being in charge was in practice counterintuitive for staff at every level who were used to looking to the federal government for guidance and funding contingent on acceptance of that guidance. In Japan, the lack of planned vertical communication linkages suggests an expectation that people would manage to communicate without them. These improbable planned structures – "fantasy" elements to planning documents – imply a belief that emergencies allow structures that would not work otherwise to function.

In the cases examined here the exigencies of the disasters overtook the initial efforts of many of the CMCs to create order. In rebuilding their roles after the worldview collapse that Weick (1993) calls a cosmology episode, CMC staff attempted to recreate the trappings of government. The mechanisms they used were similar across the many jurisdictions and two countries and hazards that we examine here, although the ways those mechanisms were applied varied according to local custom. For example, although CMCs in both countries invested a lot of time in meetings, many of the US versions worked hard and explicitly to keep those meetings short. This was not the case in Japan, where the meetings were often long and sometimes punctuated by awkward silences when someone was unable to report back, a phenomenon far more acceptable and common in Japanese meetings under normal circumstances than in the US. For CMCs in both countries communications were a critical function, but they attempted different types of communications: Japan used "emergency faxes" and, later, USBs around the single networked computer; in the US ham radio was a common alternative. Both the often striking similarities and the sometimes stark differences are useful in examining the mechanisms of (re)constructing organization and the meaning that those actors are seeking.

In this chapter I first briefly summarize how coordination works in international humanitarian responses, in order to provide additional context for the ways it is done in the CMCs described here. I then describe a typology of CMC functions that I developed for this project: meetings, division of tasks, planning, communications, and decision-making. Using these categories, I trace the workings of CMCs through the data, starting from their initiation as the government transitions from permanent to temporary organizations – the time period between the early warning and the cosmology episode – continuing through their collapse in cosmology episodes, and focusing on their re-emergence. For ease of reading, I discuss each of these

functions separately, arranging them in roughly the chronological order in which they usually occurred, although naturally that order is not uniform across cases and the progression is often not linear. In each section I use interview data from multiple sites in both countries to examine *how* the CMC was rebuilt and *what* its role meant to its actors in terms of government responsibility in disaster response.

International Equivalent

International responses are a very different ecosystem from the domestic emergency management structures we look at in this chapter. Rather than a sovereign State government coordinating among its varied branches and any external actors it unilaterally decides to allow in, the international humanitarian context includes a multitude of organizations unconnected to any hierarchy or official allegiance. A major response can involve hundreds of NGOs, each with its own mission statement, approach, competencies, and policies. While the national government of the affected country exercises some control – it can, for example, refuse visas to certain or all responders – and is supposed to be included in coordination mechanisms, the State CMC does not oversee NGOs and the State usually has a limited capacity to be involved in that part of the response. The United Nations takes a coordinating role, but this is a voluntary convention, not a formal or legal mechanism; the United Nations cannot order compliance from NGOs. Relationships across NGOs and implementing UN agencies are relatively flat, with some power dynamics attached to relative size and relative amount of funding (the latter of which changes from disaster to disaster).

In this chaotic environment, the closest analogy to a non-State crisis management center is the coordination meeting, a revered and despised institution in humanitarian response. Such meetings are voluntary, but incentivized by the benefits of networking and the minor benefit of being able to claim coordination bonus points on funding proposals.[6] Like CMCs, coordination meetings have a tendency to emerge but at this point they have been institutionalized, most prominently through the UN's adoption of the cluster approach in as part of a set of humanitarian reforms in 2005.[7] The approach breaks response activities into eleven (originally nine) "clusters." Each cluster has one or more lead agencies, and each meets on a regular basis during

[6] Many donor application formats include a question about efforts in coordination with other actors; "[agency] regularly attends UN coordination meetings" is an easy answer.
[7] See Humanitarian Response, "What is the Cluster Approach?" https://www.humanitarianresponse.info/en/about-clusters/what-is-the-cluster-approach

disaster responses to allow for discussion and alignment around technical details (e.g. best local material for transitional shelters or hourly rate for cash-for-work payments). Again, both attendance at meetings and compliance with cluster decisions are voluntary, enforced in very limited ways by peer pressure and, especially but inconsistently, donor preference.

The NGOs and other international organizations participating in the system are in competition with each other for funding, while at some level also committed to an overall goal that no single one of them can complete alone. Some organizations have taken on different niches in this ecosystem, such as focusing on the children, or the elderly; this allows for a range of viewpoints to be incorporated in the cluster consensus. The coordination meetings therefore represent both a loose attempt at voluntary alignment and opportunities to collaborate, combine, or simply remind each other of additional populations, approaches, or techniques.

These NGOs have no particular stake in normalcy. Large dual-mandate NGOs often use disaster responses as a foot in the door for initiating longer-term development programming in a country, meaning that they don't necessarily have an overwhelming interest in prolonging the disaster response either, but even so crisis justifies their presence rather than threatening it. The "normal" of the local environment is unlikely to feel normal to international staff. And for emergency response staff, who travel from disaster to disaster, crisis is an integral, familiar part of life. For them, "normal" includes implementing the procedures and standards and culture that they have become accustomed to over multiple responses, and even failing to do so is less an existential threat than an inconvenience, and possibly an opportunity to revise some of those procedures at some later point.

Mechanisms of Emergence

In this chapter I use a typology of CMC functions to describe how CMCs reemerge after initial failure. I begin with a brief discussion of the *physical aspect* of CMCs, which is an important function but one that is decided before the crisis hits, and so more relevant to this study as context than for in-depth discussion of its decision process. Another outlier is *implementation*, which is not an intended function of CMCs and their staff but which was a fairly common reaction to the cosmology episode and the immediacy of needs. Since the main purpose of the CMCs was not to implement, but to direct, this kind of action underlined for the actors the discrepancy and exceptionalism of this disaster. From there, CMCs actors typically attempted to rebuild their comprehension and perceived control through a handful of approaches reflecting the

key functions of the CMC: *meetings*, *division of tasks*, *planning*, *communications*, and *decision-making*.

One of the first mechanisms set in place by most CMCs was the *meeting*; in some cases it was in place even before the disaster, but then had to be recreated, sometimes in a different form, after the event. In fact, meetings were perhaps the most fundamental tool of the CMCs, and play a role in most of the other mechanisms. However, the *coordination meeting* framing was particularly powerful and largely consistent across jurisdictions. A vaguely defined but important function, coordination occurred laterally and vertically, among the temporary departments and across the boundary into the permanent organization of government. Such coordination theoretically led to the most appropriate people or organizations taking on each task and, as necessary, collaborating across tasks; its enactment transformed the piecemeal tasks into a whole response. The use of the meeting reflects the idea that everyone had to work together on the "project" of the response; however, in practice side meetings were important as well. The coordination of the temporary organization could reestablish or undermine permanent inter- and intra-organizational relationships.

As part of organizing and formalizing the meetings CMCs *broke down the overwhelmingly complex business of response into discrete tasks*. This both named and anatomized the problem, and created a new bureaucracy of departments (often, initially, individuals) to deal with it. These sometimes mimicked the organization of the permanent structure, but often departed from it. They also enabled delegation and the division of labor.

The meetings were also used to *divide the response temporally through a planning and feedback function*. This looped back into the coordination function; one of the main "official" points of the meeting was that announcing plans in the public forum could draw together needs and resources in an unplanned way. Less explicit functions included providing a sense of progress, determining and working up towards realistic but difficult benchmarks, and getting a "bird's eye" view of the big picture which was otherwise very hard to access. The gaps in inclusion in the meetings – both in terms of participants and topics – left some pieces of that picture obscured.

CMCs were key nodes in the post-disaster *communication* network (such as it was). Each CMC gathered information from within its jurisdiction to pass up the chain to the next larger level of government, and sometime in the other direction to smaller levels as well. The

responsibility for vertical coordination made communication a critical function that most CMCs worked hard to reestablish, improve, and maintain after the disaster affected communication technologies.

Finally, as the response brought up complex questions of prioritization, the CMCs became the *visible locus of decision-making*, although in many cases the reality of how decisions came about was not so simple. This was the area in which actors seemed to feel the exceptionalism of the disaster most keenly. Decisions were situated differently; the decision-makers' jurisdictions had shifted; and the processes changed.

The typology is of course subjective, the divisions between these areas not always clear, and the progression rarely linear. Different degrees of re-emergence meant that jurisdictions at different places on the permanent-temporary-emergent spectrum coexisted and worked together. Temporary organizations at the meso- and sometimes national levels interacted with emergent organizations run by locals.

The important point is that in order to rebuild their organization, these teams – both in the US and in Japan – used the trappings of bureaucracy, the procedures and mechanisms that mediate their professional interactions with the world during normal activity. These functional mechanisms provided a framework for actors to rebuild organization as they to worked their way through the response, but they were also an attempt to recover normalcy.

Pre-Disaster Assets: The Physical structure of the CMCs

In "Concrete governmentality: shelters and the transformations of preparedness," which looks specifically at emergency shelters, Deville et al. argue that, through these shelters, "The absent disaster, whether nuclear explosion or a cyclone expected to arrive sometime in the near future, is transformed into an entity that, with the right application of technique, as concretized into a built material response, can be if not eliminated then at least managed" (Deville et al., 2014: 190). The shelters emblemize safety from, if not control over, the worst that nature can do.

CMCs perform a similar function, but at one remove: rather than promising safety at a mass scale, they suggest both safety and tools for those who will be managing the safety of the masses. In the US, emergency operations centers (EOCs) are physical manifestations of this effort to manage the unexpected. They may be freestanding structures or special rooms within existing public buildings, constructed to certain specifications (earthquake or wind resistant, for example). They therefore include an element of emergency shelter, but not for the general

populace, only for responders. An emergency manager in Harrison Couty explained that in the their EOC: "We have bunk rooms in there, they can only sleep five males and five females with their bathrooms with one shower a piece, we have a little miniature kitchen." These buildings can sometimes end up sheltering, if not anyone who needs it, at least a far larger number of responders than was initially conceived: at that same Harrison County EOC just after Hurricane Katrina "There were 400 military personnel in the hallways in cots. Plus, you had, the personnel in here, you probably had about 800 people in here easily […] and very limited bathrooms and showers."

What they make "concrete" (often less literally than in the case of emergency shelters, although that material is still popular) is the State's ability to manage emergencies through a process that involves urgency, technology, late nights, and many people. Impressive EOCs are an investment that governments can make in advance to stave off the unknown. An emergency manager from Florida's Manatee County who responded to Hurricane Katrina in southern Mississippi recounted that "we brought back a lot of pictures [from the Katrina response] that our Board of County Commissioners and County Administrators saw that basically scared the heck out of them, and because of it, for the last five years, we've been in a 55 million dollar emergency operations center." Fear of disaster for policy makers translates into higher spending on EOCs as an illusory, almost totemistic protection.

In Japan the disaster response headquarters rarely include this shelter element; generally they are located within government buildings (the prefectural building or the city hall), and in the cases where they were located elsewhere it was an ex-post solution when the intended site was damaged or destroyed. Many of the Japanese sites did include a designated "operations room" to extend and specialize the significance of the office. In Iwate Prefecture, "unlike other prefectures, there is no permanent operations room"[8]; a conference room next to the disaster prevention office was used. Like the American versions, these often included non-standard communications technology: radio rooms, dedicated televisions, teleconference set-ups. In Iwate, the Emergency Management Chief explained that although most of the prefecture lost power and most people weren't able to watch television in the immediate aftermath of the earthquake, the emergency workers were able to see the broadcast images of the tsunami because of their

[8] Koshino, 2012: 54

emergency generator.[9] The emergency headquarters room for the Ministry of Land, Infrastructure, Transport and Tourism's Sendai branch office includes not only a wall of televisions but also a set of dedicated laptops that do not leave the room and are used only in an emergency. Rather than physical safety per se, the Japanese settings represent technological competence and a willingness to devote those resources to preparedness.

Early Warning: from permanent to temporary organizations (Aug 23-29, 2005 and 14:46-~15:30 on March 11, 2011)

Although the timeframes were different, in both Tohoku and the Gulf Coast governments had a warning before the catastrophe struck, allowing the permanent organization to initiate the planned temporary organizations designed to deal with the crises. The initial actions in both countries went more or less according to plan; tracing them shows us how the State expected its staffers to shift, temporarily into crisis mode.

This was more complicated in Japan, where the warning was a massive earthquake that had significant effects, especially in terms of communications and transportation infrastructure. Nonetheless, the 20-40 minutes between that shock and the onset of the tsunami were more than enough time for all levels of government to trigger planned temporary organizations.

In fact, in Japan the establishment of disaster response headquarters is often referred to as something automatic, almost natural. The Disaster Countermeasures Basic Act of 1997 (updating previous acts) mandates the establishment of disaster response headquarters at local, prefectural, and national levels and establishes that the top official in the relevant administrative area (mayor, governor, and cabinet minister) should act as the chair for the headquarters, but beyond that leaves the structure largely open. Unlike the United States no dedicated agency like FEMA to support and standardize. An academic working on disaster prevention issues noted that the closest thing to such an agency, the Disaster Management Bureau at the cabinet level, had only around 60 staff, while FEMA had 2500 before Katrina and almost 7500 in 2011 (interview).

The plans may not have been standardized, but the fact of having plans was. Every local government was required to have outlined the reshuffling of staff that would create its disaster

[9] More than once during my interviews I was invited, unsolicited, to tour these rooms; they are a source of pride. The emergency manager in the Harrison County EOC told me "we have a ham operator room in there, and like I said I can show you around give you a tour, but this is one of the few EOCs in the state that can actually operate within 3 minutes."

response headquarters; they had almost certainly practiced the switch in drills. The establishment of the disaster response headquarters was therefore the first step in a *repetitive* temporary organization, even for those jurisdictions that had not faced many disasters. The Mayor of Higashi Matsushima City explained in an interview that they had done a lot of practice drills with the headquarter members, and that up until the point of setting up the headquarters it was the sort of thing that could be done "from the manual."

The switch was facilitated by clear benchmarks for emergency responses, at least in terms of earthquakes. The head of crisis management in Ishinomaki City at the time of the disaster explained that "because [the earthquake] was seismic intensity six, the [response headquarters] took the form of the automatic establishment." Without the need for judgment calls about whether or not this crisis necessitates a response or not, the (nominal) establishment of the headquarters can be more or less instantaneous. An official in the Sendai disaster reduction department said that, after the earthquake, "first of all, what is called the response headquarters is set up as a matter of course." In the Iwate Prefecture response evaluation the disaster response headquarters is listed as being established at 14:46, the same minute the earthquake hit, although the first prefectural disaster response headquarters member meeting was held almost an hour later, at 15:45 (Iwate, 2012: 43).

Even if this "establishment" was somewhat symbolic, that symbolism included a rapid, committed shift to the temporary organization that had been designed and documented in the disaster mitigation plans legally required at all levels. The administrative shift from permanent to temporary structures is immediate and more or less complete in terms of at least those high-level personnel who are on-site.

For some government staff, the shift to the temporary organization meant taking immediate action, largely in terms of moving themselves physically to where they were supposed to be. In Rikuzentakata, a city employee was at City Hall when the earthquake struck, and immediately set out for Hirota peninsula, where he was in charge of the district disaster mitigation committee and therefore supposed to lead the district disaster response headquarters. He abandoned his car and continued on foot when the post-earthquake road conditions made it impossible to drive; after he reached the peninsula, he was cut off from all communication with the rest of the city for days. According to the Rikuzentakata report on the disaster, twelve of the city staff were at local district headquarters by the time the tsunami hit, with others en route (the

number on the way to local headquarters is combined with the number on the way to other workplaces). Other staff were at evacuation centers, community centers, the fire station, and so on (Rikuzentakata, 2014: 110).

Still, most staff at this point did not have to make any important decisions themselves. They could follow the plans with no reason to suspect that the drills they had followed and procedures they had learned would not work. The permanent organization metamorphosed into a planned temporary organization, with every intention of following the planned process and eventually switching back to the permanent organization.

In the case of Katrina, the longer timeline and more uncertain geography of impact of hurricanes meant the launching of temporary organizations was relatively gradual. Many officials switched back and forth between normal and crisis positions before jurisdictions fully committed to emergency mode. The hurricane was tracked from when it formed as a tropical storm on August 23rd, six days before landfall in Louisiana (its second landfall in the United States). The unpredictable path of the hurricane left actors unsure of where it would hit, but the temporary organizations were activated at least three days before landfall. The preparations became more serious once the path was clearer, with a shorter timeframe. The deputy director of Pearl River County Emergency Management in Mississippi at the time of the storm recalled:

> When we left work Friday afternoon we were under the assumption, and you know what assume does, that the hurricane was going to go for the Florida panhandle because that's where all the models were directing it to, it's where all the weather services were saying it was going to go, so when I left work Friday afternoon as usually Bobby said, just kind of, you know, 'I'll stay in touch, if anything happens blablabla.' Well, course Saturday afternoon he called me back into the office and he said 'no it's completely changed, we don't have long to prepare, this is going to hit Sunday night, and it's taken a completely different turn, it's coming our way, and it's going to be bad.'

As landfall approached, many emergency managers moved into their emergency operations centers, planning to remain there for the duration – and, implicitly, return to their original positions once the crisis was over.

Meetings

The launching of the temporary emergency organizations triggered a number of initial activities. In the US, goods, equipment, and personnel were prepositioned. In Japan, helicopters were deployed and requests were made for military back-up. Organizationally, however, the key

action structuring the temporary organizations as they started to shift into gear was holding meetings.

In the US this was represented, particularly in the early stages, by conference calls up the vertical hierarchy and, at the local level, in-person meetings. These gatherings provided some technical information, particularly from the National Hurricane Center, but they also served as a transitional mechanism from the permanent organizational structure of non-emergency times to the temporary structure designed for emergencies. Government staff and leadership would switch into temporary structure roles for meetings and conference calls – with, for example, the elected Chancery Clerk of Hancock County shifting into the appointed role of County administrator – and then return to their "normal" jobs in the interims. The level of separation in this shift could vary substantially from location to location. In Hancock County, the County administrator took a significant role in emergency decision-making, along with the County Emergency Manager. In Harrison County, the County administrator described largely ceding her official decision-making role in times of emergency:

> I may be the boss now, but during a disaster I'm not the official boss, we do whatever, you know, the EOC, [Emergency Manager] Rupert [Lacey] is in charge, and it's like, okay, where do you need help, what do you do, you know, if it's answering the phone calls, or making sure everybody has a shift, or whatever, you know you do whatever you have to do to get it done.

This early warning stage allowed for an intermittent transition through which staff could gauge the level of emergency and proportionally moderate their identity and role in the hierarchy based on whether the permanent or temporary organization predominated.

As the urgency increased with the approach of the hurricane these calls and meetings took more time, attention, and effort from any "business as usual" that was continued at the different levels of government. The House report details that at the state level in Louisiana, "These calls began at 5:00 p.m. on Friday, August 26, with five calls on Saturday, four calls on Sunday, and a final call Monday morning as the storm hit but before communications went out" (House, 64). At the federal level, the meetings took the form of video teleconferences, which "are a means by which key federal and state personnel involved in emergency management share information about their disaster preparations, including the latest weather forecasts, the progress of evacuations, and the pre-positioning of commodities" (Senate, 164). In addition to providing information, these calls provided a framework for the organizational and mental shift to

emergency mode, bracketing off time for officials to take on their emergency roles and alerting them to the expected severity.

As the hurricane's potential became clearer, Emergency Operating Centers were activated. Both Louisiana and Mississippi activated on August 26, meaning that the EOCs were staffed and the structure had fully shifted into the planned temporary organization. For many of the EOC staff, this would feel, if not quite like business as usual, then at least familiar: for the moment, this was still a *repetitive* temporary organization. The Chancery Clerk and County administrator for Hancock County expressed that familiarity as he described some of the preparation activities:

> So we started gathering, and meeting, and coming up with plans, and doing things we could do that far out: um, boarding up buildings, being sure employees were, ah, and computers and things that we had were up and above the normal level that we ended up getting water, being sure that windows were boarded, doors were boarded, all the safeguards that we'd always done through the years. Took care of all that on Saturday.

The County administrator for adjacent Harrison County also noted the repetitiveness of disaster response for many of the county level EOC members:

> But, luckily, we, […] did have someone in the EOC with us that was from MEMA that kinda helped us along the way, but we had had so much already, we had so much knowledge because we have a lot of people that's been around for, you know, 20 plus years, so we know, you know, we've worked many disasters, whether it be a flood, or rain, or ice, you know, whatever, but um, and we've had all the proper training, whether it be classroom training or actual experience training.

A New Orleans City Councilwoman explained "you have to realize, hurricanes in New Orleans are kind of like getting beignets and coffee, I mean they happen all the time, so as a result you know you kind of go through what you're going through." Up to this stage, emergency actors still felt confident in following both plans and experience.

In Japan as well, meetings were a critical step in concretizing the temporary emergency organization from theory into practice, but the short timeframe meant that the first meetings were held immediately before or at roughly the same time as the onset of the tsunami. In some badly affected cities, like Rikuzentakata, the first meetings were postponed until the following day.

Communications

An important function of CMCs was the connecting of different levels of government. In Japan this didn't happen through conference calls, but with other types of communications. Prefectures sent emergency faxes detailing the tsunami warning to the cities, towns, and villages under their jurisdiction. Similarly, the minutes of the first meeting of the Miyagi prefecture disaster response headquarters, at 15:30, indicates that the governor had already received a telephone call from the Chief Cabinet Secretary of the national government, offering assistance.[10] The connections between different levels of government were reaffirmed, largely in a top-down direction.

For most disaster response headquarters, after the nominal establishment the first actions were requests for the assistance and emergency deployment of the self-defense forces and the emergency fire brigades. These requests did not, strictly speaking, require an organization to manage them. In fact, they tended to occur almost as automatically as the establishment of the headquarters. Technically the administrative head – governor or mayor – was supposed to make the order, but this was often overlooked in the interests of a quick response. In Miyagi Prefecture, the disaster management office called the self-defense forces at 14:50 "about the preparations for emergency deployment"; the governor ("hereafter known as the headquarters chief") arrived at the headquarters and ordered the emergency deployment request at 15:01, and the request was made at 15:02 (Miyagi, 2012: 9). In Kesennuma city, the Head of Crisis Management at the time recalled:

> Then, we requested the SDF. I made a request for deployment. In fact the real mechanism is that the Mayor should speak to the governor, then [the request] comes from the governor, but we'd done various drills together up to then, Kesennuma had made a quite good linkage with the SDF, so directly, immediately, I spoke, I got them to come. Thanks to that the arrival of the SDF was early in Kesennuma.

Drills made the situation a repetitive one, while the standardized nature of the process made the organization, and specifically the hierarchy, somewhat superfluous.

The mayor of the city of Ishinomaki was in Sendai, a little over an hour's drive away, at the time of the earthquake. Between the disruption in the roads and the moat created around the city hall by the tsunami, he was unable to return on the first night. However, according to the

[10] Literally: "If there is anything [needed], I want you to immediately request [what you need]."

Ishinomaki head of disaster management, "because the disaster response headquarters is only an organization, even if the top person, the mayor, is not there, making the deputy headquarters chief, that is, the deputy mayor the top, we were successful in the operation of the disaster response headquarters." The role-based nature of the temporary organization made it amenable to the absence of key individuals. Bechky (2006) noted this aspect of temporary organizations while writing about film crews, and it was also an explicit aim of the ICS in the US (see Bigley and Roberts 2001).

In Iwate prefecture, the head of crisis management was in Aomori at the time of the disaster; in his memoir he writes that "By the time I arrived at the prefectural building, the requests for the Japan Self-Defense Forces and emergency firefighters assistance brigade had already been completed and the disaster response headquarters staff meeting had already been held twice, but no concrete strategy for the response from tomorrow morning on had been decided" (Koshino, 2012: 7). Making the requests and holding the meetings was easy enough to do by the book, but taking the next step to strategy and decision-making was another matter.

Decision-Making

The US had in place a national incident management system (NIMS) including a specific organizational structure for command and control, the incident command system (ICS). This was officially made the standard only a year and a half before Hurricane Katrina, but the system had existed previously, resulting in general familiarity but uneven proficiency.

In Mississippi, for example, the Mississippi Emergency Management Agency (MEMA) Director had made a point of rolling out ICS training statewide. "After 9/11 I was able to get Governor Musgrove to sign an executive order basically mandating that ICS would be used in Mississippi for all incidents. So that made us at the time one of six states that had done that, so we were really really – we got ahead of it." He noted that scattered training really wasn't enough:

> If we were to have a class of 30 people to teach ICS they'd be from all over the state, so these 30 people would go back to their jurisdictions and say hey, there's this new concept of ICS, and you know, a lot of them would just say, people would just kind of shove them off and say, well you know this is the way we do stuff here. So we were training a lot of people but we weren't really changing the environment of how you manage an event. (Latham)

Frustrated with the piecemeal approach, he decided to go farther:

> So, about 18 months before Katrina we had made a conscious decision to go into every county, 82 counties, and do tabletop exercises that taught ICS structure. And the philosophy was that, if we go in and start teaching the people that are actually gonna have to work together, if we teach them in the same class then it's more likely we'll achieve what we're trying to do. […] And then one of the deliverables of that tabletop would be, they would develop a template, an ICS template, basically says here's how our command structure will look or our incident structure will look for any event, and they would put, basically they would have the boxes all the way from the command general staff down to the operations, logistics, etc. So that was to try to get them started now thinking about how you manage an incident. Well, it's kinda interesting because just a few months before Katrina we completed all of those courses.

In Louisiana, by contrast, ICS was so poorly understood that the state brought in consultants to train their staff in ICS *after* Hurricane Katrina made landfall; this has been cited as one of the reasons for Louisiana's difficulties in managing the response (House, 2006: 193; Hayes, 2012).

While the deployment of Federal Emergency Management Agency (FEMA) personnel could in theory support locals in a standard, knowledgeable application of the systems, the contrasting examples in Mississippi and Louisiana suggest that without at least some training at the local level, the federal assistance won't be enough to get the response into the planned system. And as we will see below, even when the locals were trained, without experience it was still challenging for them to implement ICS and NIMS without outside assistance.

With more time to react to the early warning than Japan had, FEMA was able deploy its staff ahead of time so that different levels of government could have representatives physically in the same place at the time of the disaster. At the state level in Mississippi, the Federal Coordinating Officer (FCO) was able to agree with the Mississippi Emergency Management Agency (MEMA) Director on an approach for responding to the large-scale disaster that took them one step farther than ICS. The MEMA director recalled that, although he knew the FCO only slightly before Katrina, "Bill comes in early in this event and says, 'I got this concept I wanna try, Robert, something called a unified command.' And he explained it to me and it's a joint state-federal structure, and I said, 'Bill, I don't know that there's any other way to do this. I mean I could set up my own and you could set up your own and, you know, just gonna kinda be doing parallel things here.'"

The unified command (now called unified coordination) approach is a decision-making process that aims to ensure, as the FCO put it, "that everyone who has resources has a place at the table." This is a much stronger decision-making process than the UN's coordination-heavy role in the cluster system, designed to resolve the tension between the hierarchical, essentially military approach of the ICS with the inter-jurisdictional nature of a large disaster in a democracy. The group of "everyone who has resources" (FCO interview) and therefore a seat at the table takes the strategic priorities generated by the executive – in the case of the state, the governor – and develops more specific outputs that will take place in the next operational period (O-period). At each meeting they review the work of the previous O-period, and set the goals for the next one, adjusting as necessary. These goals are documented in the incident action plan (IAP) produced for every O-period.

While the system itself was relatively new, the Mississippi FCO noted that "the folks that were instrumental in trying to pull it together in FEMA before Katrina were myself and Bob Benton who was my operations sections chief and Ronny Melchek who was my plans section chief, and so we had some experience, you know, doing this at the senior level and pulling it off." In other words, this change was coming from within the permanent organization, and was already part of a repetitive temporary organization for some of the key people using it. A large part of the role for representatives of the permanent organization was to try to use their experience – their perception of what was happening as repetitive – to smooth the uniqueness of the event for their local, less experienced counterparts.

Part of what was innovative about this use of the unified command approach was that they pushed it down to the local level. The MEMA director recalled that

> We kinda developed something really unique in that organizationally the ICS was typically based on disciplines but this one we drew, it was, we did geographical branches and divisions because it enabled us to focus resources on the highly impacted areas but then in the lesser impacted areas we'd have a larger area so they were easier to manage. And then we delegated down to the division supervisors and the branch directors the ability to move assets and resources within their jurisdiction whether it was a branch or division.

The FCO explained "in the case of Mississippi, we created geographic branches that encompassed three to five counties, and in each county there were joint division supervisors, so joint being a division supervisor who represented the central government that is the Feds in our case and one that represented the jurisdiction, most often counties."

This was not easy. The MEMA director said that "At first there was a little bit of a reluctance by the locals but then when they finally put in place that structure we had talked about and developed during the tabletops they understood it, and then they bought into the unified command so then they set up these unified command structures at the local level." He added:

> I mean it was totally contrary to our government structure, you know, I mean you have hierarchy of how things are supposed to work, you have elected officials who are in charge of their areas, and then you have police chiefs, sheriffs, fire chiefs, and all these people who have their own little kingdom, and the concept of being able to bring all these people together in this unified coordination group and agree that these are the things that we need to do for the next 24 hours and to be able to get them done and everybody buy into that was, you know, in itself I think was a success.

The temporary organization was so different from the standard permanent structure that it required a significant mental shift for people to enact it.

While the Unified Command was aimed at helping government officials on different levels to work together, in many cases representatives from local, state, and national agencies had very different perspectives. The FEMA Division Supervisor for Hancock County, a federal employee, had an entirely different view of their EOC than the locals did.

> Before I even arrived there I realized that the water was going to be high. I spent a couple of years as a liaison to the hurricane center from the state of Florida emergency management, and so even though the storm was still, you know, projected impact the next day, as far as landfall, it was pretty easy to see there was a lot of low areas and the water was already high, so. I'll be frank, my first part upon arrival was to get to know Hootie and Tim and you know others, introduce myself, but the other part was to figure out where I personally was going to ride the storm out.

The FEMA official already knew that this event was going to be unique in a way that the locals couldn't conceive of; as he said, "quite frankly, they just – even though we actually had the hurricane center on speaker phone to talk to the leadership, they just couldn't wrap their head around believing that water would get to their EOC." Belief in the protective properties of the EOC, along with the deceptively repetitive nature of the tasks they were performing in preparation, contributed to a worldview that did not allow for the flooding of the EOC. The FEMA official's greater experience in this particular area meant that he could see the larger event and still feel that his own tasks were somewhat repetitive:

> It has nothing to do with smarts or anything else, I remember like the year before I rode out Hurricane Charlie in Punta Gorda Florida, Hurricane Ivan in Pensacola, you know, I used to be the ops chief for Florida Emergency management […], so, you know, I've ridden out a number of storms and the one thing I knew from prior experience is don't monkey around with the forecast for surge cause they're usually pretty close.

His experience working at different levels of government allowed him to philosophize about these different perspectives:

> And see I think that's the problem of when different levels of government – again, if you ask – and remember, I've worked city, county, state, and federal, all in this line of work. If you ask me as a federal employee of FEMA what is catastrophic, I'll give you one answer. If you ask me as a former state ops chief, I'm going to give you a different level answer. If you ask me as a county director I'm gonna give you a different answer and if you ask me as a city or small town I'm gonna give you a different one.

While these varying perspectives exist during non-emergency times, the crisis mode temporary organization asks them to work together in entirely new ways. During the pre-cosmology episode temporary organization stage at least, those ways were fairly well documented and laid out for them to follow.

Division of Tasks in the Temporary Organization

Disaster response, taken as a whole, is a broad and complicated proposition. The Stafford Act, for example, cites "the rendering of aid, assistance, and emergency services"[11], a description too vague to be easily operationalized. Implementing disaster response requires breaking it down into separate tasks or sectors: emergency shelter; the delivery of food aid; clearing roads; providing health care; and so on.

The choice of how to divide these sectors has a substantial impact on the way the response is understood and managed. Once a set of sectors has been decided on, tasks that don't easily fit into those categories may get lost. The division into sectors drives staffing, attention, and other resources. The division of tasks allows for a mapping of permanent organization departments or ministries onto response needs, and thereby offers a base for coordination. Foucault writes that categorization as a form of knowledge focuses by excluding, and these

[11] http://www.fema.gov/media-library-data/1383153669955-21f970b19e8eaa67087b7da9f4af706e/stafford_act_booklet_042213_508e.pdf

ESFs	Clusters
Transportation	*not applicable*
Communications	Emergency telecommunications
Public works and engineering	*small-scale and/or temporary may be done under water and sanitation, but larger PW generally considered post-emergency*
Firefighting	
Emergency management	*OCHA*
Mass care, emergency assistance, housing and human services	Shelter
	Food security
	Sanitation and hygiene
	Nutrition
	Water
	Protection
	Camp management

categories implicitly define the limits of a government response: anything not included is not the government's responsibility.

These divisions are of course subjective, and differ across the cases we study here. In the United States, the task breakdown of responses was pre-determined. Along with the ICS, which mandated operational teams and their hierarchy (logistics, finance, planning, etc.), the US had also institutionalized a system of sectoral emergency support functions (ESFs) naming different elements of the response and assigning them to various governmental (and in one case, non-governmental) agencies (transportation, water, shelter, etc.). The international humanitarian system, as note above, has "clusters." Japan did not have a standardized task breakdown, and different jurisdictions arranged their response organizations along varying divisions.

Logistics management and support	Logistics
Public health and medical services	Health
Search and rescue	*Carried out by specialized teams who coordinate separately*
Oil and hazardous materials response	
Agriculture and natural resources	
Energy	
Public safety and security	
Long-term community recovery	Early recovery
External affairs	*Agency-specific, although OCHA will also have one*
	Education

Figure 10: Table comparing ESFs and clusters

The choices around these breakdowns reflected and influenced the attention of the temporary organizations. To take one example: the international system includes a cluster called "Protection," which refers to "all activities aimed at ensuring full respect for the rights of the individual in accordance with the letter and spirit of the relevant bodies of law."[12] In particular, in natural disasters, this cluster is concerned with "sexual and gender-based violence; family separation; child trafficking; unequal access to assistance; discrimination in aid provision; enforced relocation; loss of personal documentation; land disputes and issues related to land and property rights."[13]

Without a specific sector targeting this area, the added vulnerability in disasters is easily overlooked, even if the legal framework exists during normal times. Women and children are more vulnerable to abuse while living in the close quarters and uncertain power dynamics of an evacuation center. Neither the United States nor Japan had any sector or position covering these issues; there was no one in charge of tracking or reporting problems, no one affected people could address with their concerns. On the other hand, the United States has an ESF for "Oil and hazardous materials response," claiming as the responsibility of the State an area that NGOs wouldn't dream of touching. The US also designates a "Public Safety and Security" sector, which is absent from both the international system and Japan's various configurations. In both there are other mechanisms – the host government in international cases, the police force in Japan – but including it as an emergency support function in the US directs attention to specific security issues during the emergency.

Then again, the US combines almost all population care

[12] The Global Protection Cluster, http://www.globalprotectioncluster.org/en/about-us/who-we-are.html
[13] http://www.globalprotectioncluster.org/en/areas-of-responsibility/protection-in-natural-disasters.html

into a single ESF, “Mass care, emergency assistance, housing and human services,” roughly equivalent to seven clusters in the international system. Even if the same functions are covered, the decision to combine or divide the sectors demonstrates emphasis. The international system has a cluster for each of those sectors, each of which has a lead agency and discussions about the parameters of their area. In the US it is the American Red Cross, along with FEMA, that is responsible for everything under the mass care rubric.

The early meetings of the temporary organizations were both structured by the division of tasks and cemented them. Because the task divisions assign importance to certain types of expertise, they contribute to determining who – what agencies, departments, or other organizations – were included in the meetings. The task division thereby forms the basis for lateral coordination.

This was reinforced as pre-event meetings began to draw together those actors considered important into their crisis management centers. The US names certain government agencies – and, in the case of Mass Care and Shelter, the American Red Cross – as ESF leads. However, there is no formal authority structure requiring government agencies to accept the decisions of the CMC, and cooperation tends to vary. The Acting Deputy Director for Emergency Management for the Louisiana Office of Homeland Security and Emergency Preparedness during the response to Hurricane Katrina and State Coordinating Officer for the response, explained:

> One of the things that you’ll find is some of your state agencies, for instance like the department of transportation, emergency management is kind of foreign to them. So unless you have commitment, and at the state level your governor tells that secretary of the department hey you will provide assets, you will do this, you will attend meetings, your emergency management agency is a little bit at a loss cause they can’t go tell someone else you gotta play, if you will.

In Japan, each local or prefectural government determined its own breakdown (as noted above, they would have formulated and documented these well before the disaster as part of the legal requirement to file a disaster plan). There were, however, certain common patterns, based on the overall organizational culture: what people expected to see or imagined as standard in organizations. These tended to be more administrative than technical. In many jurisdictions, there was a single “Disaster Response” team to go along with the administrative, public relations, and logistic teams. As we will see, the scope of the disaster required expanding that significantly.

In fact, a number of Japanese governments ended up restructuring their sectoral breakdowns partway through the response – sometimes multiple times. While this added flexibility, it also added a burden of reconfiguration and changing processes and habits during an already intensely busy time.

Landfall: Cosmology Episodes (August 29, 2005 and ~15:30, March 11, 2011)

Both countries had invested considerable efforts and resources to prepare for managing these disasters. While this preparation included physical mitigation, evacuation plans, and many other components, the structuring of the crisis management centers, both in their physical and in their organization aspects, was a keystone of the preparations. The CMCs are supposed to be function as the government of the temporary structure. CMCs are designed to deal with chaos and based on ideas about how governance can be enacted in unstable environments. In theory these (supposedly) flexible and decisive command structures should be able to manage the transition to crisis mode and back with minimal disruption.

However, these particular catastrophes turned out to be more different than expected: more devastating, more disorienting, more disabling. The plans and contingencies were developed with the idea of being prepared for any eventuality, and in order to, whether by flexibility or forethought, avoid the paralysis of shock and loss of routine. In these cases that function of the plans failed, and actors found themselves partially or completely without recourse to meaningful procedures to follow. Their basic worldview had collapsed and the plans were based on that worldview. These actors experienced what Weick (1993) describes as a cosmology episode, which occurs "when people suddenly and deeply feel that the universe is no longer a rational, orderly system" (633). From an organizational perspective, as Lanzara writes, "The environment that currently sustains their norms and procedures has radically been changed and lacks structure" (1983: 72).

For the responders in these disasters, there were different types of disruption to their belief systems. In some locations the destruction was total, leveling physical structures and response capacity in one blow. The physical evidence was immediate and unavoidable, but at the same time almost unbelievable. Hancock County, Mississippi, is an almost archetypal example. Despite the warnings from FEMA liaison Eric Gentry, the emergency personnel did not or could not believe that the storm surge would reach their EOC. The County administrator, described the initial interaction:

> So [FEMA official] came in and met with us and said okay, this is what we have. You've got an emergency operations center here that's not suitable. It's not suitable for what's getting ready to happen. What's your back-up plan? And of course, we never had a back-up plan. We always had an emergency operations center, 27-foot elevation, that had never, in the history of our county, been even threatened, seriously threatened, with anything but wind, wind of course, but, and so, I was the spokesperson for the group and I said, we don't have a back-up plan, we don't need one, we don't think we need one, we've got a safe room in this emergency operations center, we're at 27-foot elevation, and you know, we don't have one.

The destruction of the EOC was so dramatic that the personnel assembled there, believing they were going to die, wrote numbers on their arms with sharpies so their bodies could be identified.

The near-death experience in a technologically advanced, supposedly safe building certainly functioned as a cosmology episode, but the upheaval went beyond a single building. After surviving the destruction of an EOC that he had thought indestructible, the Hancock County Emergency Manager was told "you are absolutely not going to believe, the Bay Bridge is gone. I said ain't no damn way. He said it's gone. So I went down there, and I said, well boys, and ladies, I said there ain't nothing left of Hancock County." Even after experiencing a part of the event that he thought impossible, he could not calibrate his imagining of the rest of the town with that destructive power. Finally convinced that the bridge is gone, it symbolizes to him the leveling of the entire town. This was an exaggeration; the town was significantly damaged, but not destroyed. The destruction of objects he had believed indestructible was so unnerving as to make the disaster seem more complete than it was.

Weick writes that "What makes such an episode so shattering is that both the sense of what is occurring and the means to rebuild that sense collapse together" (633); it is not only that the immediate destruction is hard to fit in to what one knows about the world, but also that there is no way to figure out what has changed or how that understanding of the way things work should be adjusted. The head of crisis management for the city of Kesennuma, which suffered serious damages but was not completely razed, recalled,

> The power dropped, the electricity was cut. It was cut at the time of the earthquake, from then on even there was almost no information. Then, communications, only satellite communications we had was sort of still surviving, but the situation of information not coming in, we had to make decisions but information wasn't coming in, from anywhere. Of course, the field, the situation was we couldn't go near the field, there was water, there were debris, the tsunami was again pushing and pulling back, approaching so, then in all that, the situation

> of the damaged area, what kind of situation it had become, was almost entirely unclear. We couldn't get it. […] because we couldn't get it, what we did in the middle of that, there was nothing to do but imagine. Imagining, it must be like this, it must be like that, there was nothing to do but respond to that.

Weick ties cosmology episodes to directly experienced disruption and confusion. I broaden the idea here to include other breakdowns of understanding and constructed sense. At a greater remove from the disaster damages were less but dependence on technology for information gathering was greater. When the infrastructures for understanding and taking action that were rendered dysfunctional, non-local CMCs were rendered ineffectual and confused. Even without physical destruction, the upending of procedures and communications protocols, the severing of basic services such as electricity, and the inability to carry out expected functions is also disorienting. State or prefectural officials who found their beliefs challenged and their usual way of acting suddenly inoperative and nonsensical also experienced cosmology episodes, if not to the degree of those whose lives were in danger in ways they had resisted imagining. While these episodes were less shattering than direct cosmology episodes, I argue that they had a similar if lesser effect on actors: disorientation, lack of reference points, the need for radical reassessment and the difficulty of doing so.

The capital of Iwate prefecture, Morioka, is almost 100 kilometers from the coast and up in the mountains; nonetheless, the head of crisis management for the prefecture, described his disorientation in the immediate aftermath of the disaster in his memoire:

> In the tabletop exercises done until this, the assumption for an earthquake off the Miyagi coast was that in the case in which the coastal cities and towns were damaged by a tsunami, it was imagined that immediately after the disaster information wouldn't come in, so the response would be based on damage predictions and the exercises were implemented accordingly, but reality was different from the exercises. The information coming from coastal municipalities was far less than we had imagined, the damages far greater. (Koshino, 2012: 8).

Even with the idea that a disaster would cut off communications, the level of blackout was surprising and difficult to comprehend. "A helicopter came back with the report that Rikuzentakata was 'annihilated.' I was trying to understand what they could mean by 'annihilated,' but when I saw the images of the tsunami on television, I understood that the damages far surpassed what we had imagined" (Koshino 2012: 8).

For those tasked with managing the linkages among the levels, the sudden rupture of those linkages was disorienting. The deputy emergency manager of Pearl River County, described the behavior of their FEMA liaison during the first days after the disaster, when communications were cut:

> He was constantly trying to communicate with his superiors on the sat phone, and, um, yeah he was just constantly trying to answer questions from the public […] Of course, being where he was, in a rural area without communications, he could only answer what he knew, because he couldn't answer questions from his superiors cause he couldn't really communicate with them regularly at the time.

The FEMA representative's understanding of his role was predicated on acting as a conduit between the locals – both the affected and the local responders – and his agency in the permanent organization. Not being able communicate with his organization left him struggling.

Not every jurisdiction experienced a full cosmology episode. Escaping a complete upending of one's worldview did not mean that the response was simple or did not require improvisation, however. The local response level in Pearl River County is a good example. With Hancock County as a buffer between them and the coast, Pearl River County received a significant buffeting from wind and rain, losing essential services in many areas. The turmoil along the coast also meant that supplies and reinforcements were delayed in arriving. According to the deputy emergency manager, the situation was difficult, but manageable:

> Of course Monday morning we all woke up to chaos and devastation, there was no electricity, phones, and it didn't take long for the phone cell towers to go out so there was no communication as far as outside our agency, or our jurisdiction […] We opened our shelters, which turned out to be almost more than we could handle. We did not have the resources to man these shelters how they should have been manned.

Despite the challenges, she put much of the credit for not falling apart on the local culture of rural know-how:

> But because Poplarville, and most of the citizens here are rural, we, we knew how to take care of ourselves. We knew to start pulling stuff out of freezers and refrigerators and start cooking it up and have community-wide cookouts. And again I know this is not politically correct, but because of the generation that most of us were brought up in especially me, we don't depend on other people to take care of us. We know how to take care of ourselves in times of need. We know how to haul water from the creek for baths, you know, and that's what we did. We filled up tubs, put water in the tubs, washed clothes, hung on the line, had a generator to run our freezer and refrigerator for a little while every day, couldn't

> run it all day every day cause of the gas, couldn't afford that much gas, but we kept things cold enough that we, our food didn't spoil.

Based on her description, the emergency management of Pearl River County never collapsed or saw its worldview seriously disrupted. The temporary organization there struggled and in some cases needed to adapt, but it did not collapse, and therefore there was no space or need for a new version to emerge. Nonetheless, the seriousness and especially isolation of the response was unusual enough to make the temporary organization *unique* for everyone involved, and to require significant improvisation.

An example from Japan demonstrates how the cosmology episode is less about the degree of destruction, than about the dissonance with expectations. In Rikuzentakata, as in many other towns along the Japanese coast, the tsunami swamped the City Hall, killing some staff and displacing the rest. When the initial earthquake hit a city employee,hurried to the rural Hirota peninsula, where he was in charge of a volunteer disaster management brigade. The peninsula was cut off by the tsunami, and for one week he

> was doing the kind of response related to the food problem, the problem of managing the cold, things related to medical care, then the problem of dealing with the bodies. Then, when a week had gone by, after the opening of this road, I thought the city would quickly come to save us, but there had been no news from the city, so I didn't understand that the city was in this kind of situation.

The city hall had been completely razed, along with most of the downtown. "Being [on Hirota] for one week, the disaster response was going well, but when a week had passed and I could return to the city hall, for the first time I understood that the city was unable to respond." Cut off from his institutions, this city employee initially imagined himself as a functioning temporary organization, one that had been spun off by the permanent system to manage a problem but which had the resources of that permanent organization behind it. It was only when the road opened up again that he realized that not only the temporary, but the permanent organization of his local government had, for the moment, collapsed. While being overwhelmed and cut-off seemed understandable, even expected, on the isolated peninsula, the destruction of the main area of the town was unimaginable, and signaled a cosmological shift.

Susceptibility to a cosmology episode can be blamed on a lack of imagination or a lack of flexibility. According to this framework, however, it is more accurate to blame it on a belief in the permanence of the supposedly permanent system and in the transience of the supposedly

temporary system. This belief encompasses the ideas that when the government, and the socio-techno-economic system it represents, is stable, competent, and equitable, predictions are not wrong; cities are not destroyed; and people in need do not wait long for help; disasters are events that come from nowhere and do not last long; and the systems created to manage with them do so efficiently. These are impossible propositions. But they are nonetheless implicitly supported by many aspects of modern life. Belief in that ideal does not only exacerbate the trauma of the disaster, it also complicates the struggle to reconstruct.

Responding to a Cosmology Episode

Enacted Sensemaking

In response to these disruptions, the responders engage in "sensemaking" (Weick 1988) to try to rebuild a coherent understanding of their experiences. They explore the changed environment, and often attempt trial actions to learn more about the situation. Since these actions impact the crisis, as well as garnering information about it, Weick (1988) refers to this as "enacted sensemaking." In parallel, since the breakdown of sense and irrelevance of procedures have similarly disrupted organizational structures, groups may search for ways to self-organize, or spontaneously create new structures, in order to interact with the context.

In some cases this re-organization does not happen, or does not happen immediately, opening space for a period of organizational collapse. This may be due to the loss of personnel and assets, as in Rikuzentakata, which was so badly damaged that the army took over management of the response there for a period of time. Or it may be caused by the fragmentation of the group, as in New Orleans, where many city officials evacuated to Baton Rouge either before or shortly after the storm, and others were unable to work together.

In other cases, the re-organization begins in an ad hoc, action-based way; it may be fragmented and unsystematic, as in Kesennuma, or centered strongly around one or a few individuals, as in Hancock County. For others, the breakdown of the established order is an opportunity to express resistance to that order, as in Harrison County or St. Tammany Parish. Some organizations strive to return to the planned system as quickly as possible, adapting it where necessary to the new circumstances and including some completely new elements as necessary. For those structures farther from the impact of the event – state and prefectural bodies

– although there was still considerable urgency and disruption, there was a little more time for contemplation in the reknitting of organizations.

While temporary organizations reinforce the permanent organization of government, Lanzara argues that ephemeral organizations are inevitably in conflict with formal organizations and (particularly in his case study of an Italian earthquake response) government: "The government's priority was to regulate the intervention and to normalize the territory. On the other side, the intervention and behaviour of emergent groups was a means, as I showed, to disconfirm the government's authority and legitimacy, by showing that it could not work as a government" (Lanzara, 1983: 85).

In the cases we examine here, actors working *within* the government response structure may also, under the right circumstances, develop structures that share many or all of the characteristics of Lanzara's ephemeral organizations: network-like structures, rudimentary and frequently rearranged divisions of tasks; activity-based; autonomous; fragmented. These government-based emergent organizations may come into conflict with the larger government structure, particularly when the latter struggles to respond. As Lanzara writes, "Both actors send contradictory messages to each other. Government says to groups: 'Do take initiative', but also, 'You are a threat'. Groups say to government: 'We want to be autonomous', but also, 'You cannot coordinate'" (85). These contradictions are echoed throughout these cases in the relationships between central or federal government and the more local levels.

However, there is not always open or even implicit conflict between the ephemeral and the permanent structures. Sometimes the tension is within each emergent organization as they try to determine whether to invest in maintaining or reestablishing the planned temporary organization or in trying to develop something new. Within the chaotic context of our cases, each CMC had to rebuild its functions as a form of reasserting control over the disaster. This required adjusting to the "difference" of the disaster, and choosing what elements of the structure to cling to (or recreate) and where to improvise. It also required a shift into a catastrophe mentality: actors and organizations had to recognize that their plans and procedures were useless under the circumstances. This allowed them to, for example, come to decisions more quickly, rebalance priorities, or re-scale their thinking. It was not always easy to accomplish, however. In some cases this shift began with a moment of improvisation, often blessed with permission from some immediate authority; in other cases it was the observed severity of the disaster that made it clear

that the shift was necessary. Either way, the struggle to make sense of the new environment both affected that environment and influenced the evolution of the newly emerging organization.

Implementation

Particularly for those organizations whose cosmology episode reflected real physical disorder, as well as cognitive dissonance, the first efforts after that break tended to be chaotic and structureless. For some organizations, this period extended until it could be classified as a collapse of the organization, which then had to be rebuilt, replaced, or at least propped up by some other group that could carry out its functions.

In the initial moments after planning fell apart, however, almost all organizations underwent some period of chaos. Rikuzentakata, with the main part of the town exposed along a sweeping bay, suffered debilitating damages during the tsunami, and was unable to establish a disaster response headquarters or begin any significant activities immediately. The City Hall was flooded up to the third floor, along with much of the downtown, and around one-third of city staff were killed, devastating response capacity. Tellingly, a table in the draft evaluation report from Rikuzentakata shows the actions that were taken by various city officials after the earthquake (from 14:50 to around 15:27), followed by the locations of those staff during the time when the tsunami hit (15:27-18:00) and the location where they spent the night (after 18:00) but lists no actions: such was the destruction that very little action was taken between the tsunami and the next day (Rikuzentakata 2013: 30).

In New Orleans, by contrast, most city officials saw out the storm in a high-rise hotel in the downtown, and their more usual working area, the city hall, also largely survived. However, the delay between the passage of the storm and the awareness of its most devastating effect – the levee breach – along with the break in communications, confused the main actors. The EOC was in the City Hall, while the Mayor's office was based in the nearby Hyatt hotel, and many of the city council members had decamped altogether. At the same time, the Mayor and other officials were making requests – to the state, to FEMA – without realizing that those orders would not be filled immediately, or perhaps at all. These combined to leave the organization befuddled and without much grasp for what should or could be done.

For most of the CMC organizations, however, attempts to make sense out of both their physical and organizational disruption began almost immediately. This initial enacted

sensemaking primarily took the form of *implementation*: fulfilling or attempting to fulfill, in concrete ways, the needs created by the disaster.

This is not the sort of activity CMCs are designed for. They are intended to coordinated, manage, and strategize rather than to do. However, largely cut off from the branches that were supposed to implement their prioritized plans, many CMC actors began to attempt search and rescue, food and water provision, and similar activities. This also functioned as enacted sensemaking. By addressing the issues they could see in front of them, these actors were rebuilding their mental map of the environment but also rewriting that environment (see Weick 1988).

Both Lanzara and Czarniawska see actions as the basis for ephemeral organizations – and, at some level, for all organizations. Czarniawska writes of emergencies, "In such situations it is unimportant who is responsible for what or who has the right to do what. The critical issue is: *what must be done and how?* This is the way […] that a reaction to a concrete threat or catastrophe is most often organized" (Czarniawska, 2009: 4). This resonates with the behavior found immediately after the shock in these cases; there are actions that need to be accomplished, and with no rules, procedures, or relevant experience, figuring out how to do them is part of the sensemaking, and organizing, effort.

In Hancock County these actions began shortly after the water stopped rising, while the EOC staff were still recovering from believing they were going to drown in the flooding of their dedicated building. The County administrator recalled:

> We were on the front of the building and this family had been flooded out and they got in their suburban and basically panicked, then they were going down these flooded roads, and they went down and actually submerged the vehicle right in front of the emergency operations center. So these people who were in the emergency operations center grabbed the life jackets that we had had and realized we didn't have to have them and several of the firemen and policemen and rescue workers went on and went over and got that family and actually started giving them life jackets and getting them back to the emergency operations center. So that was kind of the start of this whole process.

These unplanned activities spurred ephemeral organizations. They did not involve hierarchical decisions or planning processes, but they did force people to work together in ad hoc ways with the potential to become more formalized. As they continued, they also served a role of enacted sensemaking. The County administrator continued:

> So the water got down and one of the men with the fire service looked over and the school bus was over there that we had parked, and the water with the school bus even though it had gone up on it, probably like this, feeling was that the school bus may run, so he got out and started the school bus, and just, with no real plan of action just got out and hit highway 90, and of course the light poles were down, the trees were down, and the water was still in the vehicle so, he went with the school bus down highway 90 just trying to see what he could do with it, and he ended up down highway 90, he knew the Waveland police department had decided they were going to stay at the police station which was not a safe place, so as he got there and they were all, the entire police force that had stayed there, including the ladies, were up on the rooftop of the police station. So he got there and they were able to climb down, and he loaded them up on the school bus, and that was the real stark reality of what we were dealing with.

There is no way for the actors to know whether the school bus will work without trying it; the person who makes the decision and takes the action to try it is neither ordered nor assigned to do so by the hierarchy; once they discover it does run, there is no particular plan or idea of where to search. As Lanzara writes, in a major disaster, "A *space* for decision and action is created, which was latent or constrained before the impact, and waits to be filled. Ephemeral organizations emerge to fill that space and take that chance" (Lanzara, 1983: 73). Even though the actor in this case is an official responder ("one of the men with the fire service"), the action is not hierarchical and not part of an official plan or procedure.

The process continued to develop, sometimes including people who were not official responders. The County administrator explained, "There were two guys there from Iberia Parish Louisiana, and they said hey, you know we got that airboat here, and I said, yes. What do we need to do and I said let's go." This particular mission started out as a means to reinforce the planned temporary structure and the permanent organization behind it: "We knew we had to go get the Mayor of Waveland to get him to the emergency operations center where we could meet with the Mayor of Bay St. Louis and we could make the decisions that had to be made then." However, in the process of carrying out that action, other needs became apparent and the action was adjusted:

> [We] took [the Mayor of Waveland] to the emergency operations center, at that point I got in the airboat with the two men from Iberia Parish Louisiana, and I knew from coming in that day that highway 603 was where all the vehicles were parked so I knew so many people had stayed in that subdivision even though we'd said, mandatory, you've got to leave these areas, I knew a lot of them died. So we started in the airboat and from the middle of the afternoon until it got too dark that day to do any more we rescued in the airboat a lot of people that were on

> buildings, a lot of people were in the water, some people were hanging on old boats and just dangling in the water.

The rescuers believed that they were removing people from the disaster affected area and plugging them back into a system that could care for them, but that infrastructure had also been damaged: "We rescued somewhere in the neighborhood of 50 people in that airboat that we were able to get back at least to highway 90 to higher ground and just say, stay here, […] that's where the school bus is going to pick you up and take you to the hospital. Little did we know at that time that the hospital, the shape the hospital was in." The disruption went beyond a single unit of the permanent organization; the larger links were also missing, adding to the sense of loss, incredulity, and departure from all rules and experience. The connections and supervisory perspective assumed to belong to the CMC were unavailable.

Although these actions are outside of the hierarchy of the temporary organization, they do involve some organization, in the sense of multiple people working together in concert for a common aim. The County administrator and the two unnamed men from Iberia Parish could be considered a kind of micro-scale ephemeral organization – in fact, no smaller than Lanzara's coffee maker, if considerable smaller than the full group which remained gathered at the damaged EOC. By addressing the needs in front of them, the actors construct new organizations relevant to those needs, while simultaneously expanding their understanding of – making sense of – the uncharted territory in which they find themselves.

Lanzara writes that, after a disaster, "What visibly emerge are 'observable activities.'" This is echoed by many of the Japanese actors, who described their initial actions after the disaster hit as the work "in front of our eyes."[14] For Kesennuma's disaster management head, part of that work included sensemaking: "there was nothing to do but concentrate on the work in front of our eyes, so, first, it happened. So one thing was to grasp the damage situation, then, anyway, we had to rescue people." Like the actors in Hancock County, he and his team improvised one-off organizations and solutions for immediate problems:

> So, I said let's go buy some meals. So, we leased a small truck, quickly, Owaki city, it's in the middle of Miyagi Prefecture, between Sendai and Ichinoseki in Iwate prefecture, so to somewhere like that, in that area it was just the earthquake, a town with no impact from the tsunami, there are big convenience stores, and

[14] E.g.: "The work in front of our eyes," "目の前の仕事" Interview, 8 April 2013; "the response measures in front of their eyes," "目の前の対応" Miyagi Prefecture Six-month Evaluation, p. 138; "only the issues that were in front of our eyes," "只目の前ある事" Interview, 11 April 2013.

> wholesale shops. I said go somewhere that has that kind of place, buy things and come back. So, Ichinoseki, Mizusawa, Hananomaki, that's Iwate Prefecture. They went to there and anyway bought things. Where there was an open store they bought everything. Then they had no money. So I told them to take a business card, say they were employees of Kesennuma City, and anyway get the things and come back. Then, that too, we couldn't boil water, because it was a lifestyle where the water wasn't coming out and there was also no fire, well, even if they bought Cup Ramen it was no good. So rice balls and bread, bread for meals, pastries, anyway collect that, and anything that can be eaten is okay, so collect it please I said, from the effects of the earthquake the electricity was already out. So there, they went to the people in the stores, they went in, with flashlights, I got them to gather from the wholesale shops and bring it back, those were my staff, and other city staff. (Sato)

While some of these activities are clearly of the type to be done once and never again, Lanzara notes that "If an activity is carried on for long enough, then a rule of conduct or a procedure may get formed and stabilized" (Lanzara, 1983: 90). In Hancock County, for example, the search and rescue organization is eventually formalized with help from outsiders for whom this temporary organization is a repetitive one. The emergency manager who was deployed to Hancock County from Florida as part of emergency mutual aid compact (EMAC) assistance, recalled that "You had one of the county clerks was running search and rescue. And he found a talent for it."

While it was theoretically unusual for higher-up officials at more removed levels to get involved, it still happened. In Iwate Prefecture, when it became clear that they could not expect adequate information from the devastated localities, they began to collect it directly, an activity that also blurred into active support for those municipalities:

> Once the roads had become passable, by the governor's order groups of 2-5 prefectural office staff were deployed to go to the 12 affected municipalities to collect information about their damage situation, they were sent with the order to stay and help if help was needed. When these deployed people returned and reported on what they had heard and seen and so on, finally we understood the situations of the municipalities. (Koshino, 2012: 17)

Despite the unforeseen nature of these implementation activities, they were often the tasks that felt most appropriate in the midst of a disaster: exceptional, hands-on, dirty, exhausting. In Harrison County, a county supervisor explained how she

> was taking the fuel truck to the different areas where we needed diesel and oil and gasoline, and at one point we came to downed power lines, and the guy had this big shiny truck on, he said I can't get through there, […] I said yes you are. And

> he said no I'm not. So I said move over. So I opened – I said open your door, so he opened his door, and I climbed up on the truck, and I was on the cab, and I picked up those power lines, and I said now you drive this truck. I said go ahead. [laughs] It was a great moment. I kinda felt empowered.

In some cases it was difficult for actors to switch back out of implementation mode. The emergency responder from Florida who supported Hancock County as part of an EMAC team recalled one example:

> We had a public works guy who was a great guy, but he says, I've gotta get out there with my backhoe, and we had to convince him, no, you don't have to get out with the backhoe, you need to get your as-built maps out, and you need to draw, with a crayon, what you want fixed first. And then we will get it fixed. You tell us what you want, you're in charge. We don't need you out there on the backhoe, we need you to be a manager. You're in charge.

Lanzara captures some of the root of this, writing "What is relevant to group members is 'to get things done', or at least 'to get something done' rather than 'how well things get actually done'. What seems to be important to the group members and to the customers being served is that the performance be *visible,* though poor" (Lanzara, 1983: 90). With hierarchies disrupted and an emphasis on action, this urgency to be out doing physical things is understandable. It also relates to the urge for sensemaking: cut off from electronic communications and data, being active in implementation was one way to figure out what was going on.

When CMC officials implemented these activities, they were improvising, creating new (often but not always brief) organizational forms, and attempting to understand their post-cosmology world. They were also subverting the idea of what the CMC should be, and by extension what government should be doing in disasters. The CMCs are premised on the idea of a stable, controllable situation in which coordination and decision-making can be separated from implementation. The cosmology episode temporarily collapsed the distance between governing and governed, between thinking and acting, built into the planned structure. Rather than rebuilding governance structures, the actors started by trying to rebuild the physical world.

That did not last long. Physical rebuilding was an enormous task. As actors began to find their feet, they reinstituted more typical CMC tasks as a means of reasserting control over the situation and the organization.

Initial Response

Meetings

For most CMCs, the first thing they did to reassert their role in disaster management was to hold meetings. As the response continued, regular meetings formed the backbone of the emergency organization, whether temporary or emergent. The meetings served a number of purposes: lateral coordination, vertical coordination, planning and reporting, and the delegation of function. The recurrent meetings became a sort of skeleton structuring of a bureaucracy that lacked many of the other trappings (such as formal budgets, separate offices, etc.). Perhaps most importantly, meetings were the first – and for some time, the only – mechanism that brought together, physically or virtually, the leadership of the emergency organization. In many ways, the meetings were symbolic, suggesting that the organization had far more existence beyond those limited intervals than it did.

Meetings and conference calls had been an integral part of the shift from permanent to temporary organization structure in preparation for the disaster. Returning to the meetings after the cosmology episode was often challenging in ways that demonstrated the new parameters that were shaping the emerging organization. In some places this was extreme: in Rikuzentakata, where the surviving city employees spent the night of March 11th on the roof of the City Hall, the Disaster Response HQ was not even formally established until the following day, when they had evacuated to the higher-ground school lunch preparation center. Even then, the disarray and devastation were so great that the SDF had to replace the city in initial tasks such as holding coordination meetings with partner agencies and conducting search and rescue (Rikuzentakata 2014: 109).

In devastated Hancock County, the actors at the EOC spent the day and night after landfall improvising: cooking food for responders, ferrying people to hospitals, finding ice to chill cadavers. The shock of the disaster had shaken them completely out of hierarchy and bureaucracy, as well as planning and structure. It was not until outside assistance arrived, in the form of the FEMA liaison who had advised them to evacuate two nights earlier, that more structured organization began to emerge. In that location, the focus was on trying to rebuild the temporary organization. The County administrator recalled:

> So, they couldn't get to us until that next morning when the water dropped down enough that they could get in, so that point's where they came in and we started

> that process. So we immediately pulled together […] we immediately started pulling the players. Everybody at that point was starting to gather at the emergency operations center and everybody wanted to be involved in these executive-type decisions with FEMA. But the FEMA director [sic] had said to me, this is what I want: I want you, as county administrator, I want the emergency operations center director, I want the president of the board of supervisors and I want each mayor, that's it, no more. You know we cannot go through this process and get it started. So we actually had to have these meeting rooms that we would go in and have to appoint someone to guard the door to keep anybody else from coming, because everybody felt like they wanted to be involved and I understand why they did, but it was just not that point.

This reboot of the temporary organization started with restrictions. The ephemeral organization was an environment of open, anything-goes performance, with opportunities for anyone who wanted to participate. In order to move from the hierarchy-less, action-oriented ephemeral organization to the standard procedures, it was necessary to close out many of the actors and refocus on the positions of authority, recreating the distinctions of hierarchy. This was driven by the FEMA official on hand: the representative of the permanent organization. Moreover, those selected to participate included positions of authority of the permanent organization – mayors and supervisors – as well as, and outnumbering, the leaders of the temporary organization; this move reinforced not just emergency plans but overall government.

At that initial post-landfall meeting, in the County administrator's words, "we were deciding where we are, what we've got in front of us, and how we plan to go about it. So a decision was made again, that we're, that we started into this together, we're going to stay together, FEMA, you deal with us [the county] as a group." This strategy did not always work out well; he later noted that

> that rocked on fine until we started trying to establish points of distribution, once supplies really started making it, where we were gonna be able to make distribution […] that's when the cities started to break off. Waveland was the first city that broke off, and they basically broke off and started putting in their own requests to FEMA.

In the first meeting, however, it functioned both as a ground rule and as an attempt to unite locals – and victims of the storm – in the face of relatively unknown, relatively unscathed outsiders. It offered an initial basis for the coordination of disparate entities towards a single aim. It also symbolized the unified force that these actors *wanted* their government to be; like so much of the CMC response to the disaster, it was aspirational.

Miyagi Prefecture kept minutes, now available on their website[15], from their initial disaster response headquarter meetings. The first one took place on the day of the disaster at 15:30, while the tsunami was still occurring along the coast. The disaster response headquarters chief (as the governor was known in the context of the temporary organization) spoke first, mentioning the extensive damage visible on television and urging that information collection and life-saving activities be prioritized. He then asked the secretariat (the crisis management bureau chief, analogous to an emergency manager in the US) to provide more details. The crisis management bureau chief referred listeners to a separate document for information on the earthquake and tsunami, and announced the measures being taken: the SDF deployment request had gone at 15:02; detailed evacuation instructions were being sent to all the municipalities; the helicopter was in the air looking for more data; the emergency firefighters had been requested; the chief cabinet secretary had contacted the governor at 15:10; and every effort was being made to collect more information. The disaster response headquarters chief closed by exhorting each department to do their best to collect more information, especially about human casualties.

As might be expected for a meeting so soon after – in fact, during – the event, there was very little actionable information (other than the request to collect information, but presumably everyone involved was already doing that). As minuted, the meeting also lacked any discussion, whether about strategy or immediate action or anything else. It was largely symbolic, an opportunity for the temporary organization of the disaster headquarters to exist in a physical, communal way and for its leaders to demonstrate their roles by sharing what little information they had. As much as for any practical purpose, the meeting existed to show that the government was still there and functioning – a statement it made primarily to government staff, rather than to outsiders.

The second meeting, an hour and a half later at 17:00, was more substantial. The disaster response headquarters chief opened by briefly requesting that each division report on the information they have, and the division heads did so. In many cases that information was still very limited; for example, that a division was in the process of ascertaining the safety of their staff, without any of the results of that check. However, there were small exchanges of concrete information, like the announcement that a national study team would arrive in a few hours. The headquarters chief asked whether electricity within the prefectural offices was okay, and the

[15] https://www.pref.miyagi.jp/soshiki/kikitaisaku/kb-1saigaitaisakuhonbukaigitop.html

general manager responded that while it was for the moment, the water was cut off. At the end of the meeting the headquarters chief once again requested all efforts on information collection, but also asked each department to put together a team to confirm the damages and determine emergency recovery measures, leaving the number of people to be decided by each department. The results were to be reported to the crisis management bureau chief, while the governor and lieutenant governor should also be informed.

Subsequent meetings followed a similar structure, with reporting from each division and opening and closing statements from the governor in his role as headquarters chief, reaffirming the hierarchy.

Throughout the responses, the meetings were an important benchmark for who was included and who was not. In Iwate prefecture, there were separate communication and coordination meetings in addition to the headquarters meeting, starting on the same day the tsunami hit:

> To tell each department and partner agencies the response strategy, and achieve a unified situational awareness in the disaster response headquarters, at around 21:40h I had the first communication and coordination meeting opened. In the integrated coordination area of the headquarters relief office a representative from each of the departments and a representative from each of the disaster prevention agencies gathered. (Koshino, 2012: 10)

As in the US, Japanese meetings frequently included some key private sector actors, but they often (although not always) excluded NGOs (other than the Japanese Red Cross). The representative of Japan Platform, a consortium of Japanese NGOs, explained that his organization was able to attend the national government field disaster response headquarters meetings for Miyagi prefecture, but not the Miyagi prefecture disaster response headquarters meetings. Practice varied in the towns and cities as well. In Ishinomaki, the Emergency Manager explained,

> In Japan, in this kind of official headquarters, volunteers are rarely present, but, when it became this level of damages such things can't be said, therefore, at first in the form of observers, we gave them our information to avoid overlap. Then this time gradually, it got so that coordination was done with those observers were not just listening, but giving their opinions.

The space was initially conceived of as one for government and perhaps private sector actors, but that image changed over the course of the response.

After the initial meetings set the stage and attempted to set a strategy, EOC/HQ meetings became very frequent, occurring in each jurisdiction between two and five times a day. This element of response structuring was incredibly consistent across the two countries and the different levels and locations of jurisdictions. For almost all the actors in these responses, meetings were the way they anchored their organizations, connected to others, and communicated the legitimacy of their efforts. CMC meetings translated a part of the disruption of the response into the standard language of bureaucratic government. Describing the meetings in Harrison County, Mississippi, an emergency manager explained "It was trying to get a sense of normalcy, and that's a kind of scary word, because what is normal, you know, that's not a clear definition, but we were trying to get a normalcy." Along with their other functions, the meetings were an attempt to move past the cosmology episode by participating in that most normal of bureaucratic activities.

Naturally, so many meetings took up a great deal of time, and required a certain amount of space and physical structure. In Hancock County, the initial meetings were limited and cramped; according to the County administrator: "on Tuesday night, so as night fell and we are all trying to meet in this wet emergency operations center that of course no sewer, you know all that was taking place with that." By Thursday, he explained, they had made the decision to commandeer a high school.

> On Thursday we made that decision, Thursday morning we announced we were gonna do it, Friday morning meeting we broke camp and we left the emergency operations center over here on highway 90 and we started moving things north. And by the end of that day, we had our meeting there that night, and the national guard was there, people from Kansas had started to make it, people from California had started to make it, people from all over Florida, had found their way to us, uh, and we ended up with the military and everybody else that was there, probably two to three thousand people on that whole campus.

Poor physical conditions in the meeting area was one of the reasons given for the difficulty in establishing unified command at the state level in Louisiana. The House of Representatives report notes that

> The EOC building and main room were very crowded by the large contingent of state and federal officials. The EOC main room has a capacity of about 50 people, but there were about 200 people. The EOC building as a whole was also overcrowded with about 750-1,000 people in it. There were only 12 Emergency Support Function (ESF) rooms for 15 ESFs. (188; see also Hayes 2012)

These meetings required discipline to keep them short. The regular coordination meetings that followed the initial one in Hancock County included more people, but were still under pressure to remain brief. The Florida county emergency personnel deployed to Hancock County under EMAC recalled,

> You should have seen the difference in the first briefing, evening briefing we had, took an hour and a half. Okay? By the second week we had that down to 25 minutes. And that's going through and talking with everybody from each emergency support function, each mayor, each public works director, congressmen hanging around, you know. And, you know, I told them, when we get in here, I need three things. Cause I ran the briefing. I wanted three things. What did you do today, what were you supposed to do today? What did you get done? And what you're going to do tomorrow. Just the facts ma'am, just like Dragnet, you know.

This approach also characterized the meetings at the state level in Mississippi. Describing the people at the meeting, The FEMA Federal Coordinating Officer for Mississippi explained, "if they're sitting at the table, probably 12 or so, and then there's probably 24 backbenchers, they're usually the primary staff, or, you know, the senior staff for the more senior people who are sitting at the table." Expanding the numbers was the fact that

> One of the things that's important about those meetings is that, if there's a state counterpart, or the – you have the inter-governmental team, as well as the inter-departmental team, or inter-agency team, represented, so there's got to be a state counterpart sitting next to the federal. So if it's a health issue, there's somebody from the Department of Health and Human Services from the Feds, and right next to them, there's somebody from the Department of Health from the state.

This set-up, which seems to contradict the emphasis on keeping meetings short and small, reflects the anxiety, and continued ambiguity, over inter-jurisdictional operations. Attaching two people from each department to the meetings was a means of avoiding later accusations of not having been consulted, as much as a good-faith effort to include different perspectives. For the Mississippi FCO and his state-level counterpart, the ideal of the government as unified across jurisdictional levels and based a consultative decision-making process was crucial.

In order to hone the numbers down to the essential, the FCO explained,

> We came up with something called the core capabilities. And the core capabilities are things you really *have* to do in a disaster, and those core capabilities may change from the initial response to the recovery. […] So, you know, throughout the life of the disaster you've got to figure out, who are those key people that sit at the table. Maybe the answer's not 12, maybe the answer's 18 or something, but

beyond that it gets pretty unwieldy.

The final decision about who would be at the table was made by "the federal coordinating officer and the state coordinating officer jointly making those decisions based on the recommendation of the operations section chief and the plans section chief."

The MEMA director said that the meetings were usually kept down to 45 minutes, and emphasized their importance from a strategic perspective:

> That's what drives what happens in the field, because if you don't then it just – there's never a sense of direction or guidance on where we're going, I mean you have to, every day you have to provide a vision of where you want to be in 24 hours, otherwise everybody's just kind of haphazardly doing something. And so that was the point of the unified command, it gave a sense of direction and clarity to where we were going. Because it was, you know, I mean, it was such a big – it's kind of like people say about eating an elephant, you do it one bite at a time.

In this perspective meetings were a necessary evil, giving the response structure but also keeping people away from other tasks. Inclusion was a status symbol for individuals (or departments), but also a symbol of collaboration.

In Japan, in an environment of siloed government departments, the meetings provided at least the illusion of a holistic response that could cut across those boundaries. Instead of exercises in quick, disciplined information sharing, in Japan the meetings could be long and rambling. The Japan Platform representative recalled that people who were not able to update as expected sometimes remained silent, resulting in long, uncomfortable gaps. In this way the meetings became a means of enforcing information collection. Rather than requiring prefecture and national representatives to attend a single meeting together, there were parallel meetings repeating much the same information. According to the Japan Platform representative, prefectural department heads would report on the prefecture-level headquarters meetings to their national counterparts, who would then repeat that information in the national government field-level headquarters meeting in the same city.

> Whether it was about the situation of the victims, the state of the evacuation centers, or relief goods, or fuel or lifeline services, or something like that, in this meeting the people who were deployed from each ministry on a one-week shift basis to Miyagi would share the information they had heard with everyone. […] They sent [that information] to Tokyo daily. […] It was a meeting in which those people in the national response headquarters who were in the prefectural hall, those people would consolidate the information they heard from the prefecture.

This seemingly awkward method of transmitting information reflected the traditional *tatewari*[16] of Japanese government, which can be translated as vertical administration or siloing (literally vertical split or dividing vertically). Samuels (2013) calls it "the Japanese term for the chronic lack of coordination and debilitating jurisdictional competition among central government ministries and agencies" (8); Palanovics (2009) refers to it, somewhat more prosaically, as "the phenomenon of government agencies guarding their own territory and being reluctant to cooperate with each other when it comes to implementing policies" (132). This made it more "natural" for departments to report up through their ministries rather than consolidating and reporting up through their administrative head (in this case, the governor). The approach emphasizes the independence of different levels of government, since the national officials weren't taking over or even participating in the prefectural meeting, but rather holding their own.

However, it could be frustrating even for those who were not required to sit through long pauses during the repetition of second-hand information every evening. In Iwate, the prefecture to the north of Miyagi, the Disaster Prevention Chief explained that,

> What was called the field disaster response liaison office was received within the prefectural hall. So, this liaison office had a number of people as staff present here for the prefecture's needs with respect to the national government. If we made a request to this liaison office, on the national side, for example, 'We want this many things,' what it means is, from the liaison office here it would go to the national government end, and then they would send it here. It was that kind of mechanism. There were also various small problems with this. With this too, if it was done so that all the authority was entrusted that would be fine, but the authority was not made the basis [for that mechanism] so the head of that office here, the one here, he had to consider the Tokyo end before doing anything. 'Is it okay to do this?' If it's like that, […] it becomes something like, well, what are you guys even doing here? A little bit like that. So as I said before, here too, if we had an organization something like the ICS I mentioned before, the coordination would have gone more smoothly.

While the Unified Command version of ICS in Mississippi theoretically meant that different levels of government all met and worked together, the FEMA liaison in Hancock County had a slightly different approach, not entirely dissimilar to what was going on in Japan:

> I went to meetings and stuff with Tim, Tim'll tell you, we were attached at the hip for, you know, days. But the truth is, I don't really need to sit in their EOC,

[16] 縦割り

> remember, I'm hearing all the things they're taking care of. The three things, the two things that they can't take care of, then they send to the state. Then the state turns around and may outsource those to EMAC, may contract, may do all kinds of things, and if they can't they turn to FEMA. So I mean, I'll know what those issues are cause I'm involved, but the reality is I had a meeting every morning at 8 o'clock, and I never talk about NIMS, ICS, or who was in charge of what, you know you lead by example, you don't need to tell people I'm your boss, that just doesn't work real well. So the thing is we started it when there was like three of us, and then there was five, and six, but every day at 8 o'clock we had our little meeting of all the federal entities, so any team, any group, that came on behalf of the federal government to Hancock county, on that 8 o'clock meeting had to send their leader to their 8 o'clock meeting. And then Tim started coming to it, and then their head building official started coming to it, and then the cities started sending somebody, not to discuss the things that they were all taking care of on their own, but if the city needed to talk to somebody from EPA, they knew that the lead for EPA would be in that room at 8 o'clock. If they need to talk to somebody about temp housing, they knew that my housing guru, Yogi, would be there at 8 o'clock. So we were able to make the linkages when they needed the federal support or had a question for things that had already been tasked to federal government, they knew we would coordinate that and the objectives for that day at 8 o'clock every day.

For him, having a separate meeting for federal issues was not a matter of repetition, as it seems to have been in Miyagi prefecture, nor of checking in up the hierarchy in the way Koshino complained about, but of separating issues that required federal involvement from issues that didn't. In part, this was, as the FEMA liaison said, "Because frankly I got a type-A personality." Even for this extremely experienced official who was very dedicated to the idea of local leadership in disaster, sitting in the EOC could be a temptation to get overly involved.

> So we set up our – we call it the federal coordination room – we set it up in a room, you know, right down the hall from where they set up their EOC, and we met routinely, every day, but I didn't sit in their EOC. Because frankly I got a type-A personality. If they need help on something, they shouldn't come to me. They go to the state. And if the state, if Robert Latham and his crews can't solve it, then they come to us. But even them it comes through a mission assignment, you see what I mean? If I had injected myself in the middle of that, all you do is mess it up. You gotta let the things take their course.

He further explained:

> We're not – different levels of government, we have our own roles to take care of, and we collectively work together on those things that one level needs the next level's help on. But we can't get involved – if we got involved in the little things, we wouldn't be able to help you on the big stuff. I mean if we're gonna try to do all the little things for you, then we don't need local government.

Holding separate meetings was a way for this FEMA official to keep himself from getting too involved in "the little things."

Meetings in the emergent organizations often seemed to arise spontaneously, independent of their prescription in the plans, and they often functioned somewhat differently than laid out in those plans. What was presented as decentralized coordination in the plans sometimes felt like centralized oversight or interference. Despite the almost universality of meetings in emergent organizations, the apparently simple task of running one was something that had to be learned and streamlined. Finally, while meetings emerged immediately and consistently in both countries, the way the meetings were structured reflected they ways they tend to function more broadly in each.

Emergent Divisions of Tasks

As noted above, the division of tasks for the responses was largely pre-determined: in a standardized way in the US, and on a jurisdictional basis in Japan. However, with the changed worldview revealed by the cosmology episode, different needs became apparent and other tasks no longer made sense. In some cases, task division fell apart completely in the initial moments of the response: as we have seen, in Hancock County and Kesennuma City, among other places, whoever was available did whatever was needed. The Hancock County administrator recalled of that time:

> Everybody that would come into that emergency operations center and I was the one that was there that was the elected official, and the one that people were coming through looking for, everybody, whether it was a search and rescue, whether it was a recovery of bodies that people were coming in saying, y'all got to go do something, whether it was medical issues, whatever it was people were coming in and wanting to see me and meet me and speak to me and put in the request, and it was just so overwhelming at that time.

This anecdote demonstrates the importance of task division as a means for delegation. Without clearly delineated areas with different people responsible for each, every request went to the person seemingly in charge of it all. Although his colleagues in the emergency management department had, according to the MEMA director, been trained in NIMS and ICS, implementing the theoretical organizations and task breakdowns under dire post-cosmology episosde circumstances proved a challenge.

For Hancock County and other US jurisdictions, the existing ESF breakdown meant that few EOCs attempted new configurations of tasks. However, just getting back to the existing pattern in which they had been trained was often difficult enough. In Hancock County, it was assistance from Floridian emergency managers deployed under the Emergency Mutual Aid Compact (EMAC) that changed the situation. The County administrator described how a Florida emergency manager helped:

> She said, 'I don't know if you're aware, but there's an emergency support function system that has been implemented in Florida and that we've gone through it, we've come with a team of people that can work with you and help you manage what you're going through. I said explain it to me. She said we will get in […] communications, fuel, animal issues, food and water, shelter, volunteer donations, it just went on and on and on, she said if you'll allow me I'll get in and we will meet with you and your group, this morning we'll start the process and we need to get people named today from your group that we can appoint to be over these positions. And so that was the turning point with Hancock County, hurricane recovery, and getting back on our feet, was the fact that they showed up and from that point we got in a situation where we were able to at least manage, rather than just doing crisis management we were able to do management.

Even though at least some of the people in Hancock County Emergency Management were aware of the temporary structure before the disaster, the County administrator still found EMAC assistance in setting up the ESFs "the turning point" in the response. It enabled them to start rebuilding both their understanding of the event and their control over it, and helped them shift from an individual, personality-driven approach to management to a delegated bureaucracy (this, of course, brought its own problems). His feeling about being given a clear list of sector areas – and people to work with who knew how to implement them – was one of relief. It was easier to be taught a system someone else knew well than to develop a new one from scratch, particularly in the midst of trauma and disruption.

The task breakdown did not always map easily onto existing agencies, and not all agencies bought into their assigned tasks to the same degree. From the perspective of the CMC, however, the task breakdown was fixed: when needs did not fit neatly into the prescribed fragmenting, the issues were typically framed as problems with coordination or decision-making, and the basic breakdown of the tasks remained unchallenged. For the MEMA director, keeping faith in the chosen structure despite difficulties was a fundamental principle for the response:

> I think probably the important key there is that you've got to – that organizational structure, whoever's pushing it or leading it, whether it's at state level or local

> level, has to discipline themselves in a way to say we've got to make this work, and even in those times when it was kind of painful and difficult, you just gotta stay the course and say, this is the right way to do it, it would have been easier to get to a point and say this is too hard, let's go do this, you know and then we would have found ourselves just like bouncing all over the place trying to find solutions because they were very difficult tasks.

The MEMA director, based in Jackson, Mississippi, was outside of direct cosmology episode range, although he certainly felt the echoes of it in the cut off communications and his trips to the affected areas. From his perspective, the continuity of the (relatively new) organizational structure was more important than improvisation.

There was some flexibility built in to the system. While the task breakdown didn't change, the focus could. The Federal Coordinating Officer for Mississippi, who worked closely with the MEMA director on implementing the structure, noted that in terms of who was included at key meetings,

> You know, throughout the life of the disaster you've got to figure out, who are those key people that sit at the table. Maybe the answer's not 12, maybe the answer's 18 or something, but beyond that it gets pretty unwieldy. So maybe one day it's the public health officials who are – because the focus is on fatality management and you've got to get all those deceased folks taken care of, so that day, or that meeting, or that operational cycle, it's the public health people that take care of that sort of thing, they're sitting there. A week later, all the bodies have been taken care of appropriately, and so now you're into, you know, other core capabilities.

Both the FCO and the MEMA director found ways to be flexible within the bounds of the prescribed structure.

However, this didn't address areas not included in the task breakdown. Some localities, finding the existing ESFs insufficient, added additional areas that they found necessary during the disaster: needs that had been overlooked in the planning. In Hancock County, the Emergency Manager expanded on the original fifteen ESFs, improvising from the existing rules: "[ESF] sixteen, I put the coroner, I added a coroner. Seventeen, I added GIS mapping. And eighteen, business and industry." He recognized that formally adding these categories as separate functions – rather than, for example, leaving the coroner's activities under "public health and medical services" – would afford them additional attention and resources by *requiring* emergency actors to consider them as distinct areas of focus.

In Japan, where the task breakdown was determined by each jurisdiction, the configurations were much more flexible. For example: In Miyagi Prefecture, the provision of goods "was difficult for the stipulated personnel to deal with" because of the high number of both requests for and offers of assistance. Rather than just adding personnel, "for that reason, materials (procurement included) and logistics coordination functions were separated from the assigned duties of the response group, and there was a switch over to a structure in which separate specialized groups took over those tasks." (Miyagi, 2012: 114). What was initially thought to be a single task needed to be broken down further so as not to overwhelm the staff involved in it. The material procurement group was spun off on March 12th, the material group on March 14th, and the logistics coordination group on March 16th, suggesting an almost constant flux in the division of tasks over the first week of the disaster as the actors struggled to map their organization onto the unexpected, initially incomprehensible circumstances.

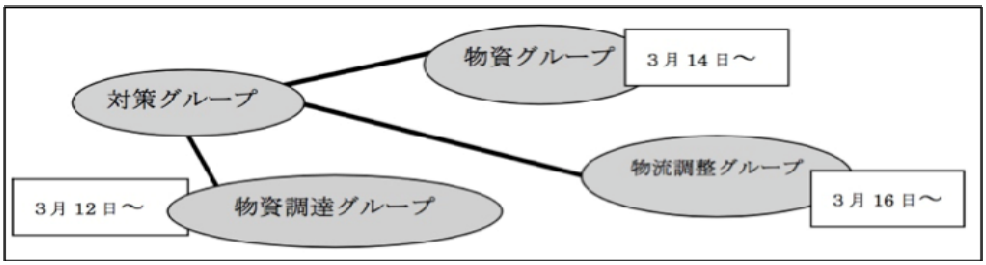


Figure 11: Groups spun off from the Response Group (left) with dates (Miyagi, 2012: 114)

Similarly, the initial organigram in Iwate Prefecture underwent frequent revisions. From the start of the earthquake, on finding that the planned structure for an emergency relief office "had barely changed in terms of function since the 2008 Iwate-Miyagi inland earthquake" Koshino, the head of the crisis management office for the prefecture "changed the headquarters relief office structure from four teams to a six-team structure" (Koshino, 2012: 7). This new structure included a single "response team," with other divisions were focused on auxiliary functions, designed for the supporting role that was imagined for the prefectures: Information Team, Communications Team, Public Relations Team, and General Affairs (administrative) Team, all of which, along with the Response Team, were overseen by the Supervision Team, headed by Koshino.

However, Koshino quickly became frustrated with this structure. One issue was the problem of *tatewari*.[17] Koshino believed this element of the permanent organizational culture was intruding on his response: "Around this time, every department in the prefectural office, every division, did information transmission along its own arbitrary lines, information sharing was becoming a problem, and the problems of *tatewari* began to come out, and control of the prefectural disaster response headquarters began to get more difficult" (Koshino, 2012: 25).

Koshino's concerns were not just about communications, but also about the implementation of the response: "in the case of this kind of a large scale disaster, even if we just take the example of relief goods, there were many instances in which a single department could not handle assessing the needs, procurement, receiving, delivering, and transport, so without having a structure with a new cross-department framework we were becoming unable to manage" (Koshino, 2012: 25). The size and complexity of the disaster meant that departments were required to work together within a single sector of the response, something that they were not well prepared for based on their normal experience.

The new relationships with the devastated municipalities also required an understanding of the exceptionalism of the current situation, another point in Koshino's reasoning for changing the structure.

> Also, despite the fact that the municipality administrations were paralyzed, there were still some staff who said 'this is something the municipality should do, why does the prefecture have to do it,' stubbornly clinging to the division of roles between prefecture and municipalities and unable to recognize what the current situation is like, still trying to send relief to the municipalities the same way as in normal times even when the situation had become the way it was. (Koshino, 2012: 25-26)

[17] 縦割り

The new task division of the HQ was determined and the change was officially made on the 25th of March, two weeks after the disaster. The new structure shows a decidedly more operational bent. The original five teams remain, although administration, information/response, PR, and communications have all been relegated to sub-teams,[18] under the supervisory team. A new operational unit team includes sub-teams for: response unit operations (coordination with disaster prevention agencies); aircraft operations; and unit operations (securing vehicles and fuel and supporting other response activities). An emergency response team includes as sub-teams: support to affected people (support for evacuation center management, management of volunteers, etc); sourcing relief goods; medical response; cremation support; debris and abandoned object response; municipality support. Finally, a restoration team included the sub-teams of: integrated planning; housing response; support for rebuilding affected people's livelihoods; education support; and industry recovery.

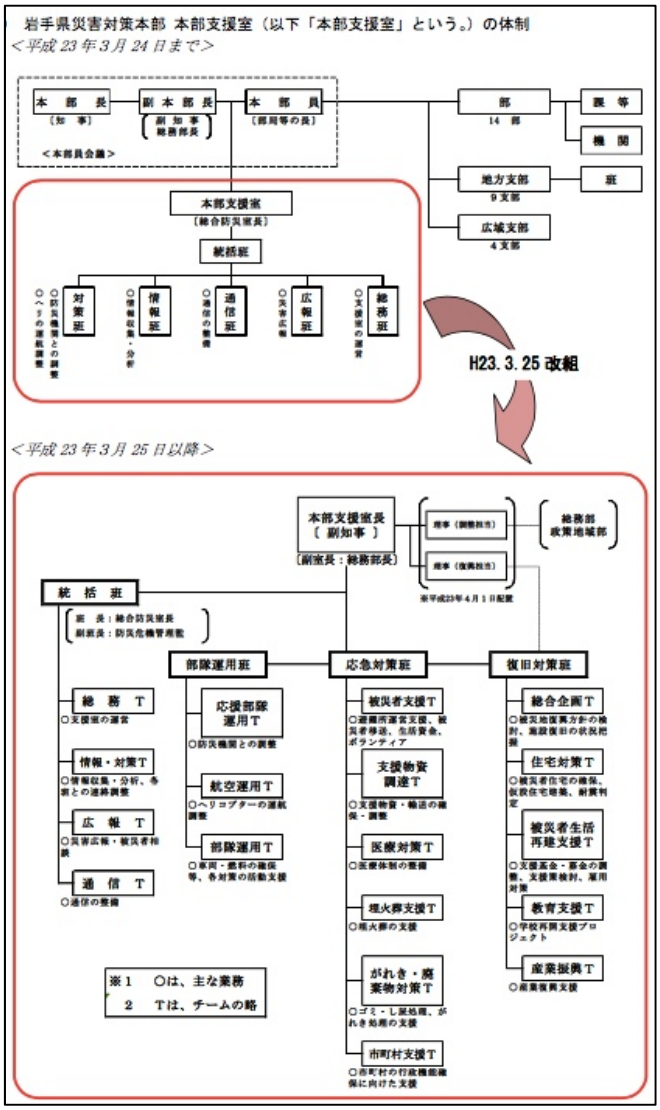


Figure 12: The Iwate CMC structure before (top) and after March 25, 2011 (Iwate, 2012: 44)

Not only does the new structure combine the work in different ways; it is far more detailed about what needs to be done in response. The original organizational structure's Response Team was something of a black box, allowing that team to figure out what was needed. The revised

[18] In the original structure, all teams are designated as 班, which translates as "group, party, team." The new structure includes 班, and, below them, groups designated with a roman-alphabet "T", which a footnote indicates stands for "チーム", the Japanese transliteration of "team."

version, benefiting from direct understanding of the needs, breaks down the response into several categories and each of those into detailed subgroups. By naming the different areas of intervention, the structure provides a kind of accountability: the responders can't ignore or argue that someone should be responsible for, for example, managing trash, when it is spelled out in the organigram.

This structure is not so different from the ICS system, which Koshino admired. The specific tasks are different, and their establishment partway through the disaster allows them to reflect the exact needs at the time. Koshino stated that "they were newly made, to deal with the new tasks that came up because of the disaster, we organized the teams in this way. So I had them gather these people from different ministries and departments". At this point the prefecture was taking on a lot of very specific operational tasks, from medical response, which was always part of their mandate in the sense of sending out DMAT teams, to unexpected competencies such as cremation support and sourcing relief goods. The diagram also includes the more general "municipality support" which is described as "support aiming to ensure the functions of municipal administration staff" (Iwate, 2012: 44).

For Koshino, this restructured organization was about connecting the different parts of operations into a single team: "For example, the departments concerned with things, with relief goods, there were any number of them. We made that into one team, well, in Japan, we're calling this cross-cutting, but in short, we made it a formation that would facilitate horizontal connections, well, cooperation" (Koshino). He felt that the response did move more smoothly after the reorganization, and the evaluation seems to agree; its main criticism is that this type of structure should have been implemented before or immediately after the disaster (Iwate Prefecture, 2012: 45-46), rather than two weeks later.

Although he also felt that this kind of "cross-cutting" structure should have been in place before the disaster, Koshino defended the idea of a structure which evolved throughout the different stages of a disaster: "Gradually these stages change so, finally, well, those teams also, they end up changing. So, this organization we're talking about, it's not that once you build it at the beginning it's fine like that, these stages…it should change little by little" (Koshino). Like the FCO in Mississippi, Koshino saw the priorities of disaster shifting over time.

If Koshino's difficulty was the siloing of the response tasks into different departments reluctant to coordinate, his counterpart in Louisiana during Hurricane Katrina identified the

opposite problem. According to the state coordinating officer (SCO) of Louisiana, his government put too much faith in a single organization – the National Guard – as an implementer for all of the response tasks.

> Now the theory in Louisiana, and you won't find this written anywhere, but it's the way it operated for 20 years or 30 years before Katrina, is that this agency was only designed to kind of keep things in a steady state, and whenever a disaster was approaching, the National Guard would mobilize just before the disaster, would come in and would fill a lot of positions in emergency management, and more or less take over the operation of the emergency. Because in emergency management you have a lot of tools in your toolbox, you have firemen, you have police, you have the military, active military, National Guard, you have the EMAC that you can bring in people from all over the country. But your biggest single tool in your toolbox at the state level is your National Guard, because it has a little bit of everything. It has communication, it has transportation, it has command and control. So prior to Katrina, that set-up and that organizational structure worked fairly well. But during Katrina it absolutely failed because generally the Guard was used to being able to handle everything on their own, you didn't have a large organization to help bring in all of these external assets from all over the country, which ultimately we needed to do. (Jeff Smith)

For him, the belief in the National Guard as a one-stop shop emergency manager diluted coordination with state agencies:

> So we, at the state level, basically, had done a lot of the coordination that I described should have been doing, but not necessarily in great depth, and part of the reason was is because we had only had 30 or 35 people, another part of the reason is that some of the key leaders in the state didn't really fully understand how critical it was that each of the state agencies take part in it, then comes along the way that Louisiana had been operating and that was that the national guard really kind of took control of everything, where the national guard in Louisiana probably could respond better to disasters than anyone in the country, but now it's overwhelmed […]so instead of your key head of emergency management sitting there to coordinate all of these assets, all of these assets, he basically took and started coordinating one asset, the military, and then left this organization, that certainly knew what should be done, but with very limited resources (Jeff Smith)

Somewhat like the Response Teams in the original structures of both Miyagi and Iwate prefectures, the idea of having one organization that manages every aspect of the response in a single neatly wrapped package is appealing. But it hampers both coordination and accountability, and obscures the limits of the role by not clarifying the vague term of disaster response. It also separates disaster response from the daily business of government, framing it as a separate issue that can be handed off to a single, quasi-government entity to be managed.

In Japan the changing categorization of tasks both actively shifted the understanding of what different parts of the government should be doing in the response, and deepened the difference factor of the disaster by changing a fundamental pattern that remained fully in place in the rest of the government. While this reorganization felt necessary and was supported by authorities, it was also a huge effort: it involved a rebuilding of a new "cosmology" to replace that toppled by the disaster.

Localities, too, adjusted their structures to meet the needs of each phase, but many of them struggled with the lack of guidance. In Rikuzentakata, with capacity decimated, shifting personnel to the most needed areas was important, and drastic swings can be seen in the week-to-week detailing of Rikuzentakata's evaluation. During the first week the tasks which people in the disaster response headquarters worked on were:

Task	*Number of people assigned*
Confirming the safety of individuals	12
Receiving and carrying in relief goods	10
Public relations	2
Mortuary/cremation	2
Medical	1
Temporary housing	1
Sewage	1
Restoring data	1
Liaising	1

Figure 13: Adapted from Rikuzentakata, 2013: 32

In the second week managing the reception of relief goods had gone up to 12 people while confirming individual safety dropped to 5; mortuary and cremation had also climbed to five, while medical, temporary housing liaison and public relations were at two and data restoration and sewage had dropped to one. New areas included education (2 people); matters related to city council (2 people); traffic matters (1 person); national insurance (1 person); water service (2 people); taxes (1 person); contact person (3 people); and social welfare (2 people). The total number of people continued to expand with assistance from other jurisdictions, and so did the number of sectors for the response: from April 1st, disaster procedures (legal and administrative processes), public finance, systems, agriculture, and damaged cars were added (Rikuzentakata, 2013: 32).

Not every job that had to be done fell easily into even the most comprehensive of these divisions. The Rikuzentakata city employee who hurried to a remote local headquarters when the

earthquake hit had three main tasks after he returned from the peninsula and became integrated into the city HQ.

> The first was, dealing with garbage. Dealing with debris. I was in the place in charge of processing garbage, the cleaning center here; I had to make the institution for cleaning garbage function. I did the work of making that run. Fuel, electricity, then institution, then, staff. So, collecting, the garbage collecting truck service…making that work smoothly. (Owada interview)

After that he worked on managing human remains, first looking for a burial site (considered a fairly extreme measure in Japan, where cremation is the norm) and then making arrangements with crematoria in Tokyo. Finally he took on a third job: "In the mountain area, in that area, fish was rotting, it was making a terrible smell. I dealt with that." These tasks were not foreseen in the planning; obviously, staff also had no training. Asked if there was any guidance for him in these roles, he responded:

> Guidance from the national government? It was absolutely useless. There was nothing but to do it ourselves. After all, neither the national government nor the prefecture had any experience with this kind of thing; I don't even know what kind of guidance it would have been good to receive, to get. Because we were in a situation of not knowing.

This "situation of not knowing" extended to the assistance that came from those other levels: "For example, volunteers and so on, nearby local government staff, they came to assist, we didn't even know what to have them do". He admitted that this was in part because of the extreme devastation to the city's capacity, noting that in Ofunato, the neighboring city to the north, "the city hall, it was robust so, they could say things like, do this please, we don't need that kind of assistance, we don't need volunteers, they could make that kind of decision but, the situation here, we couldn't make those kinds of decisions." This is in marked contrast to the situation in southern Mississippi, where mutual aid volunteers from other cities were able to bring a standard structure with them. That structure provided a scaffold for the recreation of the planned temporary organization, even if at the end of the response the county concluded that it was missing some key categories.

In Ishinomaki, several cities removed from Rikuzentakata to the south and in Miyagi rather than Iwate prefecture, the needs did not always match up well with the existing departmental divisions, but the changes were sometimes informal. The Ishinomaki Emergency Manager explained that, "The personnel department, there wasn't any personnel [e.g., hiring and

firing] to do as such, that is, there was understanding staff well-being, but other than that there wasn't anything, so the personnel department did gasoline procurement."

Ishinomaki also evolved pragmatically in terms of the method of discussing different tasks: the topics originally dealt with in the general disaster response headquarters meetings were gradually filtered into "working groups."[19] As the emergency manager recalled:

> After a little time had passed, at that point it wasn't that we were doing everything in the headquarters, we did the general things in the headquarters, but at this point the meetings were subdivided: the distribution of food and water, then, evacuees, ah, not evacuees, the distribution of food and water, then watching the roads, that is, traversing the roads, removing the debris, then after that, searching for missing persons, in that structure. […] So those related to that, for example, if it was the search for missing persons, the police, the firefighters, the SDF, after that, with our side [the disaster management department] doing control, in that structure, we had them put out various information, where the police are searching, where the firefighters are searching, we were able to control it in such a way as to avoid duplication.

It is worth emphasizing the way the disaster management staff, who managed the response and the headquarters, maintained a place for itself in the working groups for "control" of what the more technical related agencies were doing. Similar to some of the divisions of labor we will see in the operations chapter, the disaster managers valued their work managing the governance of what those with specific expertise did.

These working groups seem to mimic the UN cluster system approach of dividing meetings based on interest and expertise. It also seems something of an admission that a single government meeting might not be able to cover everything. Describing how the working groups came about, the emergency manager explained that because Ishinomaki had a such high mortality rate in the tsunami – their total was almost the same as the losses for the entirety of Iwate prefecture – along with a relatively large land area and a dispersed population, many of them living on the coast, such coordination was necessary. "Because we had to do that coordination, the working group kind of thing naturally came up, the working groups for the various sectors. It came up like a spontaneous occurrence." In other words, emergent.

For the actors in these cases, clear and consistent task divisions were useful in several ways: supporting delegation; allowing outside assistance to slot in easily; offering a framework for approaching a massive and complex problem. But they also struggled with the need for

[19] Kimura used a Japanese pronunciation of the English words "working group"

flexibility when existing task divisions failed to cover unforeseen problems or were too vague to provide guidance. In Japan, jurisdictions usually changed the structure mid-response. In the US, where task breakdowns were nationally standardized, they varied the implementation or informally added additional ones without changing the overall structure.

Whether they ended up with something very similar to the planned temporary structure or radically different, the division of labor was a critical element in rebuilding a response organization and developing a method of governance that adapted to the strangeness of the post-disaster context while reaching towards normalcy.

Planning and Feedback

While task divisions broke down the complexity of the disasters into simpler pieces, planning and feedback functions divided the response temporally. This intersected with task divisions and provided another route for coordination: one of the main "official" points of meetings was that announcing plans in the public forum could draw together needs and resources in an unplanned way. Less explicit functions included providing a sense of progress; determining and working up towards realistic but difficult benchmarks; and getting a bird's eye view of the big picture which was otherwise very hard to access. At the same time, planning extended the CMC's notional control over the disaster into the future.

Planning was used both at strategic and at more immediate, day-to-day levels. In Hancock County, for example, the initial meeting at which the cities reaffirmed their intention to work together continued with first short-term planning, then long-term planning. After that first broad decision, the meeting was used to estimate needs for the FEMA liaison to relay via satellite phone to the larger FEMA organization. These estimates were sometimes without any basis and (it was eventually discovered) wrong – the County administrator requested 500 body bags, when the actual need turned out to be 57 – but still served to assign parameters to the uncertain environment outside of the EOC. After those concrete (if incorrect) details, they moved on to larger-scale thinking. The County administrator recalled that

> A decision was made then that this is what we'll do: we will go in at this beginning on a rescue mission. So all the equipment that we can get, keep up with who has equipment, they need to be on specific missions. We're on what's called a cut and clear mission. Go in and cut what has to be cut to clear the road to be able to get in to check on the people and find, see where we are. So that decision was made, plans were made for us to start that next day receiving the necessary food, water, ice, medical supplies, fuel, and so we went out and basically from

> then announced to the people that were there, this is what we're doing, go out, round anybody up you can that's got equipment, get them in, start the process, keep up with who it is for reimbursement later, but certainly there's not going to be anything now. So we started that process and that was the beginning of moving forward with seeing where we were and what we had going and what we could do.

Breaking down the presumed needs and planning into the next few days gave the storm-shocked responders in Hancock County a chance to overlay a response method onto the post-cosmology episode madness.

Sometimes the lack of information meant that planning became an exercise in decentralization. In Iwate Prefecture, when Koshino held the initial communication and coordination meeting, there was so little information that they were at a loss for how to plan, so they concentrated on what could be done without much data: "Since there was no concrete information, I decided that from tomorrow the operational strategy would be the twenty-three helicopters that could operate" (Koshino, 2012: 10). This lack of situational awareness contributed to a decentralization of the immediate response; rather than specific planning, the meetings contributed to a minimal restructuring. "Leaving the detailed operation to the flight operations team, for the moment I instructed them that in the time and place where the situation was confirmed, if they thought the situation required rescue, they should decide and act in an ad hoc [adapted to the moment] way" (Koshino, 2012: 11).

As the situation progressed the planning became both broader and more detailed, and much more routinized. An emergency manager in Harrison County said, describing their early meetings: "It was trying to get a sense of normalcy, and that's a kind of scary word, because what is normal, you know, that's not a clear definition, but we were trying to get a normalcy." The Parish President of St. Tammany's Parish in Louisiana gave a description of how typical meetings ran there:

> The ten o'clock meetings I'd give our update, where we're at, what's going on, utility companies were in that meeting, everybody was in that meeting, must have had 150 people. And then I'd do a roll-call, I'd say okay, Mayor of Slidell, give me a briefing of where you're at. And then I said tell me the one thing, the one thing that we can help you solve today. Now they may go on with two or three. But you know actually it got better because they'd come in with one, they would then centralize to say what is – they'd go back home and say okay, to their team, what is our big problem, is it water, food, I mean, I know we don't have electricity, okay we know that, but then no reason to talk about that because that's

> not happening right now. You know what I mean? So then every day they'd come in and I'd do every town, every city. Mayor goes first, then the chiefs of police, then the fire chiefs, then I'd go to the hospitals, then I'd go to the school board, get a report from them. And you know they may stand up say you know what we need, we need gas. That's our priority, we're running out of gas. And I'd tell my people, get them fuel down there.

For the Director of MEMA, planning was about resource allocation: "what I think we did at the state level, and the federal level, is that we really saw ourselves as a resource provider. We, we used this, the action plan and the planning process and the unified command, to help figure out where we could get the assets and resources to help the locals get back up on their feet." At the state level in Mississippi, the process was extensive and formalized, and never really slipped out of the control of the temporary organization. The Mississippi FCO gave a detailed description of how the planning approach they were using functions in theory:

> The strategic priorities are set by the, in case of the states in the United States, you know, the governor, could be the mayor, could be the prefecture leader or whomever, and so the strategic objectives are kind of broad in nature, and then the unified coordination group meets several times, at least twice a day, and establishes achievable priorities and also establishes what's called operational periods, O-periods. Normally on a hurricane event or big event like that it's a 24-hour operational period, could be shorter, with a different kind of event, could be longer, as the disaster goes on, normally the operational periods go from 24 to say 48 hours and longer. So the unified coordination group sets those priorities based on the strategic objectives, and then assigns tasks to the members of the unified coordination group that are achievable within the next O-period or 24-hours. And creates something called the Incident Action Plan. And the Incident Action Plan you know assigns those tasks, assigns and allocates resources, it's very specific, so if the corps of engineers, for example, has the task of clearing debris from roads from you know village x to village y in the next 24 hours, that's assigned there. And then if it takes, you know, three graders, four dump trucks and whatever, those are also assigned. And that's not just for the next day, because you've gotta put resources in place, so that's for like two days out. And then the unified coordination group will review what went on in the previous operational period and say did we meet the objectives that we established, and what are the objectives for the next operational period.

One key element here is the perspective shift from "strategic priorities" to detailed, time-limited operational planning. While the theory here is clear – the longer-term priorities come from the governor or other jurisdictional executive, and are operationalized by the ICS team – the boundaries were much blurrier at the localities, particularly in hard-hit localities where

executives were as much in the mud as responders. The FEMA liaison to Hancock County recalled that

> Periodically Tim [the County administrator] and I, and I don't know if he remembers this, we'd go in a helicopter, and I'd do that just to get him away, to clear his mind, and then we could talk, and it would be Tim, let's focus on the things – you know, there's an order to this. And I'll give you an example. I remember Tim being just, I mean, good God where do we start? I mean, you know, it's utter devastation, debris everywhere, the houses are gone, government buildings – and I remember him stressing about debris on private property I mean it was everywhere and what are we going to do? And I got him up in the helicopter and I pointed I said look Tim, see all this? It's everywhere. He goes yeah, I don't know what to do. I said don't worry about it. You don't need to worry about it right now. He goes what do you mean? I said look, forget the debris for a moment, if that one yard that's full of debris, if that was a crack house, do you have the legal authority to go clean it up? He goes, well no, not without condemning the property and all that. I said so, bottom line, even though there's been a disaster, all that debris on private property, you should not even see it right now. It's gonna be a problem for you, but it's not your problem right now. Your first problem is getting your roads, those things you're legally responsible for, get your roads passable, don't clean it up, just cut and toss, just get the roads passable so search and rescue can get into areas. That's your responsibility, you don't need permissions to do any of that, you've got to get that done. He goes okay I got it. Then the next thing once you've got a road passable and all the debris piled up on the shoulder, well now what else are you responsible for? The parks, I mean not just the parks, but your government properties, the shoulders of the road, you've gotta get all that passable. All that's gonna take time. And then, the people start bringing the debris putting it on the curb cause that's where they normally put they're you know yard waste and stuff, so you've got all that, you've done every bit of that and it's in a natural process, so when all that other stuff is getting close to done, that buys us the time to collectively – the Bill Carwiles and the president and the you know governors and everyone else and Robert Latham will figure out the legalities of cleaning up private property, but you don't need to worry about that right now, there's a natural order to this.

In this case, physical distance was necessary to get enough distance for strategic planning. This particular planning effort reinforced the temporary organization by emphasizing a natural order in which each layer of government had an almost "natural" role; it also made explicit, if it wasn't clear enough, that the locality needed the assistance of the larger organization to manage the task.

Another function of planning was to allow coordination. Several respondents noted this component.

> You have EPA [Environmental Protection Agency], Coast Guard, at one time we had 20 plus entities that were there on behalf of the federal government, either we were paying for […] teams, EPA teams, the big contractors, whatever. So, I'll give you an innocuous little example, so we're sitting there and the guys and gals that are doing the temp housing, they said look, we can't set any more trailers than we're doing now, cause if they got to doing twenty a day I said okay, well now we'll go for thirty a day starting tomorrow, […] So, when they got to let's say 75 said we can not do any more, my question was, why not? They said well, the debris, the debris on the private property, we're setting 90% of the trailers on private property, but our contract doesn't cover moving the debris, so if debris is in the way our people can't set the trailer. I said okay, looked around the room and there was another group from like Fish and Wildlife, that had debris removal equipment cause they'd been cleaning drainage ditches. Well they were done with what they were there to do, cleaning drainage ditches, and still had like two weeks left on their mission assignment, they said well if you give us a list of where you need the debris just pushed to the side, we'll go ahead of you and do that. So they got another 10 a day. And then the EPA says look, people are gonna die from black mold, cause that's just so much flooded houses and they're working on there and this black mold is going to kill people. We have these mold alleviation textbooks but we got no way to hand them out. Well the housing guys are sitting there in that meeting said well, […] put it in an envelope we'll put it in every trailer we set, give them something to read at night anyway. (FEMA liaison, Hancock County)

> So we did that, and then as time went on you found like a mayor may say, I've got a garbage problem. With the people that are here I've got a garbage problem. And in the room somebody said well you know, down in Slidell we got ten dump trucks. I'm like okay, what am I hearing from you, you can help them with the ten dump trucks? Yes sir. I said okay, and man they would pack it up and go to another town and pick up trash. You know what I mean? Everybody then, every morning when we'd come up with what the problem of the day was, we'd solve it. Somebody in that room would help us, I've got it, and they'd say, I'll bring it to you, whatever it may be. (Parish President, Saint Tammany's Parish)

This mechanism resolved problems, but also further integrated the disparate organizations. Synergies like those in the examples above make the case for the big-picture coordination of the CMCs, and for a government role in managing the response in a way beyond ad hoc, immediate need-driven micro-organizations.

The planning processes took the framework provided by meetings and used it to extend a hypothetical control over the unfolding of the response. Actors were able to discuss what they imagined (their operational teams) would do, creating a collective idea of how the response would stretch into the future. The feedback loop meant that there was also (in theory) a more

grounded element of checking what had actually happened. Having a range of actors in the room for this planning built coherence across the larger organization. While this type of planning might not be "normal", the routine that was developed through the planning process was a key step in building new structures that both felt like they were accomplishing something and felt like organizations.

Communications

Relinking and maintaining communications with other levels of government was an important function for the EMCs. Indeed some of the most heroic stories of the response are of attempts to restore communications. In Hancock County, the Emergency Manager explained that they initially had no communications. Then a ham operator who happened to be in the EOC

> took battery out of his van, he climbed a 40-foot tower, or 50-foot tower, with about 40 mile an hour winds still going on, to straighten his antenna out so we would have any type of communications. And he'll tell you this to this day, I went out there and I said what are you – I can't say exactly what I said, um, I said Brice, what in the hell are you doing? I said story's gonna read, radioman survives Katrina, dies from fall off of a tower. That's exactly what I told him.

While this was sometimes from the imperative of requesting specific assistance, it was often more about communicating their survival and reknitting their connection to the whole. Adam went on:

> [Brice] is the only reason we had any communications with anybody when he got the tower straightened up he could talk to everybody. Cause I mean, reports were that we were dead. My wife and three boys was in Tallahassee and it was over the TV down there that Hancock County emergency management agency is feared dead. And my three boys are watching this. So, yeah well there's no communications. So we started putting out on the airways whoever could listen to a – cause not everybody has ham radios – and um, started putting out that we were okay, and then people started finding out we were. So.

In many places communication had to be carried out in person or by relay:

> Saint Tammany Parish President: Then at Tuesday morning at 10 am, I sent runners to all municipalities, cause there was no communications.
>
> **Literally runners?**
>
> STPP: Yeah.
>
> **Cars?**

> STPP: I mean, cars. Or radio communications that we could give. And back then they all weren't on the same communications channel, so I might have to get a deputy to go to one city to relay the information.

For mass communications the Parish President of Saint Tammany's Parish went further.

> New York called me and asked me to come up for Sandy, so I got up there and I went down into the local counties, and uh, they said how did you communicate with your constituents? Now there, in one county there's 2 million people, I mean you know, it's unbelievable. So I said well, I don't know what your laws are, but I commandeered a radio station, I went in and took it over. FCC [Federal Communications Commission] didn't like it, but I told FCC well arrest me when I'm finished.

In Iwate prefecture, the lack of communications was a major factor in the cosmology episode, even though simulations had predicted some loss: "The information coming from coastal municipalities was far less than we had imagined, the damages far greater. Coastal municipality staff function had received a huge hit, so there could be no expectations that information would come in from the affected areas" (Koshino, 2012: 8). It impacted the way the response was carried out: "With the communications interrupted we couldn't communicate, so we had no way to grasp where the evacuation centers were, how many affected people there were, or how much the needs were" (Koshino, 2012: 16). The situation was so bad that the information was eventually collected in person:

> Once the roads had become passable, by the governor's order groups of 2-5 prefectural office staff were deployed to go to the 12 affected municipalities to collect information about their damage situation, they were sent with the order to stay and help if help was needed. When these deployed people returned and reported on what they had heard and seen and so on, finally we understood the situations of the municipalities. (Koshino, 2012: 17)

Meanwhile, in-person distributions of communication technologies were also ongoing: "for thirteen days we distributed satellite cell phones successively to each municipality, finally a minimum of communication could go through" (Koshino, 2012: 17).

In Hancock County, EMAC teams deployed from Florida were supposed to be coordinated through Jackson, the capital of Mississippi; however, since there were no communications between the Gulf Coast and Jackson, "initially for the first week our communications with Jackson was through Tallahassee [the capital of Florida]" (Florida county emergency manager deployed to Hancock County through EMAC). Responders would send

requests to Florida Emergency Management, who would relay those requests to Mississippi, an improvised network that was based on personal relationships and logistical possibility rather than legal jurisdiction.

Even after some form of communications was set up, it was often ungainly to the point of affecting the shape of intergovernmental relations. The city employee in Rikuzentakata recalled:

> In terms of requests [for specific assistance], the thing is first of all there were no [working] phones. In the midst of this lack of communications system, there was only one computer, a satellite computer. From that I would take the note that came from the national government every morning, the part that was for me, on a USB. Then I dealt with it on my personal computer, then again, I returned it on that [USB]. So, it was a difficult way of dealing with things. We couldn't have a quick back-and-forth.

As communications technology returned to normal accessibility, patterns of use remained unusual. The city employee reported that "Once I was able to use my cell phone, I went back-and-forth directly with the national government and the prefecture." This was exceptional; he stated that he had "absolutely not" ever directly done this back and forth with prefectural and national figures before. Similarly, in Higashi Matsushima City, the Mayor said that he spoke with the national government daily on his cell phone, something that he did not normally do. The Higashi Matsushima City Head of Disaster Prevention, in the same conversation, agreed that while locality to prefecture to national was the normal pattern of steps, "it wouldn't be [done] in time, so we often communicated directly with [ministries in] Kasumigaseki […] the conditions were different from normal." Even after the physical technology returned to normalcy, the organizational relationships continued to reflect the exceptionalism of the post-disaster situation.

While these new lines of communication to the power center of the country may seem exciting, in most cases the actors in the CMCs described these shortcuts not as something they pushed for, but as something they were required to do. None of the informants described themselves as making an effort to connect to a higher level of government; rather, the implication was of check-ins required by the upper levels they're talking to.

With communications reestablished, sending information in both directions along the hierarchical chain – requests for assistance and status reports up, requests for status reports and information about assistance down – became one of the primary functions of the CMCs. This is

less self-evident than it seems since in both countries efforts had been made to embed staff from higher levels of government at the mid- and local levels. In Japan, the central government opened "field disaster management headquarters" in the prefectural capitals; as discussed above, these held meetings parallel to those of the prefectural disaster management headquarters. They also placed liaison officers in the prefectures.

> What it means is, from the liaison office here it would go to the national government end, and then they would send it here. It was that kind of mechanism. Well, there were also various small problems with this. If it was done so that all the authority was entrusted that would be fine, but the authority was not established, so the head of that office here, he had to consider the Tokyo end before doing anything. 'Is it okay to do this?' If it's like that, […] it becomes something like, well, what are you guys even doing here?

The liaison officers were supposed to streamline requests and approvals, but without sufficient authority the decentralization was only nominal. Rather than facilitating communications, this expanded the quantity of it.

In the US, in contrast, at least some liaisons in the field were very careful not to interfere in the request chain. The FEMA liaison to Hancock County explained that for him, an important part of supporting local government was not getting involved when he wasn't needed:

> There's a fine line between coordinating various levels of government and getting in somebody else's shorts. It would be very easy, like when I rode out Ivan in Pensacola, we stick our heads up after the storm we looked around and we realize I-10 is gone. I mean the interstate's gone. Two miles of it is gone, both sides, east and westbound lanes, had fallen in the bay, it was gone. We're like, "holy shit." Well, it would have been really easy for me as a fed to start screaming all the way up to DC that we've got to do something about this interstate gone. Well, the state did, cause they had an agreement with federal aid highways, they'd had through contracting. The state did, not us, the state did, they had a two-lane, all concrete, built back to specs, you know one lane east, one lane west reopen over two miles of bay, guess how long it took them? Twenty-one days. Yeah, it probably took four years to build those bridges, to do all the contracting and everything else initially. They got two lanes reopened in twenty-one days. We didn't get involved. You know what I'm saying? They knew, the state of Florida knows, they have federal aid highways, they use that money, they do emergency contracting, they knew what to do and they took care of it. So they didn't need our help for that. So there was no need for me to start screaming about the bridge – you see what I'm getting at? Sometimes a coordinated response that's handled wrong, it causes people to chase the wrong things. (Gentry)

For him, the close involvement of federal officials in the local side of responses raised the risk of too much federal assistance, confusing the issues and complicating things the state could do easily.

The reestablishment of communication technologies did not immediately restore the temporary organization as planned. For one thing, while communication channels remained narrow and limited – Rikuzentakata's single computer connected and USB, the single satellite phone in Ishinomaki, or even cell phones while signal was still unreliable – there was not the time or space for mentoring on emergency procedure or discussions about organizational structure: the communications were limited to the most urgent needs.

Perhaps more importantly, in cases where renewed communications revealed the failures of the permanent organization – like the Rikuzentakata city employee returning from his isolated island only to find the city hall destroyed – they may have furthered the emergence of new organizational structures. In Mississippi, the worst hit locations initially had no communications, and so no hope of receiving specific requests. Once they could send orders up the FEMA pipeline, they ran into the serious logistical difficulties FEMA was having in filling orders, including lack of stocks, lack of trucks, and lack of tracking capability for in-transit orders. According to the Senate report, "MEMA and FEMA officials in Mississippi alike complained that requests disappeared as if into a 'black hole'" (384). Once it became clear that the system was irredeemably broken, FEMA officials on the ground – in particular Mississippi FCO William Carwile – began communicating with Florida Emergency Management – led by Craig Fugate, whom Carwile had worked with the previous hurricane season – to get assistance from there outside the standard procedures. The House of Representatives report states that "Carwile and Fugate continued to push resources into Mississippi without clear mission requests" (138), while the Senate report cites a MEMA official as saying that "The Florida teams 'basically circumvented' FEMA's logistical system" (385). A new system had emerged to fill the gap left by the failure of the previous system.

In this particular case the new system was enabled by informal relationships within the formal organization. Chisholm (1989) writes "where formal organizational arrangements are absent, insufficient, or inappropriate for providing the requisite coordination (and I argue that they frequently are), informal adaptations develop to satisfy that need" (17). Such existing informal relationships were not present in every case though. In Japan, many informants stated

the importance of drills (the Mayor in Higashi Matsushima; the Head of Emergency Management in Kesennuma; Koshino in Iwate) that introduced responders from different organizations to each other. Connecting localities with the SDF brigades assigned to them seems to have been particularly useful (Kesennuma; Iwate). However, many people also reported intense communications with interlocutors they had never worked with, or even spoken to, before, particularly when localities started jumping the prefectural level to work directly with the national government (Higashi Matsushima; Rikuzentakata). In the US too, while those informal relationships facilitated some organizations, the FEMA liaison to Hancock County recalled fondly his interactions with people he had never met before.

Surprisingly unstructured in the planned organizations, communications after the cosmology episode were first determined by the possible. Once a return to normal communications was possible, abnormal patterns persisted, as the urgency of the situation led to circumventions of the hierarchy. The improvised, tenuous methods of communication of the traumatic first days after the disaster were replaced by the imposition of more direct approaches to maintaining knowledge, and therefore control, of the affected locales. While we would expect reconnection to strengthen standardization through the permanent organization, it also revealed the weaknesses of the government's disaster response, sometimes spurring greater improvisation and emergence.

Decision-Making

In theory, the CMCs were a locus of decision-making: a place where information and representatives of authority interacted. While this was partially true, in practice there were variations on this idea. The unified command structure, for example, included a lot of joint decision making:

> Mississippi FCO: So if it's a health issue, there's somebody from the Department of Health and Human Services from the Feds, and right next to them, there's somebody from the Department of Health from the state. So, if you don't have that, then later, you know, you've got friction […] When they're there making joint decisions on that particular functional area, in this case health, then there's no later, I should say it minimizes the later friction points and misunderstandings. […]
>
> **And who is it then who's making that decision each day who needs to be at the table, is it the section chief?**

> MFCO: No, it's, ultimately, it's the, in our system, it's the federal coordinating officer and the state coordinating officer jointly making those decisions based on the recommendation of the operations section chief and the plans section chief.

This kind of joint, consensus-based decision-making is both difficult and very different from normal government processes. Thompson and Hawkes (1962) have a theory about this shift, writing that while normal bureaucratic decision-making use "computational decision processes" which "involve a previously-established goal and orderly, synchronized activity to achieve the goal with a minimum of confusion about who is to do what and when he is to do it," in disasters

> when we shift our focus to the allocation of resources *among* organizations, and between families and organizations, we find that the community relies primarily on *pluralistic decision processes*. This involves not only a lack of prior agreement with respect to specific goals but also, as a consequence, a lack of agreement with respect to who should do what, and when. These processes are accomplished through negotiation among a plurality of groups, and provide the give-and-take which permits multiple, simultaneous adjustments among primary and secondary units in the community, and between them and the environment. (271)

This obviously contrasts with the belief that a single, authoritative decision-maker is necessary in emergencies. For example, Koshino, in Iwate, suggested that "when a disaster happens, finally if you can't have a top-down [structure] it's pretty much impossible to do an expedited [streamlined] response. You can't do it fast."

There were a lot of variations on resolving the tension between these two ideas. In Ishinomaki, the Emergency Manager reported that "If it was a big problem, we would decide it in the headquarters [meetings]. Only, for small things, myself and another person being in the disaster response headquarters, we had no choice but to make decisions." Important decisions were made by a relatively large group, while smaller decisions were handled by the emergency manager (and presumably it was the emergency managers who decided where the line fell between important and less so).

Another question in decision-making was whether it should center on the senior elected or appointed official in the jurisdiction – in many ways the representative of the permanent organization – or on the experience and training of the emergency manager, representing the temporary organization.

The Mississippi FCO, a career emergency manager, described "the effect of getting elected officials and other senior officials who have no training, and don't care about this stuff

until there's a big event, and then they come in and of course they become decision makers without understanding a system, without understanding anything. Now, they can really screw things up." The FCO wasn't talking about Mississippi, where he characterized Governor Haley Barbour as someone who "understood the value of having a disciplined approach, and he personally sat in the unified coordination group meetings on many occasions." The personality of the governor, however, can't be guaranteed by the design of the planned emergency structure.

Koshino writes about the role of the governor in Iwate prefecture, describing for example how his visits to the headquarters relief office and speeches to staff were "very encouraging" (Koshino, 2012: 12). He also writes about insisting the governor do a helicopter flyover early in the response because "The 'top' confirming the state of the affected areas first with his/her own eyes is extremely important to be successful in the response that follows" (Koshino, 2012: 12-13). While the governor initially was involved in the headquarters meetings, this eventually changed:

> Incidentally, the disaster response headquarters staff meetings were a place for all headquarters staff to consolidate their recognition of the situation, and for discussions about the prefectural office-wide response strategy so that the governor as the head of the HQ could make decisions, but in that place it became difficult to explain the situation where the details were changing minute by minute at the beginning of the disaster.
> So we made it that after the governor arrived at the office from 7:40 I gave a morning briefing, and if necessary asked for instruction at that time. (Koshino, 2012: 24)

This shifted the role of the headquarters to one in which the emergency manager (Koshino) made provisional decisions, to be confirmed separately with the governor. The process was further fractured when Koshino began holding "true intentions" meetings with representatives from the SDF because "from the SDF perspective, even with the division chief attending the disaster response headquarters meetings, it was hard to grasp the prefecture's true intentions, while since the disaster response headquarters meetings were open to the media, the SDF couldn't talk about their own true intentions there" (30). Koshino would communicate what he learned at these meetings to the governor.

In the localities, particularly those that were hard hit by the disaster, the cosmology episode weakened the distinctions between the administrative head and the emergency manager:

the administrative head couldn't afford to be too busy with other matters to attend meetings, for example. The FEMA liaison described the process in Hancock County:

> Literally we sat down with Tim and the city managers and said all right, how we gonna do this? You know, let's say 200 trailers are coming in and gonna be set up, how do you guys, cause this is your jurisdiction, you live here with these people, some of you are homeless, how do you propose we decide who the first 200 people to get them are? You know, and so that's how we did it, as a collective effort. And they did things like, we gotta take care of the responders, because if they have to go take care of the family they can't respond to the other needs of the citizens. So they started looking at things like that we came to agreement.

While it's common for international organizations to set criteria for these kinds of decisions even before an emergency (for example, prioritizing female-headed households, or the extreme poor, or children, or the disabled), the liaison was resistant to the idea of prioritizing:

> Well it's not so much set criteria – let me put it this way. As far as prioritizing ahead of time, it's kinda hard to do cause you don't really know who's going to be homeless. I mean you have an idea of what's going to happen but you only get that snapshot, I mean if you really want to get down to brass tacks you're talking 12, 24 hours out. Well obviously at that point you can't really prioritize who you're going to house.

Maintaining control at the local level, with so many outsiders coming in from different levels, could be even more challenging. The emergency manager who was deployed to Hancock County from Florida as part of mutual aid, reported that "when we had military support in Hancock County, we had to have a ICS 101 course for the military, because, we, you know we had 2-star 'well I'm in charge, I'm in command of something.' 'No you're not.' I'd point to Hootie and say 'that's the commander. The county EM director. He's the commander. You're here to support him.'" In that case, the situation came to the point of a standoff:

> There was a point in Hancock County Mississippi where if, if, persons above Hancock County, I'm not going to say who, what entity, was not going to relinquish us the ability to get in follow-on forces and resources, and food, and water, that we were going to have to withdraw, because the situation was unworkable. We did not want to do that. Finally those persons were prevailed upon to release control to the locals, and as we were there to support the locals, then the wheels started turning.

The adjustment to having the locals in charge could be equally difficult for the locals themselves. The Hancock County Emergency Manager mentioned in that quote, when asked about the fact that in the Stafford Act locals are supposed to decide on needs and request what

they need, responded: “Trust me, it didn’t happen. It’ll happen now. Cause I didn’t know my boundaries at the time, now I know my boundaries, I know what I can and can’t do, and that’s one thing I can do is tell somebody he ain’t coming in and helping me I don’t want him to.” It took some time for him to lean into his authority.

In Louisiana, by contrast, the strength of local authority in pre-disaster times was mentioned as a major barrier both to adequate disaster planning and to coordination during the response. The Louisiana SCO said that

> One of the real challenges you have there is that in Louisiana, and I’m sure this is probably true with a lot of places, the parish governments didn’t put the resources in that they needed at the local level to even develop their local plans, because the state is not responsible for developing that local plan. The locals are! Well in Louisiana we still had – in some of the parishes, not in any of the, not in Orleans, Jefferson or Saint Tammany or any of those, but there were still parishes with volunteer emergency management directors in some of the northern parishes, and certainly the city of New Orleans […] they only had seven or eight people in their emergency management agency but yet that was an area that had been known for 30 years to be highly susceptible to what happened happening, although it really was not necessarily the storm it was the failure of the levees that really created the devastation, nonetheless, they just didn’t have the people, the resources, any of the time to dedicate to developing a plan, in detail, which needed to be done, they just didn’t have it. Well, because they’re an independent – the way that Louisiana’s constitution is set up, well the state can’t just go in there and tell that parish president or mayor or mayor-president, you know, what to do. So you can do everything and try everything that you want, but the way our emergency management system is built, it’s built from the bottom up, but that state agency is the middle, if you will, should be making sure that the plans that are there coordinate all the way from the bottom all the way through to the feds. But the feds should be supporting that obviously from the top, and the locals should be supporting that from the bottom.

And indeed, in Saint Tammany Parish the conflict between different levels of government was much sharper. The then-parish president recalled arguing with FEMA over transitional housing:

> They said well, we use, FEMA that’s on the line, they said well what we usually do is we’ll come in and we build big tent cities and stuff like that for your people. I said oh no no, we ain’t doing tent cities. I said here’s what I want. I want a, and my first thought was, I think I used words like camping trailer. […]And we got in a big screaming – we don’t do travel trailers, we don’t do – I said, I’m telling you, I’ll put it in the front yard. And we screamed and hollered, they wanted to come down and build these tent cities, can you imagine? […]And I remember screaming and hollering at them, my whole staff was in the room and I was letting them have it. And my language wasn’t too pretty. I said, you guys don’t know

what the hell you're doing, give me a trailer. We're never gonna do that! Next day conference call came in and they said we're gonna give you a trailer.

As the feud continued, he was empowered by his powers as parish president.

STPP: No one was intentionally trying to do it wrong. But, you know, FEMA was on a national level and I don't think they'd experienced one either, so, they're trying to do logistics and they're like, confiscate every generator that you can confiscate. Confiscate fuel. That was an early, first – get all the fuel you can get cause Louisianans and Mississippi, they're all gonna need it. Well what they did was they interrupted guys like me who had contracts. I did pre-existing contracts before the storm, okay? […] So I had a contract for fuel out of Texas, so they call me and say FEMA's confiscated all of our loaded trucks. I said oh nononono, I said do me a favor, I need, you know, I don't know what it was, 1500 gallons, 2000, whatever was on a big tanker. I said I need at least one of those, my hospitals are going low. Tape up, don't put your emergency stuff on the car, I mean on the tractor trailer. You know when it says transport oil, gasoline transport and all the symbols on it? I said don't, I said cover it up and bring the truck. Because they were actually out on the highways commandeering stuff. So when the truck came through it didn't say gasoline, diesel or anything on it, and I got 'em through. […]What they didn't realize is they were taking assets that were already pre-designated for areas to take them to a central pooling location to reallocate them. You see what I mean, so I get on the phone with FEMA I said okay, I'll tell you what I'm going to do, I'm going out on the interstate and if I see any vehicles with any assets on them I'm gonna commandeer it, and I'm gonna take it back from you. And then I got their attention.

How did they react to that?

STPP: First off, you're dealing with somebody at some level who don't believe you. You can't do that, you do that we'll have you arrested. I said no, no, no, I said I'm the parish president, I'll have you arrested. I said every executive order that I sign, at the bottom, I make sure it says if you interfere with any of the activities of this response, I will arrest you. Everyone of them had that, and we posted them on the outside of the public buildings. Then somebody else would call me back, and I'd say, y'all taken our fuel, you've taken our generators, so I'm gonna go out on the interstate – cause I've got my parish blocked off, I got I-12, I-10, I-55, 59 going North. I said it's blocked. I said I got my sheriff's department and local police departments on the interstate. I said so when your trucks come through, I'm commandeering it, and I'll write an executive order when they call me and tell me what's on the truck, and then I'll take it. Finally they came and they said, oh no no, we understand, we'll work with you. But you know, it's just crazy, you had to do some of that.

As we will see when we look at operations, this was not the only case of localities using threats of violence to go up against FEMA's planned allocation of resources. But the parish president's

consistent pushback against FEMA – and, as noted in the communications section above, the Federal Communications Commission (FCC) – has elements of a power struggle for its own sake as well.

At all levels, the shift in scale of decision-making could be a shock. Financial authority could increase by orders of magnitude. In Louisiana, the SCO recalled: "I remember disbursing two checks to the mayor of New Orleans' aide about three days after Katrina hit in the EOC, one was for 50 million the other was for 52 million." He had a sense of doing something out of the ordinary in response to exceptional circumstances: "the problem was is that in theory you really weren't supposed to give that to them, so everybody took a little bit of a chance, we made them sign some documents saying that they would use it only for these purposes and so forth." This sense of going beyond normal procedure was accentuated by the need for some administrative jerry-rigging: "The reason it had to be two checks is our system wouldn't, the state system wouldn't cut a check that had that many digits, so it was split up."

In this case the money responded not to a specific incident, but to a generalized need and, perhaps more pressingly, public relations issues:

> The [US] president and everybody was getting beat up so bad, that, uh, the governor, that we at least took some initial chances in pushing some money out to keep these locals afloat and we did have documentation, it's not like we just gave it to them. But then after those initial pushes we just turned it off to make sure that we were following, you know, the law.

In the SCO's memory these checks were in some sense a measure of success, a demonstration that "FEMA did push and the feds did push some initial money down." He clarified "that was federal money, they had pushed it." However, as he readily admitted, the end result was less positive:

> We found out that they put it in CDs and didn't use it for a while, because they actually, while Nagin was hollering that he needed money for payroll, apparently they had some money. Eventually it did get used, and of course they had to account for how they were using it you know in rebuilding the infrastructure, and you have expenditures for emergency protective measures, a lot of that money was for expenditures for emergency protective measures that were done.

The money that was pushed through so urgently that two checks were issued since one couldn't cover the full amount was not used for anything urgent at all.

A similar but contrasting anecdote comes up in Mississippi. I heard it separately from the Hancock County administrator and the MEMA director, who were the two main participants (the story is also told in the Senate report, based on testimony from Latham; and in Smith's *Katrina: The Mississippi Story*, based on an interview with a bystander, Congressman Gene Taylor). The funeral home in Hancock County had run out of space for the bodies. A refrigerated trailer was either hailed or showed up to ask for directions, and either the MEMA director or the County administrator (they both tell the story in the first person) asked or demanded to rent the trailer. When told it was going to be used as a temporary morgue, the driver protested, saying "'you know, look, this is the way I make my living, I really can't – I won't be able to use that trailer again for edible, food or whatever'" (MEMA director). The decision was then made to buy the trailer instead of renting it. A price of 25,000 dollars was agreed on, a check was written, and the trailer changed hands.

Although there are minor differences in the story as told by the two men (the story in Smith's book coincides more with the MEMA director's version), they agree on the basic outline, and also on some key themes. For both of them, it seemed like a momentous decision at the time. The County administrator referred to it several times as "the first check" of the response, and kept a copy. The MEMA director considered the situation to be in many ways representative of his job, particularly in terms of the necessity of adapting to changed needs and circumstances and the importance of being guided by values in managing those changes:

> The reason I tell that story is that, I try to help people understand that, when I came into this job that is one thing I never, never crossed my mind that I'd ever have to figure out what to do is what to do with all the bodies, it just never crossed my mind, so I tell people, just, you've gotta be ready for the unexpected, and you've just gotta do something, you know, so we just decided to buy the truck, and you worry about the consequences of what you did later, but at that point, you just can't have a funeral home director tell you he's fixing to put bodies in the parking lot. You just gotta do what you gotta do, we got it and fixed that problem, and there were probably hundreds more decisions like that, but that's the one that I, probably because it happened early in the event, that I remember more than anything, […] you know as a leader I think you just gotta be decisive, you just gotta, you know, something like that you don't have time to debate it, you just – you know that happened in a period of about five minutes, that discussion and all that, and we bought a truck, so.

The incident seemed to represent a moment of transition into a different mode of acting. It was a situation that was completely out of the ordinary, and required an extraordinary response. They

had to make a decision that normally would require much more time and thought and probably consensus or at least agreement – although this situation was not entirely without approval either. Although both men place themselves in the active role, both stories include an important element of asking approval for the decision to purchase the trailer. The MEMA director recalled, "I just looked at Bill [Carwile] and I said, can I buy that truck? He said, yeah, don't worry about it." In the County administrator's retelling, he was prepared to commandeer the trailer when, in face of the driver's concern about his livelihood, "I went to Robert Latham and I said what can we do? We can't take this man's trailer, put him out of – we're taking his livelihood. He said can you get to your checkbook? I said, I can. Said it's at the courthouse. He said if you go get your checkbook, give him a check, find out what it's worth."

The significance of the moment was relative: "I think we were all somewhat still shell-shocked, I mean, when I think about the minute that I did that, I'm thinking, I'm co-signing for 25,000 dollars here, and at the time that seemed like a really big deal, but 8 years later, and we've probably spent about 3.2 billion dollars on Katrina recovery, 25,000 dollars is peanuts" (MEMA director).

Both men also mentioned the physical details of carrying out the transaction: the county administrator talked about going back to the courthouse to get his checkbook, while the MEMA director recalled "the finance lady for the county hand-wrote a check, because they didn't have any way to print checks, so she hand-wrote a check and signed it, and I co-signed, letting them know we would pay them back for that." The difficulties of carrying out what was in its form a completely normal procedure for a town clerk – writing a check – underlined the unreality of the situation.

While this story reads in some ways as a success – federal, state, and local officials successfully improvised a solution for a difficult situation – the only reason it occurred was because of the larger failure. The MEMA director recalled that "Bill [Carwile] had requested the reefer trailers which are the refrigerated trailers like on Saturday, and we still had not gotten any. And this is not a rare commodity, I mean crap, those things are everywhere."

Both the Louisiana and the Mississippi stories of unprecedented check disbursal demonstrate several themes common to the two responses, and to the experience of managing the crisis in both of them. Improvisation, both in terms of decision-making and in implementation,

was important; the situation was exceptional and required a type of conduct, and leadership, that was out of the ordinary; money was both important and almost limitlessly available.

Without reading too much into the contrast between these two incidents, they highlight a number of points that clearly contributed to the difference in the Mississippi and Louisiana responses: the more hands-on approach in Mississippi; the destabilizing effect of a major city (New Orleans) with funds scaling in the hundreds of millions as opposed to small municipalities where 25,000 seemed like a lot; the corrosive influence of bad press. In the Mississippi example the check was necessary as an immediate compensation to someone contributing an essential good; in Louisiana it was a demonstration of the federal, and to a lesser extent state, willingness and ability to provide aid – even if that particular aid turned out not to be used. In Mississippi the improvisation filled the gap left when procedures did not function; in Louisiana it offered something of limited use to recompense for the failure to provide more effective (hands-on) assistance.

The cases here show a wide range of leadership approaches, although all of them make some changes from normal decision-making. Most of the these organizations, both the temporary ones and the emergent ones, made an effort to change their normal processes, whether to make decision-making more autocratic or more consensus based or to shift its locus from federal to local. For most of them though, the shift was more difficult than they expected.

Conclusion

In the stories drawn from this data, which includes interviews of government officials from two countries, two states and two prefectures, and eight localities, responding to two different disasters that each varied in its intensity from place to place, we can observe a number of consistent mechanisms that governments used to rebuild both structures and normalcy after cosmology episodes. The mechanism of instituting regular meetings, for example, was broadly consistent, and not only in the mere idea of holding meetings – which is not an inevitable choice – but in the specific format of meetings as forums in which representatives of different teams, agencies, and associated entities report back in turn. These meetings became the central organizing principle of the response from the perspective of the CMC. Who attended and reported at meetings determined what was considered and what from what perspective; reporting back at meetings marked time and provided aggregated information to be communicated to other levels of government; and while a lot of decision-making occurred outside of the meetings, they

offered a location for presenting and sometimes acting out those decision-making processes and results.

The severe shock of the cosmology episodes comprehends not only the physical destruction, but also the upheaval in understanding of the world of those affected. The improvisation of new organizations was not only about finding efficient ways to work. It also was a way to return to the guiding signifiers of bureaucratic life. In a chaotic environment, meetings – and determined divisions of tasks, and communication efforts reaching out to people beyond the scope of the disaster – gave actors fixed points to cling to, a framework within which to structure their actions.

From the consistency of these approaches across different cultures, levels of government, and levels of damage, we can suspect that these processes and divisions are a common way for nominal organizations – groups of people who know they should be working together but have lost their structure and direction – to build the substance of an organization. In all of these cases, even when actors had done some initial operational actions, even when they had been trained, were in a state of confusion and shock after the disaster. They started with the process of getting people in a room and talking, even when the initial information they had to share was very little. They learned as they went how to hold meetings more efficiently, how to divide the tasks in ways that worked for them, how to adjust decision-making to allow for the demands of both urgency and coordination. The CMCs studied in this chapter not only re-emerge from collapse, but also evolve into more elaborate structures through focusing on familiar mechanisms and clinging to normal patterns of work, then adjusting them to the circumstances as needed.

Looking at the differences among our cases tells us more about the adjusting and improvising that occurs. We can see some differences linked to the different organizational cultures in the two countries. For example, in the US there was a focus on keeping meetings short and efficient, while in Japan people were much more comfortable with meetings dragging on in the interests of getting even reluctant reports from everyone. In the US, where state sovereignty is strong, the federal agency FEMA made a distinct effort to involve federal and state and local officials in decisions together through the unified command; looking at the differences between states in the US, we can see how that effort played out differently as well as some of the consequences. Japan's more centralized structure, in which the national government maintains substantial budgetary and political control over sub-jurisdictions, meant that the lines

of communication tended to be both looser, more flexible, and less efficient. Jurisdictions held parallel meetings, or sent liaisons that weren't empowered to make decisions without calling back to the capital, or built connections between localities and the national government that cut out the prefecture altogether.

In particular, we can trace the way the temporary organizations and associated plans translate into effects on emergent organizations. In the US, efforts to standardize a flexible, task-based structure were partly successful. Training without experience was not sufficient to allow local actors to implement the system confidently, while locations that hadn't even completed the training had even more difficulty. But the existence of an organizational structure that most people had at least heard of had two important positive effects. Firstly, it gave shattered local governments something specific to aim for, or use as a model, as they rebuilt. Secondly, it gave outsiders – whether peer jurisdictions on mutual aid missions or representatives from other levels of government – a common language and framework for figuring out how to be helpful.

In Japan, by contrast, the lack of standardization allowed far more variation and experimentation, from the organigram to the way tasks were defined and categorized. CMCs in Japan had different styles of planned organizations, and in the aftermath of cosmology episodes some of them made multiple significant changes in an attempt to manage a frantic pace of work. This led to some chaos and difficulties, but also to structures that were direct answers to the needs of the response teams.

Many of the organizations we have observed in these cases were emergent in the sense that they developed new hierarchies, relationships, and objectives in the course of action, in unplanned and spontaneous ways. Others did not completely lose their planned structure, but still adapted significantly. But none of these groups lost their identity as government. They did not question their responsibility to continue responding to the disaster or their role as supervisors and arbiters of the response. The cosmology episode had threatened and in some cases disrupted the realization of that role.

The organizational mechanisms described in this chapter offered a way to act out the government's self-image of control, capacity, and stability, even when it didn't quite exist in reality. Re-establishing the role of government as a stabilizing, competent force was an important part of rebuilding normalcy. The actors in the crisis management centers were supposed to manage the crises, based on a pre-designed set of procedures and ideas about how that could be

done. When that failed, they were left with the need not only to reclaim their roles as supervisors and managers, but also to reclaim the government's role in disasters.

The CMC actors made sense of the upheaval of the situation in part by re-enacting their role: holding meetings even when they had very little to say; creating communication links when they had very little to report; making symbolic decisions and giving orders that they knew could not be immediately carried out or were being carried out already. When they had no data, they imagined it. They struggled with the topsy-turvy nature of relationships between different levels of government. Recreating the *form* of government helped these actors to implement its functions as they saw them. By building a representation of an organization that signaled competence and normalcy, the CMCs made the vast, unknown problem of the disaster itself more manageable.

Chapter 3: Emergency Operations

Introduction: Action, the State, and Emergent Organizations

The Role of Operational Teams

If crisis management centers are the nerve centers of planned emergency structures, operational teams take the visible actions that interact directly with the situation on the ground; the hands and feet, as it were. Removing debris, delivering food, managing shelters, transporting donated medicine, providing fuel to emergency vehicles: all of these activities require organizations.

Like crisis management centers (CMCs), operations teams must negotiate priorities and values as well as urgent needs and physical limitations. CMCs, with their focus on supervision and coordination, adapt one aspect of government for the crisis. Operational teams embody a more hands-on version of governance, making multiple decisions in immediate interaction with affected people and effectively creating policy through action. Communication difficulties and the need for immediate action further sever CMC decision-making from work in the field, leaving operational teams to determine their own priorities. This means operational actors often have a more direct impact than the CMC on how the State implements its response to disaster.

The needs and actions on the ground may be clearer from an operational perspective than in a relatively isolated CMC, but the role of the State is often less evident. The CMCs exist to enact supervision and coordination. Operational teams are supposed to solve problems that, if more concrete in terms of their consequences, are far less clear in their delimitations. A mandate of *helping people* in a situation with overwhelming needs leaves a lot of space for decisions that operational teams, on the whole, are ill-equipped to make.

Operational teams typically involve people lower on the hierarchy than those in the CMC, leaving them less accustomed to taking decisions without guidance, and most of those studied here were assigned to tasks in which they had no experience. While CMCs are extensively planned, operational processes are often left relatively vague. Lack of detail about, for example, precisely how to get water to affected people left operational teams figuring out their processes as they went and building those processes into organization. Lack of clarity about

the definition and limits of that task – Who should receive water and who should be able to fend for themselves? How much water is necessary for a person in a day? – means those teams also need to orient their organizations to represent what they believe government should be doing during a crisis. Examining the re-emergence of operational organizations, therefore, teaches us both about how organizations reconstruct themselves during crisis and how government sees itself, all skewed to a different angle than when we look at CMC actors.

Operational action often began before the organization to support it re-emerged. People moved debris, started cooking food to share, or set up new shelters when they couldn't find existing ones. For this to happen the first, almost invisible constraint is that nobody else needs to be doing the urgent task. In other words, there needs to exist a "*space* for decision and action is created, which was latent or constrained before the impact" (Lanzara, 1983: 73, emphasis in the original).

This space can appear in at least three ways. The most immediate is the absence of any formal (or any other informal) organization: if, after an earthquake, two private individuals see a third trapped beneath debris, and there is no one else around, they are likely to organize themselves to assist. Then there is the circumstance in which the formal organization, already on scene, has not addressed the specific need, as in the case of the coffee-maker that Lanzara (1983) discusses at some length: the government is not providing this particular service and someone else steps in to do it, eventually forming a small organization to do it at scale. Finally, there is the possibility that the formal organization has attempted to implement the action, but failed or is perceived to have failed. Lanzara (1983) gives us an example of this latter case with the student group that spontaneously organizes to carry out response activities such as distribution of goods when they felt that the government was not effectively doing so.

The opening of space can look somewhat different when the individuals and organization concerned are part of the government and already believe they have the right, even the responsibility, to be acting. Nonetheless, the three types of situations described above are equally possible when it is the formal emergency structure itself that self-organizes when its existing organization fails.

So, for example, when members of the CMC take on rescue activities because the entities supposedly responsible for search and rescue have not yet arrived, they are responding to an absence of part of the formal organization. In situations where some aspect of the response has

been overlooked in the planning, the formal organization may evolve to address this itself, whether or not outside groups are attempting to implement the same action. In both of the cases here, for example, frozen or processed food was widely dispersed from its facilities during the disaster, leaving a major (and smelly) problem that had not been anticipated; in both cases governments eventually organized to manage the clean up. Finally, when the formal organization's attempt to respond to an aspect of the situation fails, it may in some cases attempt to restructure itself to address the problem differently. An extreme example of this latter type is FEMA's decision, once its logistics system had definitively collapsed following Hurricane Katrina, to subcontract deliveries to the Department of Defense. While this did not lead to an immediate internal restructuring of FEMA, it did effect a change in the planned temporary structure of the emergency in response to failure. At the regional level, FEMA officials in Mississippi has already begun cutting out the national logistics system by sourcing goods from their colleagues in Florida instead, temporarily jerry-rigging the FEMA hierarchy into what was essentially an unplanned and informal organization constructed out of planned, formal components.

The Role of the State

Such failures, or perceived failures, naturally lead to questioning of the government's capacity and role. For outside actors, this can mean repudiating the government completely. Lanzara (1983) writes that in the aftermath of an earthquake in Italy, "there was an explicit refusal to participate in the rescue and relief operations through the institutional channels. On the contrary, people claimed as a condition for giving aid (money, equipment, volunteers) that it should not go through the hands of the government" (74). The spontaneous, community-based groups he studies positioned themselves in opposition to the government, suggesting that they were better able to, for example, distribute goods, and therefore should be able to hold that role without interference or approval from the State.

The operational teams that we will look at in this chapter, however, were situated *within* the government, and even when their immediate hierarchy shifted into temporary or emergent structures, they continued to perceive themselves as part of the State's larger organization and mission. They experienced isolation from and sometimes disillusionment with the way the government conducted its responses, and some local government teams expressed their disapproval through explicit rejection of the national response authority and decisions. But even

at their most rebellious or irresponsible – when, for example, local sheriffs hijacked relief supplies at gunpoint – these operational teams still thought of themselves as part of the government, specifically as fulfilling a role and obligation that had been entrusted to them. The impacts of the disaster may have pitted some jurisdictions against others, but even the hijackers saw themselves as legitimate forces of order and authority with a responsibility to their constituents.

The need to break away from flawed or inadequate systems while maintaining their identity as part of the legitimate authority of the State put operational teams in a complicated position. On the one hand they needed to do some things differently, which meant effectively admitting government failures; on the other, they needed to maintain the fiction of both competent management of crises and the unquestioned right to that role. Many of them ended up creating their own approaches within the context of their own beliefs about what government should do. The decision to hijack relief goods en route to another destination may indicate a certain disaster-fueled recklessness or desperation, but can also be framed as a prioritizing of local needs and constituents over the decisions of distant officials. (At the same time, of course, these actions disregard the needs of the locals of the neighboring jurisdiction who were supposed to receive the goods).

For the relatively low-ranking government staff on operational teams, the cosmology episode not only upends their beliefs about control over the natural world, but also about who is in charge, where to get help, and even their basic job descriptions. These actors are forced into making critical decisions without training, guidance, or recourse. Not only that, but because disasters are treated as exceptional, rare, and outside of normal governance, they also may have little conception of the basic principles on which their bureaucracy (whether local government, national government, political party, or other allegiance) would like them to base those decisions. With few experiences or even representations of disaster governance to draw on, they may not have a clear mental image of what their component of the State should do in a catastrophe.

Such an image is particularly important because of the lack of other signposts, guidelines, and frameworks in a disaster context in which most of the lodestars of "normalcy" are disordered. March and Olsen (2004) write that "Democratic political life is ordered by institutions", defining an institution as "a relatively stable collection of rules and practices, embedded in structures of resources that make action possible – organizational, financial and

staff capabilities, and structures of meaning that explain and justify behavior – roles, identities and belongings, common purposes, and causal and normative beliefs" (5). Disaster response structures lack many of these elements. Most of the operational teams studied in this chapter had no experience in the type of work they were supposed to undertake, meaning minimal staff capability and sometimes no consensus on common purposes. Disasters also disrupt the institutions that continue from the permanent organization. Even a smaller disaster can disrupt government resources, requiring new approaches to "make action possible." A large disaster and the accompanying cosmology episodes often shake the "structures of meaning," leaving rules and roles in flux.

Disasters tend to highlight gaps in the original "structures of meaning"; for example by bringing to the fore implicit beliefs that contradict stated goals, or through vagueness that leaves officials without guidance when forced to make critical decisions during the response. March and Olsen (2004) write that, "Rules […] tell actors where to look for precedents, who are the authoritative interpreters of different types of rules, and what the key interpretative traditions are" (7). A catastrophe puts government officials in situations for which there is no precedent (that they know of) and leaves them without interpreters or traditions. Conflicting or absent rules therefore must be struggled through and redefined without recourse to the hierarchy or to generally accepted principles for action. This becomes apparent in the ad hoc decisions made by the operational teams studied here. Decisions about what the government should do often came down to individual, operational actors and varied across jurisdictions, demonstrating that there were neither formal rules nor a sense of agreed-upon principles.

The lack of guidance coupled with the desire to act within the appropriateness parameters of the State means that government-based operational teams re-emerging from a cosmology episode and organizational failure are often rebuilding on two levels. Like more ad hoc organizations that emerge out of nothing (and often in opposition to the government), they see needs and respond with actions, deciding on leadership, membership, and procedures in ways that fit those needs. As Lanzara writes about students improvising after a disaster, "Organization gets built in-the-process and takes shape around leading activities" (83).

As State actors whose understanding of their mandated responsibilities and their ability to achieve them has been disrupted, these operational teams also need to define and reassert their role. They are compelled not only to resolve immediate needs, but to recreate their own vision of

their authority, competency, and identity as government – their "normal." While the impulse to action creates the initial push towards organization, the urge towards an official, "appropriate" response leads to further development of the systems addressing the operational needs at hand, formalizing and routinizing processes. This process also shows the gaps and ad hoc improvisations in the construction of the government's role.

Tracing the decisions made at the operational level illuminates the elements of response that require governance, as opposed to technical competency; questions that are not about how to achieve something, but for whom, under what circumstances, to what limits, in what order. The fact that these decisions were made by inexperienced, on-the-ground actors with no guidance and differed from place to place shows that either the permanent organization had not given a lot of thought to these areas of governance, or its conclusions had not percolated to the level of common knowledge. The choices of these actors, both in the early stages of putting together the organization, and as its processes become more formalized, reflect their understanding of the role of the State in crises; these emergent organizations are essentially reinventing government as they see it in the emergency context.

As in with the crisis management centers in Chapter 2, in this chapter we are looking at how organizations re-emerge after a cosmology episode or adapt when a planned organization fails. We are also interested in what that tells us about governance in crisis situations, specifically about how the actors in these cases see their role when the outside guidance and traditional narratives have fallen apart.

To examine these two elements, this chapter will trace the actions of actors in a number of jurisdictions across two broad sectors: shelter and logistics. The next section describes a framework of mechanisms used by the teams to create organizations that can deal with unexpected operational challenges: defining the task; division of labor; and coordination with other organizations. The introduction concludes with a brief explanation of why shelter and logistics were selected as the sectors for this study. The chapter then explores each sector separately, following progress through three mechanisms of organizational emergence and tracing how different jurisdictions address those processes and identifying outliers and idiosyncrasies. A discussion section seeks to draw learnings from the overview of both sectors across all the cases.

Mechanisms of Operational Re-emergence

The teams studied in this chapter rebuilt their organizations in a variety of ways. In some situations there was explicit trial and error, with actors developing processes through the invention of actions to meet the needs. In others, there was at least some framework of planning, even if it needed to be elaborated on and sometimes changed radically. In yet others, the problem at hand had not even been imagined in the planning stage, and everything from the assignment of personnel to the determination of responsibility happened post-disaster. However, in almost every case the groups needed to manage a few common questions as they emerged into organization. What is the precise task they need to accomplish, and what are its limits? What are its component parts, and how can they best divide them among their members? What other organizations are they partnering with to accomplish the task and how do they define the different roles of that partnership?

Defining the Task

An important step in building organizations that could formalize and manage them the unexpected challenges faced by operational teams was *defining the task*. This may seem self-evident when the team in question has been assigned to, to return to a previous example, deliver water. The question quickly becomes complicated, however. Does the water go only to people in shelters, or also to people who still have homes but whose piped-water systems have been disrupted? How are those people identified? Do people have their own containers (so the water can be delivered by truck or tap stand) or do they need it in bottled form? Is the water sourced elsewhere or does it need to be procured and transported as well as delivered? If it is sourced elsewhere, where is it stored pre-delivery? Is this only potable water, or is it meant to be used for washing as well? How much water is necessary per person, per day? This is further complicated when the assignment was less specific. Instead of water, a team was likely to be assigned to deliver "essential goods," leaving them to decide what was essential. Are blankets essential? Toilet paper? Soap? Menstrual products?

Sometimes – perhaps ideally – the understanding of the task could be derived, at least partially, from the overarching goal of the mission. Was the government supposed to help only displaced people, who could reasonably be assumed as worse off than those who hadn't lost their homes, or everyone? Should the government provide longer-term assets (e.g., assistance in rebuilding permanent homes), or only short-term stop-gaps (such as trailers or pre-fabricated

temporary houses)? Is the point only to save lives (e.g., with potable water delivery), or also to, as NGOs often put it, preserve dignity (for example, with water and facilities for washing and laundry as well)? While there is a technical aspect to some of these questions, they are primarily political: questions about what government should do – what its role is – as opposed to what it can do or how best to do it. It is the unwillingness to answer these questions – or perhaps unawareness that the answers are not obvious and remain to be defined – that leaves operational teams stranded, left to figure out what to do on their own.

While NGOs, requesting access from sovereign nations, have been forced to define their missions and parameters over time, the two national governments studied here have taken responsibility for all of disaster response as a given, leaving exact definitions of that responsibility vague. With such larger questions left unanswered, or at best implicit, it was difficult (particularly for smaller bodies of government unused to setting major policy) to make them explicit during the hectic action of disaster response.

This led to ephemeral organizations creating ephemeral policy, as individual, ad hoc decisions determined what the State was willing to do for affected constituents in each jurisdiction. Fosher (2009) describes a similar dynamic during her fieldwork on Homeland Security in the months after 9/11: "people were very much making it up as they went along. […] Far from being dictated by national-level policies, homeland security was under construction […] made all the more complex by the lack of a common conception of what things should look like at the end of all that work" (xiv). While disaster response has been around longer than "homeland security" (if certainly not longer than national defense), it was nearly as amorphous a concept in practice. Moreover, for local actors this crisis might be the first time they were confronting the idea in any concrete way; even if there was an informal understanding about disaster response at the national level, they were unconnected to it.

Defining the task at the ground level involved a negotiation between understanding what affected people needed and the capacity of the emergent organization to address the problem. At the same time both of these elements – demand side and supply side, so to speak – were at least partially determined by the actors' understanding of their role. The "capacity" to accomplish things was directed by what seemed "appropriate" in the context, as well as by needs and resources.

Division of Labor

Division of labor – *you grab that end of the beam, and I'll grab this one* – is one of the basic steps in taking any action that includes more than one person. None of the operational tasks described here could be accomplished by a single individual, so managing them required organizations. Sometimes these organizations were mandated wholesale, as when the town government assigned a certain number of people to manage logistics. Others needed to be developed, as when people in shelters found themselves without any assigned leadership. In either case, determining the *division of labor* within the unit was a first step in the emergence of a recognizable organization, as well as a prerequisite, if not to getting anything done, then at least to systematizing it. Such a division meant both breaking the task into component parts and determining the way people were assigned to those sub-tasks – for example, in what hierarchy.

As these task divisions become systemized, they transformed one-off organizational zygotes into more recognizable organizations. Division of labor is a crucial element in emergence. For the teams attempting to manage largely undefined operational missions after the shock of an unexpectedly serious disaster, dividing up the necessary tasks was often a way of figuring out what the larger goal was. For others it had to do with efficiency in the face of extreme demands: finding ways to continue implementing a task that seemed impossible. Division of tasks nearly always pushed the needle towards a formalizing the organization. It was an admission that the pattern would be repeated, that a task would be carried out over and over. At the same time, it added hierarchy and lateral relationships and strengthened the idea of collective action.

Coordination with Other Organizations

Some of the operational tasks required not only multiple people, but multiple organizations. They were either beyond what was possible for the government to accomplish by itself, or included sub-tasks that actors felt were more appropriate for other entities. This meant that part of defining what the government should do included defining what it wouldn't do: identifying what would be done instead by non-governmental actors, such as non-profits, for-profits, and the military. The ways in which operational teams accepted and managed help, and the parts of tasks that they reserved for themselves, further clarified the limits of the government role. The way the organizations positioned themselves in relation to other response actors reestablished – or rewrote – distinctions between public and private, national and local, general

and specific. Clarifying these lines further formalized the emergent organization by drawing its boundaries.

Figuring out the limits of the task – or the limits of government in terms of the task –was a key element of completing it. This had to be done in a way that maintained government self-image as the primary and competent manager of crises. Decisions about what elements of the task needed to stay with the government and what could be or had to be shared out are therefore useful in learning about that self-image.

It's important to note that these three mechanisms were not usually divided into separate consecutive stages. Rather, they could be iterative and interacting. If a connection with a useful outside group came into play early, that could affect the process of defining the area of intervention; the division of tasks might be revised multiple times during the response because of trial and error or changing circumstances. These organizations and proto-organizations were trying desperately to construct something that would allow them to work in a basic way and help them to find their way back to normalcy; this typography is a way to classify and analyze the efforts they made.

The culmination of these steps was an organization that had, post-disaster, defined itself in terms of what needs it could and would address, how it would do so, how it related to other organizations in the context, and, at least to some extent, its values. Much of this was implicit, in part because of a lack of time and energy to, for example, write up mission documents. In addition, as actors who still considered themselves part of government, explicitly defining their organization didn't make sense. However, studying the actions and structures of these brief organizations offers us a snapshot of how the actors in charge of implementing operations were attempting to fulfill their role as government in disaster response.

Despite recent efforts and research in the professionalization of disaster response skills, the operational side of disaster response shows a need for improvisation and emergent organization much as crisis management centers do. If anything, actors in the operational sectors seem to usually have less guidance than those attempting to impose planning and coordination, although the needs for such guidance tend to be more obvious to them. If the structures that arise in CMCs illuminate inter-agency relations, high-level priorities, and ideas about coordination and decision-making hierarchies, the operational organizations that emerge in a response suggest

ground-level value judgments. Who gets assistance, and who doesn't? What kind of assistance should the government provide, and how is that divided among the different levels and agencies of government? What elements of the status quo are the most important to protect or, when protection has failed, reinstate? The way operational teams answer these questions often illuminates implicit beliefs about governmental responsibilities in disasters.

Sectors

This chapter focuses primarily on two operational sectors: shelter and logistics (the sourcing, transportation, warehousing, and distribution of relief goods). These are areas to which a great deal of resources was devoted throughout the early stage of the response in both cases. They immediately and directly impact affected people (unlike, for example, debris removal). While they are both technical sectors, or considered to be so in international responses, neither requires the kind of specialized staffing that, for example, health care does, meaning they were almost entirely run by general government personnel.

They are also illuminating in the sense that they both include a number of sub-areas that require either specialization or coordination. Shelters require the delivery of food, water, and other goods, and are often the site for health interventions, decisions about temporary housing, and other outreach to affected populations. Logistics, including as it does a full supply chain, crosses jurisdictional and organizational borders and sometimes also includes coordination with other sectors (such as spot health checks in distribution lines). Both processes, therefore, can be seen as partial microcosms of the response structure, demonstrating the way agencies or levels of government interact with each other and with the disaster-affected.

Shelter

Shelter is typically the first operational problem to arise.[20] People who had lost their homes in an inhospitable climate – hot along the Gulf Coast, wintery in Touhoku – needed places to shelter, to sleep, and to congregate.

[20] An argument could be made for including evacuation here, but that is something of a special case. In the case of Hurricane Katrina, evacuation took place before the hurricane hit, and therefore before any cosmology episode or organizational collapse (and, in fact, the process for those who evacuated went relatively well, even if it was incomplete). In Japan, the evacuation happened between the earthquake and the tsunami; other than sounding alarms there was not enough time for emergency management and most evacuations were individual; when organizations were involved they were schools or workplaces. For the most part, the success or failure of these evacuations depended on the preparedness and drills that had been carried out beforehand, rather than emergency management decision-making at the time.

The two countries had very different approaches to shelter, with distinct implications for how the relevant individuals and organizations saw their roles and how they re-emerged. In the United States, shelter and other elements of "mass care" were shared in an official but undefined way with the American Red Cross (ARC). While FEMA and the ARC were supposed to be co-leads on this emergency support function (ESF), there was no official description of who did what, leaving the separation of duties within the ESF entirely ad hoc. This vagueness left many local governments ambivalent or unengaged with shelter, even when the ARC failed to take up its role.

The focus in US shelters tended to be the physical site and security, with little attention to organizing the people involved. The whole concept of shelter management was poorly defined and not particularly valued. Government staff and departments related to shelter tended to show weak or no emergence in that area. Much of the slack was taken up by other types of local non-governmental actors, particularly faith-based organizations (e.g., churches).

In Japan the responsibility for shelter management was clearly located with local government, and was generally assigned to civil servants. These often had little or no training and had to improvise most efforts beyond the most basic registration of evacuees. In addition, the scale of the disaster meant municipal employees weren't able to attend to all the shelters, and in many places shelters were led by people from within the group of evacuees. Nonetheless, in many shelters untrained or unassigned staff improvised organizations that mimicked the structures they were accustomed to or aware of. These new, often elaborate organizations engaged the evacuees living in the shelters and negotiated responsibilities with other actors, such as the Japanese military.

International Frameworks

Shelter is a broad concept, including immediate post-disaster shelter; transitional housing (which often lasts longer than it is intended to); and reconstruction of permanent housing; as well as much of the associated that goes beyond physical housing. The diversity of circumstances faced in international responses – which can include urban environments, national borders, and open conflict situations – leads to a wide range of potential interventions.

The Sphere Handbook notes that "Shelters and settlements are inter-related and need to be considered as a whole. 'Shelter' is the household living space, including the items necessary to support daily activities. 'Settlement' is the wider locations where people and community live"

(Sphere 2018), formalizing the importance of both household and community-level thinking. Sphere divides its *shelter and settlements* standards into planning; location and settlement planning; living space; household items; technical assistance; security of tenure; and environmental sustainability. While many of these contain universal guidelines (e.g., the number of square meters per person to aim for in a shelter), much of the subsequent work done around shelter in the international community has to do with customizing for local needs. The Global Shelter Cluster website (https://www.sheltercluster.org/) includes, for example, resources on "Dealing with Land Barriers to Shelter Construction in Haiti" and "Ukraine Shelter/NFI Cluster Winterization Recommendations 2016" as well as guides for tarpaulin quality control and checklists for reducing gender-based violence in shelters.

Shelter is a major issue in international responses; according to a 2010 report from the British Department for International Development and Shelter Centre, "In a growing number of responses [settlement, reconstruction, and shelter] constitute together the largest sector, in terms of expenditure per capita, over the duration of international intervention" (DFID/Shelter Centre, 2010: xiii).

For the period we are looking at in these cases, the relevant task is emergency shelter, rather than transitional. Moreover, the planning part – identification of shelters – had already occurred. Shelter is a fairly obvious problem to expect, and both countries had identified locations for emergency lodging. While unplanned shelters also sprang up, those were appropriated or adapted on an ad hoc basis, without the involvement of government. The interesting part for us is how governments managed the shelters once people were staying in them.

This is perhaps closest to what is referred to in the international arena as *camp management*: dealing with a large number of people staying in an improvised and imperfect settlement for an indefinite period of time. This goes beyond the physical necessities of walls and a roof. According to the Norwegian Refugee Council's (NRC's) *Camp Management Toolkit* (2008), the key task involved in camp management is not necessarily provision, so much as coordination among other agencies as they provide services. Additional responsibilities include: "establishing governance and community participation/mobilisation mechanisms; ensuring the maintenance of camp infrastructure; information management; advocating for, or providing, key services in gap areas; and monitoring the service delivery of other providers in accordance with

agreed standards" (NRC, 2008: 28). The role, therefore, is essentially one of governance: understanding what is needed by the affected group and facilitating that. The camp is not a static object, but an evolving situation that requires active engagement: communicating with the people living there; maintaining the physical plant; and coordinating other services like the provision of food and water.

Emergency shelters are far more than just physical structures. As with any collection of people, they became social entities. Over time, with overcrowding, fear, and uncertainty, the social aspect of the experience could become far more salient than any physical threat to the people living there. Furthermore, as gathering points for the affected, shelters become a focal point in the subsequent response, offering the potential of (relatively) efficient distribution of goods and information, or, alternatively, disorder.

In the United States and Japan, however, much of the planning beyond the immediate question of roofs and walls was left vague. Government shelter staffers were not given any such guidance on what to do: what questions they needed to intervene in and what was outside of their mandate; what their role was vis-à-vis the role of the affected inhabitants of the shelter; what their priorities should be. When the temporary organizations slated to manage the shelters failed due to poor planning or to lack of sufficient resources, those at the shelters – staff or evacuees – were left in the position of rebuilding the organization and determining the precise area of intervention as they worked. How they approached this was partly determined by how they believed the government should act in such a situation.

Defining the Task

Physical Structures

Although we are considering decisions about shelter sites as part of preparedness rather than response and therefore previous to the period we examine, the physical plants of the shelters had an impact on the organizational environment, so it's worth briefly examining that history and its results.

In New Orleans shelters were traditionally located in the public school in each neighborhood. By the late 1990s, however, that was no longer the case; according to a city councilwoman, "the school system had said that it was too expensive for them to open their schools, and that the liability was too much." The city then centralized the responsibility from moderately sized neighborhood outposts to a massive single location. The Superdome, a major

sports facility that became notorious for its failures as a shelter during Hurricane Katrina, was first used as a special-needs shelter during Hurricane Georges in 1998 (Senate, 2006: 152). In Hurricane Katrina it was again designated not as a regular shelter, but as a special needs shelter; eventually it was also used as a shelter of last resort. Colonel Terry Ebert, the director of New Orleans Office of Homeland Security, said specifically that a refuge of last resort "was not a shelter, we weren't going to provide services. We knew we couldn't do that. But the refuge of last resort was set up to insure that those people were in a location where they would survive the water and the wind and the brunt of the hurricane" (quoted in Senate, 2006: 159; Chapter 11 footnote 71). The use of these specific categories allowed the city, which publicly encouraged everyone to evacuate, to allow for the possibility that not everyone could or would, while not putting a lot of resources towards that eventuality.

In other words, the city worked *before* the disaster to limit its shelter mandate, narrowing its responsibility to certain groups. The municipal government abdicated any responsibility for providing generalized shelter within city limits but was also unable to either provide evacuation resources or force people to evacuate, and couldn't justify not offering any shelter at all under those circumstances. For the specific types of shelter made available, the strategy was to centralize into one large facility staffed by people focused on the "special needs" (oxygen, for example) of a small number of vulnerable people. This category also sent a clear message to those staff that they weren't expected to provide more extensive support: the shelter of last resort wasn't supposed to provide "services" like a standard shelter. As tens of thousands of people poured into the Superdome seeking a shelter of last resort, those staff – primarily medical staff from the city health department and security personnel – were left in the position of defining their role and responsibilities under those changed circumstances.

In the event they were unable to do so. The levee failures made flooding far more catastrophic than expected, and residents who had either chosen to wait out the storm or had no evacuation option overwhelmed the Superdome and its small official personnel. Those staff had received no indication of their role in managing a shelter, let alone one of that size, and the organization to do so did not emerge during the week in which the Superdome was filled. The larger government (city, state, and federal) shifted focus almost immediately to removing everyone from the Superdome and from the city itself, rather than trying to make the damaged, overpopulated building habitable. There was, therefore, never really any effort for a shelter

management organization to emerge from the ruins of mass care in the Superdome, although there is anecdotal evidence for limited organization among the displaced staying there.[21]

While the city received the bulk of the criticism for the failures of the Superdome as a shelter, it was not for lack of trying to get federal funds to upgrade capacity:

> In 2004, recognizing the need for greater shelter capacity, Mayor Nagin requested $850,000 from the New Orleans Congressional delegation for "a study ... to determine the feasibility of upgrading the Louisiana Superdome, or any other facility, to serve as a refuge of last resort." The city made similar requests to the Department of Homeland Security (DHS) and the Federal Emergency Management Agency (FEMA) in 2005. These funding requests were denied, although the record does not indicate why. The city did not appeal to the state because of the perception that the state lacked the capability to help, and the city was planning on upgrading the Superdome under FEMA – not state – regulations. (Senate, 2006: 154)

The principle was that local governments were responsible for local shelters, but the decision to use such a large facility required financing that could only be obtained from higher levels of government. Even this request, however, was still limited to last resort status.

In Mississippi "[t]he state preferred to open more and smaller shelters than fewer and larger ones because, as Jim Craig of the Mississippi Department of Health explained, it is more difficult to monitor and control illness with a large group of people in a single confined location" (Senate, 2006: 101). The justification noticeably focuses more on control and visibility to the State rather than either the comfort of the evacuees or the ease of logistics. In any event it doesn't seem to have helped; the Senate report states that "Shelters had shortages of food and drinking water, sanitation problems, lack of electricity, and no running water for bathing" (Senate, 2006: 103). These problems spanned the local authority and ARC responsibilities: "The state had problems obtaining some of the supplies and equipment, such as generators, that were desperately needed at the shelters given the extreme heat and crowded conditions. To make matters worse, the Red Cross failed to provide adequate supplies and services at both designated and local shelters" (Senate, 2006: 103-104).

In the United States, no one seems to have been in charge of keeping shelters clean. The conditions in the Superdome are well known: squalor, heat, overflowing toilets, lack of order. In the smaller shelters in Mississippi they seem to have been little better. The Senate report quotes Kristen Dellinger, a "volunteer," describing a shelter in Hancock County: "'This 'shelter' had no

[21] See, for example, the 2006 Spike Lee documentary *When the Levees Broke*

resemblance to the 'neat cots-in-a-row' kind of place that often comes to mind. ... Most people had staked out areas on the sidewalks outside under covered walkways. They had thin pieces of blue plastic to sleep on. ... The school hallways were dark and filled with streaks of mud. The odor was horrendous. Raw sewage, I think'" (Senate, 2006: 103). Although the Senate report cites "[t]he magnitude of the disaster" (Senate, 2006: 104) as a reason for shelter failures by the American Red Cross, that magnitude was significantly smaller than in the case of Japan. While Mississippi had 121 shelters open, holding 15,000 people, Miyagi prefecture had 320,000 displaced people (Miyagi 2012). The shelters in Kesennuma and Rikuzentakata (in Iwate Prefecture) mentioned below held around 800 people and 1000 people respectively.

As in New Orleans, the category of "shelters of last resort" provided a kind of middle ground for local governments who did not want to take responsibility for people staying near the coast rather than evacuating but could not leave them completely unsupported. The Senate report quoted Tom McAllister, MEMA's Director for Response and Recovery, as explaining "Granted, they don't meet the Red Cross standard ... but it's better than being out on the highway" (Senate, 2006: 102). This attitude seems to have left little scope for organizing the human element of shelter management.

Delimitations of Responsibilities

In the United States, what "shelter" meant in terms of responsibilities was already muddied by the shared leadership of the relevant emergency support function (ESF-6: Shelter and Mass Care) between FEMA and the American Red Cross (ARC). The ARC was the only non-governmental organization with lead agency responsibilities in the national response plan (US House of Representatives, 2005: 42), and only in this ESF. This already constituted a subtle implication that government involvement in this area was questionable: shelter and mass care becomes a special case, more suited to non-profits like the ARC. The overall mandate was vague, describing little more than "sheltering of victims." The implications of joint leadership were not divided in any statutory or organizational way, leaving it to be worked out on an ad hoc basis.

Ambiguity about who should do what is problematic under the best of circumstances, and Katrina was not the best of circumstances. The ARC refused to station its staff or volunteers in areas expected to suffer major storm surge or flooding, usually below the I-10 interstate highway (presciently, as it turned out). In many coastal jurisdictions this meant that the official shelters

were outside of the city, or at least outside of the main settlement. However, given that the mandatory evacuations were not literally mandatory and many people remained in their homes, there was a need for more local shelters after the storm. As the House report notes, "Local political leadership often feels compelled to open shelters in their locales even when the entire county or parish is subject to a mandatory evacuation order" but "The Red Cross has trouble servicing these shelters, both from an access perspective (the roads are sometimes inaccessible) and from an identification perspective (sometimes nobody tells the Red Cross where the shelters are)" (House, 2006: 348). At the same time, local authorities expected assistance from the Red Cross and were not well prepared to run shelters themselves. Perhaps more importantly, the lack of clear delineations of roles led to vagueness about what exactly managing a shelter entailed and whether that was a governmental or non-governmental responsibility.

The lack of clarity continued even when the Red Cross and local government bodies were working together. In Hancock County, emergency management staff explained that "They're supposed to become one and work together equally, but sometimes somebody's hat's bigger than the other." The Emergency Manager of Hancock County added, "Red Cross is definitely there. But we've had some issues in the past that they didn't get along, or Red Cross thought they were better than them." The decision to have this role divided between two organizations with separate mandates and very different cultures that did not normally work together was, unsurprisingly, problematic in practice. The existence of a non-governmental alternative let the government avoid responsibility, and yet most local governments also could not resist instituting some kind of local shelter, even when they knew the ARC would not be able to staff it. There was a sense that government had to provide something, but a lack of clarity on where the limit of that responsibility lay.

In Japan, by contrast, the government, and in particular local governments, publicly assumed a role in providing shelter for people displaced by an emergency. However some details of that role remained unclear. All localities in Tohoku (and all over Japan) had pre-identified evacuation centers, conducted evacuation drills, and stocked shelters with emergency supplies before the earthquake and tsunami. Most evacuation centers were in community structures such as schools, community centers, or public gymnasiums, and they were supposed to be stocked with three days worth of supplies. However, the identification of these shelters was based on a

simulation data that in the event badly underestimated the height of the wave, and many people lost their lives at designated shelters.

As in the US, the number of people displaced was far greater than expected. The pre-identified evacuation centers were overwhelmed, with double, triple, or quadruple the expected number of evacuees showing up and staying far longer than the projected three days. This put a strain on the resources allocated to managing shelters, creating unexpected needs and challenging planned organizations. Staff assigned to manage shelters in an emergency might have expected 200 people for a night or two and ended up with 1000 who stayed for months. The expansion of the shelter issue in both duration and population meant that managers were faced with an unplanned-for expansion of their responsibilities. Evacuees also flocked to undesignated, unplanned shelters, where there were neither stockpiles nor immediate assistance.

The government's role in managing (as well as simply providing) shelters was far more explicit in Japan. In an emergency, local bureaucrats – civil servants from the town hall or city hall – were supposed to go to evacuation centers to staff them, although the specificity of the plans varied. In some places the assignment of specific staff to specific evacuation centers was decided ahead of time, even if that plan ended up being unfeasible in the event. In Sendai, for example, staff from ward halls were assigned to specific evacuation centers. However, according the Sendai disaster mitigation office, those planned deployments were insufficient because of the demands of disaster. Additional support was sent, and "for many of those people it was the first time they had any relation to evacuation centers." Even for those who expected to manage shelters there were few instructions on exactly how to do so. This absence was noted, and one of the tasks of the disaster mitigation office after the response was to develop extensive and detailed guidelines for how to manage evacuation shelters (Sendai City, 2013).

In Kesennuma staff assignments were done at the time of the disaster, and partially based on proximity to the staff's homes and neighborhoods. A municipal civil servant who was sent to an evacuation center recalled that on the day of the tsunami "In front of [the city hall] the roads were completely impassable, so after removing debris to some extent, when it became possible to drive from here, city employees headed to each evacuation center." This was not planned in detail beforehand. When asked whether he knew, before the disaster, that if something like that were to happen he should go to that specific evacuation center, he replied "There was nothing like that. […] It was decided that day, 'after all this area was cut off, staff who are here will stay

here.' So, in the hall here, the staff were gathered, and people were recruited to see who could go to which junior high school." He did not go alone; there were five or six government staff at the Niitsuki school where he was deployed, along with the teachers.

Registration and the Extension of State Control

Local officials assigned to shelters in Japan and the US rarely received much guidance on what to do once they reached the shelters, and had to do their best to determine the needs of the evacuees and figure out how those intersected with still-vague role of government. In Hancock County, the Emergency Manager defined the tasks of those working in the shelter as "Register, and feed, and control the crowd. That's probably the best way to say it. Register feed and control the crowd." When his assistant put in "Make sure the bathrooms have toilet paper," the Emergency Manager agreed: "Oh God yes." The Louisiana Shelter Operations Plan (2000) largely agrees. Under its Mass Care section it lists: physical attributes of shelters; the responsibility of providing a list of all shelters; registration; and feeding (12).

But not all of the "register, feed, and control the crowd" litany was provided directly by the local government. The Louisiana Shelter Operations Plan locates the feeding component under the auspices of the American Red Cross (12). In Pearl River County, Mississippi, just north of Hancock County, the Deputy Emergency Manager explained that the provision of meals in the shelter was initially provided by a religious organization. "The Baptist Association actually cooked the food and distributed to the shelters, now, except for, when they actually all got transferred to the high school, I think the high school cafeteria workers actually come in, now I'm not sure, and cooked this food." According to her the ingredients were sourced through food donations.

The "control the crowd," part was consistent with US securitization throughout the response: the role of government was not only to provide a roof and walls for people displaced by disaster, but to keep those people from harming each other, or each other's property. However, security was not handled directly by local government or American Red Cross shelter managers, but by police or National Guard.

This leaves "register" as the responsibility of the people working in the shelters, suggesting that the primary function of the State in evacuation shelters, at least initially, was the search for a preliminary visibility (in the sense of Scott 1998) of the new order after the disruption of the disaster: Who was where? How many people had congregated in each center?

What neighborhoods had they left empty? The collection of such information after a catastrophe is neither academic nor (exclusively) sinister. If, as with the international camp management standards, coordination is the goal, then basic data such as number of people in each location is a fundamental step. Despite the consistent agreement around this function, however, the Senate report states that "Many shelters did not have intake forms or release forms to track individuals, or they did not use these forms" (Senate, 2006: 366), an omission noted in the context of family reunification difficulties. Even when there was some standardization about what should be done, the way it was done was ad hoc and incomplete.

In Kesennuma, the civil servant deployed to an evacuation center for the first night after the disaster explained that his initial responsibility was "reception."[22] Like the registering in the US, this was a combination of determining needs – at a minimum, it allowed for a count of evacuees and possibly some basic demographic data – and of enacting the government role of monitoring and control. Asked for more detail, he explained: "The names of the people who arrived, we had them line up, that's right, their address and where they came from and so on." This information allowed for an initial mapping of the way the population had been rearranged by the disaster. It also made even clearer the gap between the needs and what the government was able to provide during the initial days of the response.

Division of Labor

Although Niitsuki, the Kesennuma neighborhood where this civil servant was working, was not directly hit by the tsunami, people came in cars or on foot from nearby areas that were affected. "With those people it became full, but still, if you compare to other evacuation centers, from what I heard afterwards, it was a pretty good place." As people arrived, "it was the feeling of showing them around, only, realistically, we had no meals, no food." Even with recognized needs, the government's ability to assist at that point was minimal, emphasizing the disjuncture between collecting information and being able to act on it. Although provision of food and other goods was not within the (eventual) purview of shelter managers, the deployed civil servant and presumably his colleagues felt some responsibility to try to address those needs when possible, as in the example of heating fuel. Faced with an extreme situation, and without recourse to

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higher authority, they made their own decisions about what they, as government representatives, should be doing.

After registering people, he said,

> The power was out, at any rate everyone was taking refuge in the gymnasium. It was cold, that day was cold, so we were wondering what to do about heating. There were some small stoves in that school, so that kerosene, the fuel [for those stoves], was enough for an enclosed area, but in that big gymnasium those small stoves didn't heat it up at all. So we had to heat up this big thing called a jet heater, but that used diesel.

When the fuel for the jet heater ran out, they went around the surrounding area looking for gas of some kind, but because of the power outage it was difficult to find a store or gas station with the capacity to pump gas. However, "while we were waiting, a person who by chance had a fuel store nearby heard that story. He only had a little stock remaining, he kindly brought that, and that night, somehow, we were able to have heating and then, electricity, the generator." The shelter team in this case expanded its mandate with the help of evacuees to include some procurement of necessary goods, filling the temporary absence of any formal organization caused by the delay in other parts of the response getting up to speed.

In Japan, dividing up the tasks in the shelters meant including – or enlisting – the people who had been evacuated. In Sendai, at least, this was policy; an official from the Sendai Disaster Mitigation office stated: "City staff were deployed, their job was to manage [the evacuation centers] together with the local people who had evacuated there. So, saying only that the city staff were deployed doesn't mean that the city staff did everything from one to nine [A to Z]; basically, the people who evacuated were supposed to cooperate." This was important both because there was more work than a few officials could do themselves, and for the morale of the evacuees. A principal in Kesennuma who found himself managing a shelter in his school, described his approach in relation to the evacuated students:

> Let's clean up, that was the thing. We made them clean too, in that sort of way, using the children, using these children who had nothing to do. That's, when I say they had nothing to do, the children who had lost their houses and evacuated to the school. Using these children, we made them awaken this consciousness of being volunteers, then we got them to do that kind of work. So that really let them feel like they themselves were moving forward. This is education.

This approach was even more important at shelters where the city officials who were supposed to arrive did not and existing authority figures took over instead. At Takata Daiichi High School in Rikuzentakata, just across the prefectural border from Kesennuma, it was a recently retired town employee who had happened to evacuate there with his family. This retired civil servant, who had joined the chamber of commerce after retiring from the city bureaucracy, described taking charge in a way that focused on engaging the evacuees in participation:

> Normally, in the plan, city employees must absolutely be dispatched to places where people evacuate. Then they take care of everyone. The thing is, in this case, not one person was there. So, everyone, it was a cold day, there were no blankets, because people had fled there. This was bad, so I requested that each neighborhood association choose one young person each, and please make them their representative. The thing is I used to be in the city hall, it hadn't even been a year since I had retired. So because the situation was no good, I got them to put forward young people, one each from each neighborhood association.

Spurred by a physical problem (the cold) to which he had no solution (lack of blankets), the retired civil servant responded by creating an organization for representation, similar to the "governance and community participation/mobilisation mechanisms" mentioned in the NRC camp management guidelines. He was, in effect, mimicking a disaster response headquarters: "Anyway, with those young colleagues becoming the center, we created the evacuation center response headquarters. We created different roles, there was the person in charge of water supply, general administrator, the person in charge of media, and so on." He used this model, familiar to him from his work in the city administration, to develop something far more elaborate than any existing plans for evacuation center management.

As it became clear that the evacuees would be in the Rikuzentakata high school for the foreseeable future their needs became more complex. The response outside of the shelter shifted into gear, and more resources became available. The organization to match resources to needs within the shelter emerged correspondingly.

> Then, at around that time, food and relief goods started to come in. This time we [put in place] a relief goods manager. The thing is, as the relief goods came, rice came, there was someone to look after it but not someone to cook it. So at this time, we called some of the women in the evacuation center to help. We said 'Isn't there anyone who would take charge of food preparation?' Then ten people raised their hands, so we said to those people, 'You will help us by cooking.' There were no bowls or anything so we had them do only rice balls. Then next thing, with rice balls, it turned out, the people in charge of food preparation had to work the full day, to deliver three meals and sleep, they had to get up before six

> am, and worked until ten at night, then they had to clean up after. So those food preparation people, they were already overwhelmed. Next thing we did was, this time, people for setting the table. We made a structure for [people] to carry that and deliver it to everyone after the preparation. […] The next time what we did was, this time, we said isn't there anyone to clean up afterwards, then the food preparation people returned [were done] quickly. Then we needed someone in charge of washing bowls. That's what we did.

Like the emergent organizations described in the literature, the expansion of this shelter organization was largely driven by the need for action and the lack of anyone else to take it. The process interpreted the immediate situation in a way that resulted in the construction of an organization out of a frightened crowd of unrelated people.

The interpretation of the situation is in part a result of who is interpreting it; that it is also shaped by values. For example, the retired civil servant described how, on discovering that there were only three tons of water remaining in the school's tank, he put a stop to use of toilets. "I also needed to use the bathroom, so I went to the mountain. […] Then I realized, well, wait a minute. For us this is fine. What will women do?" After this epiphany he set up a system for digging and filling in latrines, addressing the problem, but had there been a woman in charge (or had he asked one about her problems, rather than just requesting her to cook), the issue would have been recognized earlier (or possibly he would have discovered it wasn't as much of a problem for women as he assumed).

While the incipient organization was being driven by (perceived) needs and opportunities for action, it was also shaped by the values of that group and, in particular, its leadership. For example, instead of setting up a group for cooking, the shelter could have demanded that outside entities did so (as happened in other shelters where the Self-Defense Forces or NGOs eventually set up soup kitchens), or cooked in an ad hoc, rotating manner until such other options were available. Value judgments about roles are also obvious in the decision to gather only women to request help with cooking.

For this particular shelter and its leadership, self-sufficiency and decision-making processes were important. The retired civil servant's recollection of the process of emergence continues:

> Then, the next thing we did, we realized the evacuation center, finally, had to make a structure, take action independently. One more time, we got each neighborhood association to put forward representatives, this time the neighborhood leaders and these sort of people, I mean, people in their sixties, and

> we made an organization with them. What I mean to say is, what we want to tell from here to everyone. Then the people in the evacuation center, they want to talk to us. If we do that sort of thing one-to-one, it takes a lot of time. So, first we got the neighborhood associations together in one place. This is this neighborhood's association; this is this neighborhood's association. From there we got each of them to put forward one person as a representative. Then we had meetings of the representatives. Then, whatever we had to say, we said it once at the time of this representatives meeting. Then the people from the neighborhood associations, they didn't hear it from us, they were told by their representatives. We created that kind of instruction system.

This approach was informed not only by the specific needs of the shelter, but also by a general belief that this was how groups should function, and that it was part of the role of leading the shelter to make sure that this group did so. Although the retired civil servant no longer worked for the government officially, he and the others involved in leadership at the evacuation center were clearly influenced by their experience of government management and emergency management, and even in the extremity of the first days after the disaster found it important to build that kind of organization.

In Kesennuma, to the south, the school principal found a strikingly similar way of organizing his shelter jurisdiction, although he came at it from the slightly different angle of being a person of authority in a school that now held a mixed community of students and other evacuees. For the principal and his colleagues, the first element of dividing up tasks included dividing between the demands of the shelter and the tasks assigned to pre-disaster identities.

> In terms of the educators, the first job for us, the teaching staff, was to check on the safety of the children. […] Around eight hundred townspeople evacuated to Kesennuma Junior High School, which is located on high ground, so we responded to that. We divided the teachers into three groups, one dealt with the people in the evacuation center. Then one dealt with the students who had stayed on school grounds. Then one – more and more people were evacuating there by car, so one dealt with arranging the parking lot, also with blankets and other sorts of emergency assistance items.

While the retired civil servant's experience in the town government probably played a role in his organization of the shelter governance, for the principal it was explicitly linked to his work at the school.

> With the evacuation center, what I said to the teachers was: 'What we call managing a school class, the process of administering a school class, it's the same as that.' So, with the evacuated people too, they were in various classrooms, we just have to think about what's the best way for them to go forward. With the

> things that we've been doing until now, we should all be able to subsist like that, we should be able to use these things. So, in that evacuation center, well, the city employees were working on it but, soon, from each classroom, we got them to put forward a group representative, we had a group leader meeting every day.

Beyond school experience, the principal also drew on his memories of television coverage of the Hanshin-Awaji earthquake:

> This, you know, at the time of the Great Hanshin-Awaji Disaster [Kobe earthquake], we didn't go there or anything but from watching on television, the thing was, we should quickly make a self-governing kind of organization, then from there, we should do those things that we could do. That sort of talk has been around for a while. So as quickly as possible we made an organization, we had managed [to establish] this kind of organization before three days had passed.

The idea of the importance of organization, and the image of what kinds of organization were important, were pre-existing, but became structured by the specific needs of the disaster-affected.

> This [photograph] is the morning meeting of the group leaders. In those classrooms there were around 30 people, between 20 to 30 people, so we got them to put forward a representative from those classrooms. Here, we had a discussion meeting every morning, then requests from the city, well, recounting any words from the city, then listening to what everyone had to say. Then, we had to make various requests, cleaning and distribution of meals and things like that, we made those requests here. It went well. Because of this there was no disorder. By going through these people, they told everyone else, and we heard what they had to say.

Of course not all shelters were able to self-organize in this way, and not all of the ones that tried were able to do so as effectively. Still, it is striking that the retired civil servant in Rikuzentakata and the school principal in Kesennuma, in separate towns at a time without communications, developed similar models for organizing the inhabitants of their respective shelters. Like the retired civil servant, the school principal also worked to divide up tasks among the evacuees, although in his case, with an existing authority structure in the school, there was more of a structure to build on.

> We got them to do some cleaning, then, the preparation of meals, their distribution, things like that. So at first it was the teaching staff who were dividing things up. This classroom this much, this classroom this much, they divided it up like that. Then, they got them to bear [those responsibilities]. We got these people to do the work that had to get done.

Despite the school principal's hopes for how participation would help morale, asking evacuees to work was initially not popular.

> At the beginning there were various complaints. People were dissatisfied, motivation was not rising, it was fairly…Entry into the temporary [houses] and that sort of place wouldn't be until after May, they couldn't move in until around June so we ran into a lot of dissatisfaction. […] There weren't any things like blankets, that kind of sleeping item. There weren't things to protect us from the cold. […] The area around the school wasn't damaged in the disaster. So everything is still there, in these high places. So: 'Let's go and get blankets from there. I want your cooperation to gather blankets.' As to how we gather them, we the teaching staff alone naturally can't gather them, we requested that the group leaders gather them, [that it was done] by the group leaders. This kind of a place, immediately, the next day. So the thing is, 'Oh, they're requesting this of us,' they complained like that, at the beginning, 'We're the same tired, still, they're making us do these things,' there was that kind of talk. It wasn't going very well. I kind of saw this and tried to help, 'In this kind of time especially, we want your cooperation for the moment, we understand but,' kind of thing. I requested it, 'Okay, let's go take them shall we?' Then, we got this many blankets [shows the photo]. This is even after we had distributed some.

Despite the success of their systems, both impromptu shelter leaders handed over their responsibilities as soon as possible. The retired municipal employee who managed the evacuation center in Rikuzentakata managed to bow out after about five weeks, going back to his normal (post-civil service retirement) job at the Chamber of Commerce (which also had quite a lot to do after the disaster). The school principal's responsibility remained at the school throughout, but he wanted to focus on the students rather than running the evacuation center.

> I went directly to the Board of Education, since no one had come from the city to be in charge. I called someone to come. Two people came. After that, I had those city employees take the central role in taking care of the evacuation center. Of course, the teachers helped with the preparation of meals and things like that but those city employees did the big discussions.

Other schools were not so lucky: "For example, there's Nanjou Junior High School in a remote area but no city employees came to this Nanjou Junior High School. So the school had to deal with everything." The principal wasn't sure if Nanjou had made the request, but as head of the principal's association and one of the larger schools, he had more authority: "I went directly, pulled strongly for it. […] If I hadn't made the request, it would have been terrible. Because also, well, I think they came because it was at the beginning, but, if it were later, it's that the city employees already wouldn't be there, so they probably wouldn't have come." As a government employee of some authority, he was able to push for the city to take on the role he thought it was responsible for in a crisis.

As in some other cases, the slack could be taken up by other actors. The school principal did note that in some places where city officials were less responsive, the community stepped in:

> Then after that, the place called Kaijou Junior High School, the city employees didn't go there either. Only, in that place the community in the area is developing, the people from the area themselves, in the schoolyard, cooked, then they themselves delivered the meals to the people in the evacuation center. The more you go into small areas the more you see the communities in those areas, developing, they have the strength of unity, the evacuees are all people they know, their peers, so the management is easy to do.

Coordinating with Other Actors

One of the key contradictions for government actors in these responses was that while they often wanted or felt the need to take responsibility, reassert authority, and manage the full needs of their constituents, few of the required operational tasks could be completed by the government alone. Sometimes this was recognized in the planning, as in the American Red Cross's vague role in mass care, or the pre-arranged contracts with local trucking cooperatives in certain Japanese jurisdictions, although these partnerships sometimes fell apart in practice. But even when the plans suggested that the government would manage everything, these disasters proved otherwise.

Like so many other parts of the response that hadn't been planned or thought out, coordinating tasks with other entities was worked out on an ad hoc basis, and varied from jurisdiction to jurisdiction. The representative of the Japan Platform, a non-profit organization (NPO) consortium, who was based in Sendai during most of the response, reported on the differences in role division between Ishinomaki and Kesennuma cities: "In Ishinomaki the SDF put out all the information about where they were deploying, which evacuation centers they were covering, the NPO side assessed and deployed to the evacuation centers where the SDF wasn't going. […] Then in Kesennuma, the SDF was already making rice and miso soup, so the discussion became about the NPO side making other side dishes." In some jurisdictions the various organizations involved divided up the evacuation centers wholesale, while in others each organization laid claim to a type of assistance and served multiple centers. The lack of planning on this issue – most Japanese local governments did not include NGOs in their planning at all, and the planning with the SDF did not imagine such protracted evacuations – led to both flexibility and confusion.

A similar negotiation between non-profit and the forces of law and order took place in a county in Mississippi:

> After food and water finally arrived in the county, Colonel Joe Spraggins, Harrison County's Emergency Manager, asked Oscar Barnes, the local Red Cross representative why the Red Cross was not delivering the items to the shelters and was told that Red Cross volunteers and staff were prohibited from driving at night during a disaster. In order to get the supplies to the shelters, Gulfport Police took over distribution duties. (Senate, 2006: 104)

While the difficulties were amicably resolved in both cases, in practical terms the resolution took time. In more abstract terms, the negotiations demonstrate that disaster response roles were neither agreed upon nor intrinsic to certain types of organizations. When people are in need after a natural hazard collides with societal vulnerabilities, is it the government's responsibility to assist them, or that of a non-profit?

The lack of clarity meant government actors had to find a niche for themselves, validating their – and by extension, the State's role – in disaster response. At the same time, it became very clear that the government couldn't claim overall competency. The positioning of the State vis-à-vis the other actors therefore became important. Ceding some part of the task to a non-profit or to the private sector was more palatable as a matter of principle – because it was a task "better suited" to that entity – than out of inability.

Given the open-endedness of disaster response, decisions about what the government would *not* do were sometimes the clearest way of defining what it would do. For example: the government would provide food, but the cooking needed to be done by someone else. Or the government would provide a shelter building, but the claimed no responsibility for what happened inside it. Or the government would provide shelter for those with special needs, but everyone else was considered capable of leaving the city, and if they didn't they should be helped by non-profits. The ability to coordinate with non-governmental actors – private sector, faith-based, non-profit – was critical to completing the mission; at the same time the way in which the government positioned itself in relation to those other actors was a key part in rebuilding the government's role in a crisis.

Unplanned shelters

In both countries the governments' designated shelters proved insufficient, and impromptu shelters sprang up. In Miyagi Prefecture, for example, 41.8% of the shelters used during the initial two weeks after the disaster were undesignated (Miyagi Prefecture, 2012).

These unplanned shelters often received no aid until they were able to bring themselves to someone's attention. Therefore, at such locations the organization was usually completely emergent and unrelated to the State, and remained so even after they were able to link into government support systems.

In the United States, unlike in Japan, many of them were church-based, making use of not only the physical structures, but also the national or international networks of various denominations channeling donations and volunteers. These relieved some of strain on the government, if further blurring the definition of roles. The Mississippi Emergency Management Agency director explained:

> A lot of ad hoc shelters that were set up, just churches that opened up, and those were not official shelters, but nonetheless they took care of people, so yes the Red Cross primarily took care of mass care, but there were a lot of individual communities, community centers, churches, that set up and took care of people. Because if everybody had gone to a public shelter we just couldn't have handled everybody.

The uncomfortable fact that the State couldn't care for everyone was obscured by the vague lines of responsibility. The lack of specificity in the responsibility-sharing agreement with the American Red Cross meant that whether the ARC did ninety percent of the work or fifty percent of the work or no work, the system was still within the planned parameters. Beyond that, the community and church (and other faith-based) work functioned as a release valve, taking off some of the excess pressure. The MEMA director's statement begins with the communities assisting, and only comes around to the lack of government capacity at the end, blurring causality. Were the communities going to help anyway, or was it a reaction to government failure? At the same time, this framing played into other narratives, such as the libertarian strain of US politics that suggests that private charity is more effective than government assistance. Finally, the question of whether the State *should* be responsible for handling everybody in public shelters remained unanswered, and even unasked.

However needed they were, unplanned shelters were also problematic for the government because:

> Lot of times we found out about those shelters when they ran out of food and water. And then once they notified us they would come up through the unified command at the local level, and then it would be fed up to us and then we started, through FEMA as well as the state system, resupplying those shelters even though they weren't government shelters. (MEMA director)

Non-governmental shelters in this way clarified a dynamic that took place at official shelters as well: the government couldn't manage to effectively care for everyone but had difficulty coordinating with unplanned assistance.

The County administrator of Hancock County explained how the relationship between governmental and faith-based shelters worked there:

> The ones that didn't [have injuries] they were taking to Bay St. Louis school, which became a shelter. It was not designed to be a shelter but it became one anyway out of necessity. […] They stayed there until they started getting some of these trailers moving in, some of these people they ended up loading up on buses and moving even north, you know, some of them, some of the neighbors to the north, churches and such, came in, and they'd say to us hey we got a church, we got water and power, we got people that can cook, if you'll send them there we've got a church they can sleep in the sanctuary, we got beds, we got those kind of things. So, ended up loading a lot of the people up, that were just with no place to go and busing them to some of these places where they would at least get the comforts of food, water, air, shower, such as that.

This suggests that faith-based shelters were particularly useful in dealing with long-term provision of assistance, often entirely through non-governmental funding. Once again, the administrator frames this as the community offering help, without much reflection on whether the church is taking on a responsibility that should belong with the government – or, alternatively, should be planned and designated with the church in the first place.

Security

One area in the US where outside organizations were consistently used to provide services to government shelters was security. The stationing of armed security, usually police or National Guard, at shelters used for people who had just lost their homes was standard practice. The explanations for why this was necessary, on the other hand, were not standardized at all, ranging from evacuees not having their anti-psychotics to local quarrels to protecting the safety of the people they were guarding:

> I think what we saw mostly was, you start housing people and you start keeping them for days on end, these people that may be on some kind of psychotic medication that they've lost their medication, we saw that, we saw that real issue, that you had people that really, they were fine as long as they were on the medication but after several days of being off the medication they just really were confrontational, and we had to we had to really work through those issues. (Administrator, Hancock County)

> Assistant: “You just never know.”
> Emergency Manager: “No, no, no.”
> Assistant: “There’s no problems, and usually with people there there shouldn’t be a problem.”
> Emergency Manager: “That’s called precaution.”
> Assistant: “‘Cause Aunt Sally who went out with Uncle Bob’s – everybody, the county’s so small that you always run into good bad or indifferent.” (Hancock County)

> You did have vandalism going on and stuff like that, but to keep it at a minimum, that’s why we had the military there. And it was basically a safety issue more than anything, because if there’s no running sewer and water in there, why are you going to allow people to go in there and create more hazards? So I mean it wasn’t really the theft, it was more of safety. And to protect the people’s belongings that were scattered everywhere. (Emergency Manager, Harrison County)

Sometimes, and particularly when they came from organizations that were more distant from the local one, these security forces could pose a risk for the people they were supposedly there to protect, as in this incident in St Tammany Parish.

> At every shelter I had law enforcement or military. I had one flare-up in a rural community when the little Pick-a-pack or Timesave or Quickstop opened, and people were pretty stressed so they went down there and got drunk, came back to the shelter, and the military, happened to be a female guard military, and somehow they got obnoxious with her and pushed her. When she turned around with that M-16 on them, inside the shelter, then I got the call and I drove up there I said okay time out. (Parish President of St Tammany Parish)

In this quote, the local leader positions himself as both separate from and controlling the security organization. Having security done by separate organizations – even though they were technically government, law enforcement and military bodies were seen as relatively distinct – allowed local authorities to distance themselves not only from the implementation, but even from the rationale. Nonetheless, their functioning under the auspices of government sites helped to cement the role of the State as one of security and control.

In Japan the Self-Defense Forces played a key role in assisting with operations, but not, for the most part, in security. While they started with activities appropriate to their specialized technology – aerial reconnaissance, clearing roads – the Japanese military quickly diversified. They provided laundry machines and temporary bathhouses at evacuation centers, ran soup kitchens, and conducted needs assessments. Although they worked in a largely ad hoc manner,

the SDF were the closest thing to a dedicated response agency – the closest analog to FEMA – in the Japanese government.

The national government promised a massive push of 100,000 troops into the affected areas, suggesting that the SDF was providing additional people above all else (although, as noted above, their equipment was also very useful). The SDF generally participated in local coordination meetings, but they were essentially autonomous in their own decision-making. This allowed them to fill the cracks left unmanaged by local government organizations as they emerged.

Shelter: Responsibility fueling improvisation

Of all the sectors studied in the previous chapter and this one, shelter is where we see the largest differences between the two countries. There were differences in the planning and the siting of the shelters, but perhaps most important were the divergent perspectives on the government's role.

Both countries faced greater shelter difficulties than they had planned for, with more people displaced and larger risk areas. However, in Japan at least some shelter managers adapted, improvising complex rules to support evacuees living for months in crowded conditions. In the US, on the other hand, the problems at the Superdome became emblematic of the US's poor response to Hurricane Katrina. The local government essentially refused responsibility for the problem, leaving any management of the shelter to the people within it, and focusing on how to move them somewhere else as quickly as possible. Even in the less enormous shelters of Mississippi and other Louisiana parishes, the government shelters showed a problematic lack of management and many evacuees were moved to faith-based or other non-governmental sites. The overall pattern was of local governments unwilling to completely give up responsibility but also unable to devote enough resources to the problem, quietly allowing most of the work to go to non-governmental organizations.

A key element of the approach was *defining the task*. This was challenging for both countries. While both had pre-identified shelter locations, neither had done a thorough job of defining what shelter management meant or training staff in those skills. However, Japan's planning and preparation clearly located shelters within the responsibility of local government. While local civil servants may not have received training in shelter management or even a clear definition of what those responsibilities might entail, they were aware that taking care of shelters

was within their purview. In the US, the mandate was shared with a non-profit without any specific planned division of tasks, leaving government unprepared. Local governments often instituted a minimum type of shelter so as to avoid providing full services. Rather than improvising, governments in the US tended to hand off the responsibility as soon as possible.

In Japan, *division of tasks*, usually among evacuees, allowed overworked civil servants to develop elaborate organizations for running the shelters. Shelter operations in the US rarely reached the point of dividing up tasks, as they either handed over the shelter responsibilities or focused almost exclusively on security, without considering, for example, cleaning or food distribution as part of their task.

The one area where the US did implement a clear role in shelters was in security, which was usually carried out by the National Guard. In terms of non-security functions, the US most often ceded its role to faith-based organizations that set up unplanned shelters. In Japan *positioning in relation to other actors* was often ad hoc and varied from location to location, with the self-defense forces and non-profits taking on different components such as food preparation or laundry services.

Japan had its difficulties in shelter. The fact that so many areas were ceded to outside actors without pre-planning shows the shortage of resources – human as well as technical – that prevented the government from covering the entire sector as planned. There were also large numbers of private citizens who showed up to volunteer at shelters; without any kind of mechanisms for protecting evacuees or for accountability, this raised serious risks. In general, however, the determination that shelter needed to be dealt with by the local government spurred improvisation and coordination. In the US, the softer, non-physical side of shelter was almost completely ignored, and the government located its role in security instead.

Logistics

Procuring, transporting, warehousing, and distributing goods to the people affected by a disaster is a complex, multi-stage, multi-jurisdictional process.[23] Goods may include not only food (which brings its own challenges in the form of expiration dates) and water, but also items such as blankets, flashlights, clothes, toilet paper, soap, menstrual products, diapers, and other

[23] It becomes even more complex if you try to get things that are needed to the people who need them; this however seems to have rarely been a part of the processes examined here, a point that will be touched on later in the section.

basic goods people may have lost in the disaster. Holguín-Veras et al. (2014) succinctly summarize some of the challenges:

> (1) the social networks that orchestrate the array of technical activities concerning logistics are severely disrupted or destroyed; (2) the infrastructure and communication systems that support such socio-technical process of logistics may have been impacted and unable to fully function; (3) there is a great deal of uncertainty about infrastructure conditions; (4) large (and dynamic) volumes of critical supplies must be transported; (5) there is a short timeframe to respond and prevent loss of lives and property; (6) there is a huge amount of uncertainty about what is actually needed, where is needed, and what is available at the site; (7) the ability of the local leaders, civil society, and private sector to organize an effective response may have been compromised by the event itself; (8) large proportions of critical local assets such as trucks and supplies may have been destroyed, thus preventing their use as a first wave of relief aid; and, (9) the event generates a huge flow of donations with large proportions of supplies that are not needed at the site, which complicates the response tremendously as handling these goods detracts resources from other more important tasks (Holguín-Veras et al., 2014: 86-87)

Most of the government responders were utterly unprepared for the difficulty. In Japan, Holguín-Veras et al. (2012) found that post-disaster humanitarian logistics "was not adequately discussed in the response plans: in some cases it was not mentioned at all; in another '...it was just one line in the plan'" (7). Most of the informants who worked on logistics had no experience in that area, and Holguín-Veras et al. (2012) reported that logistics "operations had a very inauspicious start" (12). They argue that greater disaster was avoided only through the intervention of large national trucking and distribution companies. In the US, FEMA was so unprepared and its efforts so ineffective that the agency eventually subcontracted the entire logistics operation to the Department of Defense.

International Frameworks

In international humanitarian response, logistics is considered an important enough sector to have its own cluster in the UN Cluster Approach, and is the only auxiliary function to have one. The Global Logistics Cluster, lead by the World Food Program, "provides coordination and information management to support operational decision-making and improve the predictability, timeliness and efficiency of the humanitarian emergency response" (https://logcluster.org/about-us). Most NGOs have dedicated logistics staff and elaborate systems, sometimes with planned

adjustments to allow for the greater urgency of emergency logistics (e.g., shortcuts in approvals processes).

Many large humanitarian agencies either will not accept material donations at all or have an entirely separate department dedicated to dealing with them, usually only at the level of large corporate donations. While there are many smaller organizations that do accept material goods, particularly faith-based networks, the more standard practice is for an agency to run a needs assessment and then identify locations where the necessary goods can be purchased (or supply them through prepositioned stocks of common needs).

While transportation and warehouse management are also challenging – and are given their own sections in the Global Cluster's Logistics Operational Guide[24], distribution is the other sub-sector that tends to technical difficulties. Transportation and inventory management may present special challenges during post-disaster operations, but at least they have analogous in normal logistics processes. Distribution, on the other hand, is specific to such urgent situations. Distribution problems include a physical solution to the problem of getting a lot of goods to a lot of people in a short amount of time with a minimum of waiting or crowds and figuring out who is and isn't entitled to get goods.

The office of the United Nations High Commissioner for Refugees (UNHCR) offers a Practical Guide to Commodity Distribution (1997) that suggests using ration cards, a common approach in international work. While the guide notes that "In the early stages of an emergency there will probably be a period when it will not be possible to register or issue ration cards" and affirms that "Effective distribution is possible without ration cards," it also argues that "each action you take should contribute to a process whereby stable control is progressively established" (Key Points). The guide offers three options for distribution – to leaders; to groups of heads of families; and to heads of families – and includes advice on "special issues" like crowd control and "when you do not have enough to go around."

While Sphere does not include standards for auxiliary functions like logistics, the Global Logistics Cluster's Logistics Operational Guide does offer suggestions for monitoring and

[24] https://dlca.logcluster.org/display/public/LOG/Introduction

evaluation, including suggested key performance indicators (KPIs) like "total dollar value of damaged/lost goods" and "inventory levels vs. forecasted need."[25]

Defining the Task

Most government responders, by contrast, had no experience and no systems. Many of them seem not to have realized how critical logistics was, and many failed to understand what its most difficult challenge would be. While the focus in planning was often on procurement, it was Holguín-Veras et al.'s ninth challenge, the "huge flow of donations," that caused the most problems. The phenomenon of material convergence, which has been recognized in disaster studies at least since Fritz and Mathewson's 1957 study, indicates an overwhelming flood of disorganized donations into disaster-affected areas. Holguín-Veras et al. (2012b) found that "when the authors asked professional logisticians involved in [post-disaster humanitarian logistics] after the Haiti earthquake what they considered to be the most significant obstacle to the response, the consensus was 'unsolicited donations' […] The same was observed in Japan after the Tohoku disasters" (499-500).

Informants for this study described an overwhelming, time-consuming burden in the flood of material goods. Because of both respect for the feelings of the donors and a reluctance to stem the supply of more necessary donations, officials were often reluctant to say explicitly that some goods were not useful or to refuse them. The civil servant who ran the logistics operation in Kesennuma mentioned that although they received things that were not needed by the evacuees, it was almost impossible to refuse them or return them, resulting in goods that were in some cases kept in warehouses for as long as a year and a half until they could finally figure out some way to use them. Even a professional logistician from the Yamato Transport company who worked with that civil servant in Kesennuma was exasperated by the unpredictable incoming goods.

> This is very honest talk, but it was being said that the goods weren't enough, but […] there were a lot of goods. The goods came in an incredibly large quantity. Then, those things weren't the necessary things, which was a little bit of a problem. Lots of things were coming in, but unnecessary things were being sent behind them and […] the space was limited, what could we do? We didn't want to accept them.

[25] https://dlca.logcluster.org/display/LOG/Monitoring+and+Evaluation#MonitoringandEvaluation-MonitoringPerformance

Some jurisdictions were so frustrated that they did attempt to refuse goods or at least get out the word about what was unnecessary. In Ishinomaki City the Emergency Manager recalled that so much water was donated that only ten days into the response they tried to alert potential donors that no more was needed.

> Here, water was incredibly overflowing, around the tenth day we said on our homepage that we had enough water. We put out the word that we had enough assistance with water, an incredible amount of water came to the response. Only, the [donated] water would also get damaged by weather [if left outside] […] We needed the [warehouse] space, we were in a situation in which we had no space, so, around the tenth day, we said that the water was enough.

The county administrator in Hancock County made an effort to understand the mentality behind the unsolicited donations, even as he commented on how impossible it was to manage them:

> I think the thing that a lot of people didn't realize never being in this, the last thing you want is unsorted unsized clothes that come to you. You know, where they send us boxes of clothes that somebody's gotta sit and sort and size and lay out, it's just, time just really does not allow, and you just, it's next to impossible really to have enough people that you can put on a project like that to get that done. (Kellar)

At the state level the Mississippi Emergency Management director noted that after the initial procurement and delivery failures, "when it finally started coming it was just big. I mean at one point we had hundreds of tractor-trailers lined up out at Stennis [Space Center] trying to get in. It was just like for a few days, several days, there was nothing, and then it all came it once. So it was like, I think it was like day fifteen before we got to where we need to be as far as our burn rate equaling our supply rate, so" (Latham). In Iwate Prefecture a staff member named Sato, who was assigned to logistics from his regular posting in the citizen safe living department[26], described a situation in which "people wanted to send things from all sorts of places […] the 24-hour one-stop-shop phone was ringing almost non-stop. […] Then after, things really were sent rapidly […] For example, you understand a ten-ton truck, right? At the peak time, in one day, around one hundred of those would come in."

Lack of experience meant that these difficulties, though well known in disaster studies and practice, were unexpected for the responders in these cases. Given that there was very little planned temporary organization for logistics to begin with, and that most of what was planned

[26] 県民くらしの安全課

was focused on the wrong tasks, most logistics teams – or, more precisely, most individuals unexpectedly assigned to various parts of the logistics process – were forced to develop their own organization, spontaneously and without guidance, as they were working through the demands of the disaster.

In some places, particularly those less directly affected by the disaster, this was formalized in the functioning of the surviving temporary organization and is clearly visible in evaluations. For example, the Miyagi prefectural government changed its logistics structure three times in the first month, not only adding and removing staff, but changing the organization to add new specialized groups, like a material procurement squad and regionally assigned teams. These changes obviously affected the division of labor, but also the definition of the task, as they better understood what they needed people to be doing.

Matching instead of requesting: supply-driven logistics

Facing the flood of relief goods, the government workers struggling with logistics found that their area of intervention was less about understanding the needs of affected people and addressing them than about matching largely unsolicited, uncatalogued goods with places where they would be useful.

Because the untrained logistics staff in Japan and the US were unable to define their task, it was defined for them. The task became managing donations, rather than procuring and distributing needed goods, at least initially. In many cases unsolicited aid arrived before information about needs did. Dealing with those donations was overwhelming enough to drown out the idea of a separate effort to deal with putting request and response structures into place, despite the fact that these were usually planned for. Since logistics teams usually had little preset organization, this meant that the new structures they built reflected the task as it was being defined.

In Kesennuma, for example, the city initially used a small meeting room next to the crisis management room to store relief goods. The room was filled within three days; the tax department worker who was assigned to logistics after the disaster reported that "during this period we didn't have the first information about the evacuation centers and so on […] it was a situation of not knowing what was happening." As information started trickling in, they began to match what they had to the reports of needs. Even after they moved the goods to a larger area and had some degree of information coming in, the process was still for some time largely about

matching what they had to numbers, rather than making any requests based on the needs. “The relief goods were coming in bulk, so [for example] some thousand units of cup ramen come in but there are at that time 20,000 people evacuated, it wasn’t possible to distribute all at once. So, then, for example, if 3000 units were distributed in the morning, next we would distribute rice balls to different people.”

Another difficulty was that at the beginning, local logistics teams – responsible for receiving, warehousing, and distributing goods – had no idea what was coming. The civil servant assigned to logistics recalled: “It was a situation in which we didn’t know the contents, a situation in which we didn’t know until we opened the truck, a situation in which we couldn’t really use faxes or phones. So we understood what was inside and how much for the first time when we opened the truck.” There was no planning and not even any advanced knowledge of the materials donated, just reaction to what they received.

A retired extension worker put in charge of managing distributions in Pearl River County, Mississippi was in a similar situation, waiting until the truck arrived to know what they would get: “I loved it when you could see the 18-wheeler and they’d have to make the loop and you could see, we always needed size three diapers, you know that was the average size that we would play out of the most, and you could see that little color shining through the slats, and if you, ‘we’re out of that size but if you’ll pull over and wait for us to unload this trailer that’s coming in, we’ve got you some diapers.’” This left little possibility for planning ahead, making requests, or targeting needs. The task under these circumstances very rarely included procurement, and usually had more to do with warehouse management.

Even when goods were requested up from one level to another as planned, it was often based on guesses by locals without emergency experience, as in this exchange recalled by the county administrator of Hancock County:

> So [the FEMA liaison] started, thanks to a satellite phone, making the calls to the people that were standing by north of the storm surge, and the storm, and started ordering. You know, what do you think you really need? To me. How many body bags do you think you need? Based on what I saw, I said, I hate to say this, but I felt like, I’ve got to say it. I think we may need as many as 500 body bags. Fortunately we lost 57, so that was a blessing. He said, do you think so, I said I think that at least will get us started.

While requesting goods remained part of the local government mandate, without including needs assessment in that role those requests could only be estimates without basis. Given the

malfunction of the official supply system, requesting early may have been more important than requesting accurately.

If it was difficult for locals to get information about needs at evacuation centers in the same city, it was even harder for those at the prefectural level, meaning that distribution of goods began with supply rather than demand. In Iwate prefecture's a mid-level employee who was yanked from his job in the citizen safe living department (dealing with such issues as food and traffic safety) to work on goods distribution said that even before they had contact with affected areas they were received calls with offers of donations around the clock. His department began by trying to get a grip on what was coming in, before they could assess exactly what was needed. Since they had no communications or information from the affected municipalities, he said, "We kept sending arbitrary things. We couldn't get in touch. There were absolutely no communications. We didn't have a good understanding of what the road conditions were. We just kept sending unilaterally, as possible, 24 hours [a day]." Even when the information started to come in, it was initially as basic as the number of people in each evacuation center, rather than any specifics about what those people needed. Once they had those population numbers, the Iwate prefecture employee explained, "At the beginning, as I said before, we didn't make any calculations. […] We had come to understand the number of people so we here unilaterally divided the aggregate volume by the number of people, more or less, at the beginning. It was only partway through [the response] that we started to match to the needs."

In many places a lack of any systematic understanding of needs assessment was also an issue. The Hancock County administrator, asked about needs assessments, described a process of driving around to look for what the CMC had decided was needed for their processes: "We had teams, that were going out, and they were actually doing, they were doing windshield surveys of what we actually had based on the needs that they knew from our meetings that we'd have. You know, we need open areas with artesian wells or septic tank systems that we can go and actually set up a PoD, a point of distribution, or a temporary trailer site." When the administrator mentions needs here, he's referring to *operational* needs, not the needs of the beneficiaries. Again, the task became efficiently distributing what had been received, rather than identifying and filling gaps.

This is particularly notable given the emphasis on the idea of local knowledge driving responses in legal and planning documents in both countries. The understanding of local needs is

one of the justifications for flipping authority hierarchies and putting local governments in charge of disaster response. The Senate report (2006) states that "The individuals closest to an emergency incident generally know the locality best" (206) while the White House report claims that "State and local governments […] know the unique requirements of their citizens and geography and are best positioned to respond to incidents in their own jurisdictions." Both of these formulations imply that the locals already, intrinsically understand needs, so they're not exactly endorsements for systematic needs assessments. However, the examples here raise questions about the interplay between local knowledge and disaster response experience.

Local knowledge does have its uses. In Pearl River County the retired extension officer put in charge of dealing with donations and distributions made conscious efforts find out what particularly vulnerable people who couldn't make it to the distributions might need, but these were also based on her specific knowledge of the community, rather than on any kind of generalized assessment.

> I had homemaker clubs throughout the county, I had been retired then about three years, but all of a sudden I wasn't seeing, if I wasn't seeing certain people, and that's where the Guard came in, the Guard would go out and I would go say – I had some elderly black homemakers that I had not seen, […] and I would send them out, and we would send them out with supplies too. When they went out in their trucks, we sent them out with everything that we thought they might need, or if they went down a certain road, and the people were – they would find out what they would need and the next day they would take them what they had requested. (Wiltshire)

Matching unsolicited goods to needs could be particularly difficult. The Iwate prefecture employee recalled that "They didn't match. Things that came free of charge and the things that the municipalities wanted were without exception not in agreement." At that point, the prefecture began to purchase relief items instead of depending on donations; with more information and a slightly better grasp on the problem, they were able to shift the focus.

Redefining the task from dealing with donations to addressing needs was a major step in the return to normalcy. Piles of unsolicited, free donations were not only in the way; they were also, to a capitalist economy and mindset, bizarre. Struggling to distribute unwanted goods that had been foisted on them without their input couldn't have been helpful for government officials trying to move beyond the upheaval of the cosmology episode. Understanding the limits of what could be done, reorienting the approach to take more agency, and adjusting the re-emergent

organization to fit a more realistic task were fundamental steps in finding the way back to normalcy.

Division of Labor

Divisions along the supply chain

For logistics teams, the macro-level of task division was decided automatically by the location: distributions had to happen where the affected people were; procurement or reception of donations had to happen where retail and wholesale were still functioning; and transportation had to happen in between.

The planning in the two countries reflected this. Because of the vast number and variation in goods, the different supply streams (procurement and donations), and the wide area in need of assistance, it was not possible to have a direct single channel for each request. Instead goods were bundled and sorted at distribution centers; transported in bulk to other distribution centers (for example, at the state level); and transported again closer to location of need for final sorting and distribution. Holguín-Veras and Jaller (2012) offer a quick summary of FEMA's approach during Katrina:

> FEMA's relief effort is on the basis of a hierarchical system with a relatively small number of very large distribution centers at the top, a large number of points of distribution at the bottom, and two or three layers of midsize distribution centers in the middle. The purpose of the top layer is to move large quantities in bulk, whereas the bottom layer is to deliver supplies to the populations in need. (Holguín-Veras and Jaller, 2012: 119)

In Japan, similarly, "In terms of the structure of the PD-HL [post-disaster humanitarian logistics] networks, the disaster plans typically defined a three echelon network with the DCs [distribution centers] managed by the prefectures at the top, a middle layer with DCs operated by the cities, and Refuge Centers (RCs) at the bottom" (Holguín-Veras et al. 2014).

Although these different levels were theoretically part of the same overall government organization, however, they were in effect separate sub-organizations, often with entirely separate procedures. Holguín-Veras et al. (2007) note that in the case of Katrina,

> While local and state governments used commercial software like E-Team for procurement and tracking, FEMA relied on a custom-made system called NEMIS (National Emergency Management Information System). These two systems had no electronic interface between them […]. Federal officials interviewed stated that the E-Team requests had to be individually read and manually inputted into NEMIS. State officials were unable to track their own requests once they were

> placed into NEMIS; while federal staff could not check information on particular requests originated in E-Team. (9)

This situation was exacerbated after disasters hit, when communications were often cut off and local systems often failed. In the case of Hurricane Katrina, the E-Team system was completely off-line for many parishes in the immediate aftermath (Holguín-Veras et al., 2007: 8).

Another problem was that if one part of this system failed, the others had little chance of continuing. Writing about the Japan disaster, Holguín-Veras et al. (2014) explain that:

> Implicit in this structure was the assumption that the cities would be able to undertake the PD-HL [post-disaster humanitarian logistics] work at their DCs [distribution centers] and RCs [refuge centers]; and that, as a result, the role of the prefectures would be to ensure a suitable flow of supplies from their DCs to the DCs operated by the cities. Unfortunately, such assumption was wrong as the ability of the cities (which have been destroyed by the tsunami) to man, organize, and orchestrate the operations at DCs and RCs was severely compromised. This, in turn, forced the prefectures to undertake major components of the local distribution, which was a task for which they were not prepared, nor they had the physical resources required to do a good job. In the chaos that ensued, supplies went directly to improvised DCs and in some cases to the RCs, making difficult to coordinate deliveries and conduct any form of centralized management and control. (8-9)

When the local level failed, it pulled the higher levels of authority into overreach, leading to more generalized failure.

In other cases it was the collapse of the national level that disrupted action on the local level. The MEMA director explained that:

> The bottom line […] is that the logistics systems failed miserably. Our national logistics system I mean, because, you know we had always been told that the federal system was nimble enough, big enough, to handle any incident. You had several things happen, there was a disruption in the fuel supply during that time which had cascading effects. I mean we had hospitals running out of fuel, we had ambulances running out of fuel on the way to the hospital. So I mean you had a lot of things that happened all at once and like I said, the logistics system that the federal system had just couldn't keep up.

On the receiving end, the FEMA liaison in Hancock County also felt the lack. "For weeks after the storm, they were never able to send me everything we needed for food, water, and ice. Because they had to send it to so many different places they could never meet our needs. So what we had to do was prioritize which of our points of distribution were going to get food today and not get it tomorrow, that kind of stuff."

FEMA's Federal Coordinating Officer for Mississippi, who was familiar with the national headquarters functioning, stated "I'll be honest with you, it was just gross inability to – there were some good people up there, but they had no idea what they were doing." He also noted that part of this incompetency was allowing too much media influence: "media pressure to move things to New Orleans superseded anything […] there's a tendency for the national headquarters, if there's no discipline up there and they just ping based on the media and then – and you start losing that, control of that, then all the resources."

A DHS staff member assigned to work logistics at FEMA's Region IV (Atlanta) headquarters covering Mississippi and Alabama among other states during Hurricane Katrina[27] explained, "I was on the periphery, 'cause I was fairly new to DHS at that point. And I was at DHS proper, I was not in FEMA. So we were part of DHS, as FEMA was ramping up its efforts, they reached back into DHS and said hey, if you have people who have emergency management experience, we'd love to be able to use them." From that perspective, he described some of the conditions that made the logistics operation difficult:

> There are many issues, obviously, in Katrina; one of them appears to have been the requesting process. You know, so we were waiting for requests because of the usual constitutional delineation, meanwhile, they weren't making requests and what requests they were making were media comments, they weren't clear requests, um, or the requests weren't coming forward in a way that we could sort it out. The other piece of the puzzle of course was that there was a lot of damage. So, one of the things that people forget with Katrina, from a logistics standpoint, is that, you know, people say, well why didn't you stage stuff in New Orleans? and the response was, where could we have staged that we wouldn't have lost the equipment? You know, unfortunately that means though that some equipment had to be staged 1800 miles away because that was the closest place that was outside of the possible storm path, in order to have the equipment. And then with road damage, and aircraft damage – or airport damage, it took a while to get the infrastructure to the point where we could get stuff in. And get people out that weren't on foot. So, the logistics nightmare was significant. (Lumpkin)

The system was predicated on the different levels of government working together. This was important ideologically, as well as practically. However, as in Japan, the assumption was that the local governments would know what they needed and be willing and able to communicate it.

> A lot of what I had to deal with was really just tracking. You know, do we have the right stuff, do we know where it is, can we get it to the right people. Which turned out to be a much bigger challenge than we accounted for. I mean, we've

[27] Louisiana falls under Region VI

> made a major – historically we had tended to do everything based on pure request. So we would get stuff, we would get drivers to the trucks, but then the trucks would sit until somebody needed something. […] We were really going on an as-requested basis, in Mississippi and Alabama, and that really just, it hampered things.

Even facing severe difficulties with their systems, the federal part of FEMA had difficulty shifting its approach to guess what would be needed or move on the basis of requests that didn't go through the system. Regional and headquarters based employees might have had a sense of the destruction caused by the storm, but they hadn't experienced the same upheaval of worldview as their local, more directly affected colleagues. The temporary organization was not challenged in the same way, and it was more difficult for something new to emerge.

Beyond the contextual factors, the DHS staff member saw many of the logistics difficulties as due to a hidebound system unwilling to change: "And there were other things, like, you know, back then we used to move ice a lot. And nobody could figure out why, other than that's what you did, right?" In some ways, according to the Mississippi FCO, this failure was not surprising.

> FEMA was never – up until Hurricane Andrew FEMA was solely a grants management agency. And even today, largely, is a grants management agency. I'm talking about the individual assistance program, the public assistance program, that in accordance with the Stafford Act, so giving money to restore infrastructure and giving money to families to help them out making home repairs and take care of hospital bills and stuff like that that was an effect of the disaster. So, there was no logistics system when I came to FEMA, at all, zero. And after – in 1996, there were some warehouses and stuff like that but no system. And those warehouses were controlled down at the regional level, not by headquarters. At headquarters there were like five people involved in logistics total. So, and Katrina came along they had grown capacity at headquarters, but they hadn't grown any systems, they hadn't grown any anything.

This identifies two root problems to FEMA's logistics failures. One is the mission creep that led FEMA to first doing, and then being expected to do, more than initially intended, as the permanent organization's use of the temporary organization shifted over time. The other is the undervaluing of systems as a critical component, the recognition that money and equipment alone would be insufficient, particularly during a disaster.

The DHS staff member who worked logistics at the regional office, now in a senior operations role at FEMA, agreed that the agency does less response on the ground than many

people expect or want; however, he felt that this made the logistics element all the more important:

> The principal role, I think now more than ever, when it comes to either the regional response centers or the national one, is logistics. We're not supposed to do incident management. Which is a hard pill for people to swallow sometimes. Everybody wants to get their hands dirty. But the reality is, other than the locals and sometimes the state, if you're getting your hands dirty it's because a local or a state is directing you to get your hands dirty. (Lumpkin)

There is a reluctance to cross the perceived lines in inter-governmental relationships.

In response to the lack of goods coming into Mississippi, an alternative, emergent supply chain was developed at the state level. "They didn't come to Mississippi, so what we started doing was procuring our own resources from as far away as Alaska and Washington state, to come to Mississippi, cause we were getting so little stuff, even though we'd requested stuff before landfall ever happened through the region in Atlanta" (Mississippi FCO). One of the primary sources was Florida, due to both proximity and to existing links between the FCO, who had been deployed there during the previous hurricane season, and the Florida Emergency Management director.

> The Florida teams "basically circumvented" FEMA's logistical system, as MEMA's McAllister said.
> Florida's contributions raised Mississippi to 40 to 50 percent of requested amounts, which proved crucial to the distribution of commodities. "Robert [Latham] and I continue to rely on you all (FL)," Carwile wrote in a September 3 e-mail to Craig Fugate, the Director of Florida's emergency-management agency. (Senate, 385)

Another channel to Florida aid was through Florida emergency management teams deployed through emergency management assistance compact (EMAC) mutual aid agreements between states and counties. The emergency manager who came from Florida's Manatee County to Hancock County with a team of his colleagues commented that

> We were lucky because we had some horsepower because the, you know the state's mobile unit was just on the road, and we had our incident commander, our chief at the time, Chief Feagan is a good friend with Craig Fugate, so when he was director of the state of Florida at that time, we had the ear of Craig, and he had the ear of everybody. So, so, we only had to use that conduit twice, while we were there. And what that was, was that Jackson, MEMA was so overwhelmed, they hadn't even thought about bringing in supplies. We brought in millions of dollars worth of supplies in the first 45 minutes as far as ordering them from Florida. You know, the food, the water. That process hadn't started.

This description implies that part of the problem with the request process was that the local governments in Mississippi weren't used to it. The Floridians, who had had a bad hurricane season the year before, had practice as well as a separate supply chain.

Although he reported that the process was easy on the Florida side, the EMAC-deployed emergency manager admitted that there was some friction with other authorities:

> There was a point in Hancock County Mississippi where if, if, persons above Hancock County, I'm not going to say who, what entity, was not going to relinquish us the ability to get in follow-on forces and resources, and food, and water, that we were going to have to withdraw, because the situation was unworkable. We did not want to do that. Finally those persons were prevailed upon to release control to the locals, and as we were there to support the locals, then the wheels started turning. That's about as politically correct as I can be.

A local himself from a different jurisdiction, he is extremely, even ideologically, committed to the idea that the locals have control of the response.

While the Japanese national logistics system did not fail as obviously as FEMA's, Holguín-Veras et al. (2014) found that although "Not widely reported in the media is that the PD-HL [post-disaster humanitarian logistics] operations had a very inauspicious start […] for at least the first six days of the crisis hundreds of thousands of survivors did not receive relief supplies […] the human suffering due to the lack of critical supplies was significant, though it did not lead to widespread riots." (12). The emergency manager of Iwate prefecture agreed:

> On the national side the logistics system, the system for sending those things, they didn't manage it. At the end of the day that also is a problem. To speak concretely, for example, in the early stage, yes? Foodstuffs, water, medicines, things like that, then, blankets, clothes, right? That type of thing was very much in demand. Well, in order to live, those things were needed at the beginning. Right? But, the transport, they stopped the highways, they stopped the train lines, pretty much nobody came. So the prefecture managed somehow […] The time lag was extreme.

The difficulty in managing the prefectural task of procuring, receiving, sorting, and sending on the goods shows in the number of times Miyagi Prefecture divided and re-divided the tasks involved in goods procurement.

The original workflow for the "Goods Group" (物資グループ) involved both requests for and offers of goods coming to the headquarters via telephone and the goods being delivered to one of four regional teams.

However, the staff was overwhelmed. Additional staff were brought in on a daily basis, but this led to confusion. On 18 March, the workflow was changed. More staff were added – four people to take requests/offers, and two people in each regional office – and processes were outlined in more detail for each step. There were also two people assigned to data entry.

On 1 April, the processes were changed again. A leader was added for the regional teams, and further details were elaborated on, for example, food products (Miyagi Prefecture, 2012: 140-144).

From the local perspective, the civil servant working logistics in Kesennuma explained that the system was to request to the prefecture, who would then request to the national government, with the goods returning along the same trajectory in reverse, but "even if we contacted the prefecture, it almost never happened that the prefecture sent goods that matched with the needs here." He thought that

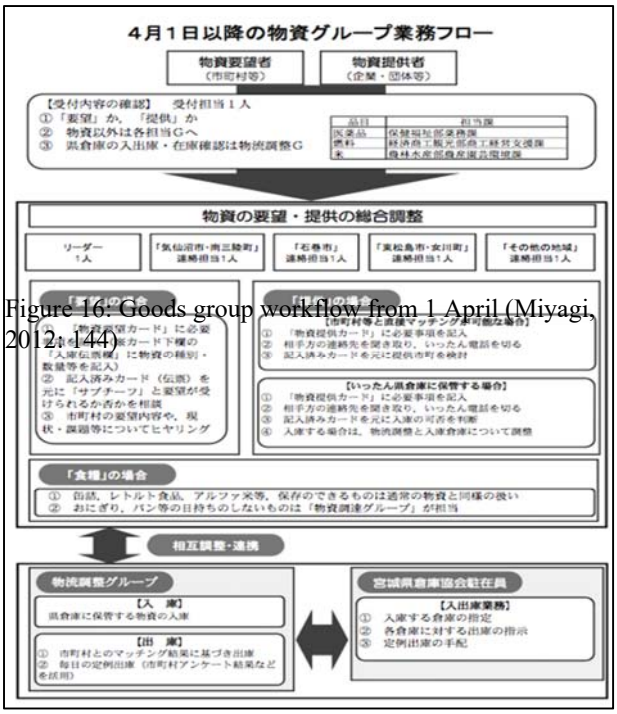


Figure 16: Goods group workflow from 1 April (Miyagi, 2012: 144)

> The biggest reason [for that] was that this time, it was extremely widespread, a wide area was affected by the disaster, so I think they just didn't have the scope to respond to every municipality's needs. On the other hand, we might get a request saying, 'the warehouse over there is full, can you receive this [item],' but we were full with that [item] here, so it wasn't possible. Then we would say 'we don't have this,' they would say 'everywhere wants that,' they would answer 'we don't have it.' There were a lot of mismatches. So as I said before, in terms of what we used in practice, around

> ten percent of it came from the prefecture. Ninety percent, with zero communication, a truck would come rushing up, from anywhere in the country.

With the prefectural and national governments still swamped by donations and unable to manage requests, localities left to fend for themselves looked for other ways to access the goods they needed and get rid of the ones they didn't. Attempts at ad hoc solutions not only wasted precious time and human resources, they opened up further confusion. When the expected system failed, the division of tasks fell apart, and in the low-communications post-disaster environment it was difficult for an effective new one to emerge.

Local divisions and re-divisions of labor

While the cross-level complexity was difficult, the organizations on each level also had to structure themselves to divide up tasks. Task division within a single level was often left unspecified in planning, leaving actors to improvise their organizational structure as the response unfolded. In other cases local hierarchies were thought out in the planning but those structures were found to be inappropriate or inadequate and new organizational charts had to emerge, sometimes multiple times, over the course of the response. The Miyagi Prefecture logistics branch, for example, was reorganized several times within the first month after the disaster (Miyagi Prefecture, 2012).

In Hancock County, the FEMA liaison found it easiest to assign dedicated staff to dealing with logistics:

> I couldn't spend my whole day figuring out we need another truck of this or that cause there was you know all those other things going on. So what actually transpired is we collectively […] agreed that we would have a PoD czar, there's no such thing, I mean we just created this so the guy felt like he was doing something important, and we had a guy from forest service that all three of the towns in the county agreed that he would collect the information of what was needed and track it and put in the orders.[…] It came different ways from the different counties, but what we ultimately did was each county had to say who was the person putting the order in and there was conference calls every day, you'd submit the orders, that kind of stuff, kinda like I mean Walmart distribution, they were setting up a distribution system. The problem is it had to be set up on the fly.

The retired extensions officer in charge of dealing with distributions in Mississippi's Pearl River County developed her own distributions team. It eventually included other organizations, like National Guard members, but she ran it mainly with volunteers, at one point

over 200 of them. Although FEMA did have guidance on managing points of distribution, she didn't have access to it; she said "I hadn't had any quote official training other than just life" and after the disaster, "Bobby [the Emergency Manager] sent me to some trainings with MEMA, and the things that they said do, I had done without any training." Dealing with a flood of goods and a range of needs, she built a system, and a hierarchy, as she went:

> I was the little general, I had my other volunteers figuring [out what went to each person] but […] Family Dollar officials gave us their loading stuff. I think they just sort of asked and they would pull it together and put stuff in, we did not have them fill out a form and tell us, but early on we were giving out just shampoos, anything personal hygiene that they needed. If they needed anything else, but I said that's where we had, we had enough volunteers that we had two rows of cars going out, and those volunteers would ask them, and it did not take long for them with the number of volunteers to fill up a bag of what people need, based on what we had. As it progressed on, we had them to stop, when they stopped doing the ice and the water, and we were still doing in October, there was room for them to park and we would have them fill out their name and address and then we would hand them a little check list of what they needed. […] we had a small meeting room […] so we could keep high-demand stuff up there, everything else would be back in the back. And then we would keep replenishing and bringing it up, so we worked like a little factory.

This was an elaborate, evolving apparatus built entirely from scratch, around a physical infrastructure that was equally bricolage.

The retired extension officer's system was about efficiency, but it also had elements of control: "And then that would, somebody, whoever had that form, they'd fill those out, and somebody would become their personal shopper, we never let the public back in to where our donations were, we had people that worked frontline, and then we had people that unloaded and organized every, all the donations that was coming in."

In dividing between the "frontline" and those in the back, she tried to take advantage of her volunteers' skills:

> It's good to have friends that are ADD, or, um, whatever, like my son is, now he cannot stand clutter and it doesn't bother me. I know where my stuff is in the stack. But I had some people like that that it bothered working out there, put them in charge of organizing, and it was set up like a store. […] Some people don't want to play with other people, they wanted to be back in the warehouse working. That was their gift. Others was out there talking with people, doing all of that, and somebody says I couldn't, I be, dadaddada, I say, you need to be back in there where you don't see whatever's going on out front.

The system was long-running enough to include procedures for volunteer turnover: "And then whoever showed up brand new, whoever'd been there before, would have to train that person."

The retired extensions officer's use of the talents of volunteers extended to opportunistically taking advantage of the capacities at hand to add services not usually connected to distributions.

> The college was shut down, one of the ladies that did counseling over there and was a psychology major or taught psychology on campus, she came over and she worked our water lines. She would go over, she had access to get handouts, you know 'these are things to do in a crisis', you know, she would go car by car and let them tell them [sic] their story. And that's something, if something of this magnitude ever happened again, and then something I've learned, people need a chance to talk. […] I had people that worked in Louisiana in the medical profession that could not get to New Orleans cause the bridges were not open, plus their hospitals were underwater. […] They came, they brought their, they brought their little medical emergency bag or whatever, they, if we had babies that pulled up that looked dehydrated, we set aside Pedialite that was sent to us or whatever, or when somebody called and said what do you need, Pedialite, those kinds of things, cause we had babies getting dehydrated. That group of people worked – since they were in the nursing profession, if I had elderly coming through there, anybody that was sick, babies, they – we had a place that they could pull over and park, and they did, listened to their heart, just took their vital signs.

Without formal training or a specific plan, she and her team were able to expand the role of distributions to fit their understanding of how they could help the affected. The retired extension officer even defended this against what she saw as FEMA encroachment: "FEMA wanted to come set up right where we were doing, and where the new brick building is over there that's the shelter, that was where the buildings were that we were stored stuff in and worked out of, they wanted to set up and people get out and – I said, the line cannot stop. [The therapist] worked the line. If they needed a handout, she handed it to them or found out what they needed." For her, once she had the capacity to provide them, including these services was more important than the efficiency of the distribution itself.

Coordination with Other Actors

Despite the elaborate (and usually unsuccessful) systems set up for managing logistics up and down the levels of government, logistics efforts were dependent on many other actors as well.

As with shelter, security was an issue for US logistics and distributions teams:

> On Friday, September 2, the *Houston Chronicle* reported that water distribution was limited to half a cup per refugee per day at the Harrison Central Elementary School shelter in Gulfport. The Houston paper found 'a tense crowd' on hand with 'officers holding rifles' when the first loads of potable water arrived for distribution at Milner Stadium in a low-income area of West Gulfport. When told that they could take as much water as they could carry 'they made a fast but orderly rush toward five large truckloads of ice and water.' (Smith, 2012: 52-53)

Despite such efforts, "there were reports of people pushing the elderly to the ground and taking their water when relief did arrive in locations along the Gulf Coast" (Petersen, 2014: 43). This suggests that the role of the security forces – and by extension the government – had less to do with protection of the rights of vulnerable affected people and more to do with protecting the assets involved until delivery.

Moreover, the insistence on guards delayed deliveries. Smith (2012) describes "what seemed to be an irrational FEMA do-it-by-the-book insistence on National Guard escorts for any FEMA food and water deliveries" (56). According to Smith, "With 40 percent of its forces deployed to Iraq, the Mississippi National Guard was stretched too thin to cover a disaster of this size. It took many days to mobilize and assemble reinforcements from other states. Rigid application of the FEMA guard rule meant that for many days only one National Guard commodity distribution point could be manned in Hancock County" (56).

More critical to logistics functioning were transport companies. Japan was able to make use of "trucking associations" with seats in each jurisdiction, some of whom had signed agreements to provide assistance in time of disaster ahead of time. In other places private transportation companies spontaneously offered their services; in Kesennuma, for example, local transport companies provided most of the local transportation:

> At the beginning, it was the trucks that had survived, so to speak, local small two-ton trucks, not big trucks, little trucks, like Nippon Express[28], like Sagawa Express[29], those are logistics companies and so, those people were kind enough to bring their surviving trucks and gather to assist us. So, by receiving the cooperation of those people, we distributed to areas affected by the disaster. (Civil servant managing logistics in Kesennuma)

FEMA initially attempted to rely on contracts, although this failed disastrously.

[28] 日本通運

[29] 佐川急便

> On Saturday afternoon, FEMA realized it did not have enough truck drivers to deliver commodities and equipment and started reviewing résumés to hire additional drivers. By Sunday afternoon, August 28, records show that FEMA was short 68 of the 94 drivers who would be needed to move commodities for a short response effort and 162 drivers for a longer response. To make matters worse, FEMA's transportation contractor, Landstar, does not own any vehicles. Instead, it locates independent drivers only after FEMA asks it to move commodities, which can also lead to delays. FEMA then had to compete against Landstar for drivers to hire. (Senate, 375-376)

Contracted truckers might also have divided loyalties; the retired extension officer in Pearl River County, was able to override FEMA's instructions for some of the drivers. Although the destination of goods was theoretically determined by the national level of FEMA – or, in the case of private donations, by the donor – there was a degree of flexibility in practice. As Wiltshire's familiarity with the transportation actors grew, she even arranged to have items sent over the state line.

> What I would do, if I knew what they were coming in with, and I had already had three 18-wheeler loads of whatever, I would send them, they would call me, the truck driver would call me, and I would send them to whatever community, and I sent several to Bogaloosa, Louisiana, because that governor, and this getting political, that governor thought Bogaloosa was part of Mississippi and never sent them any aid. Bogaloosa is a predominantly, um, um, they have a lot of poor people over there, nobody had sent them or organized anything like what we were doing up here, that I know of.

Sometimes she used her connections to bring goods to her own distribution site:

> Because I had lived in the community for a long time, I knew some of the truck drivers that were driving for FEMA, and that was going to the FEMA warehouse, I told them what I want from that warehouse. Until we got caught doing that and told we couldn't do that anymore, then I had to file paperwork. [laughs] It pays just to know people and ask for forgiveness later. But those were – but we were getting things we needed and I know that they have a – there's a paper trail they need to have with that. But I needed to get stuff for the people I needed it for.

Her justification, "I needed to get stuff for the people I needed it for," is probably not far different from that of sheriffs in Harrison County who diverted supplies meant for other places, even if her methods were entirely different.

In Kesennuma, even with the assistance of transportation companies, the civil servant and his staff were still struggling through the sorting, warehousing, and distribution of the goods themselves:

> For around four days, um, how can I say? All of us staff were doing the unloading by hand. But as you know, it was an incredibly massive quantity so everyone was losing their physical strength, everyone was dropping out, soon we became a small number of people. Finally, really, we started with thirty people, but only around seven people were left. And even like that just at the time where the situation was that tomorrow was impossible, well, people from the general affairs section [of the disaster response headquarters] and such like, people from other sections also came to help but afterwards the manpower adapted. Then volunteer people were kind enough to come but the volunteer people said 'You're going to make us do work this severe?' and so they started arguments and things. Then at that time, on the 18th [of March], the Self-Defense Forces came. Around sixty people.

While the arrival of the SDF was an enormous relief for the civil servant, who at that point was afraid to sleep lying down in case he couldn't wake up again, brute force alone was not enough to solve Kesennuma's logistics problems. He recalled that "for around three days we did this but, within that time it was still trial and error." Although the SDF had some experience moving goods, "they were used to missions of carrying things from spot to spot. Then again, with limited time, they're great at doing things precisely, but the entirety of logistics, receiving the packages, sorting, doing distribution and such things, at the end of the day they're not experienced in those. So the inside of the warehouse, finally, it gradually became unsuitable." It was at that point, on the 20th of March, that Yamato Logistics reached out.

Yamato, along with Nippon Express and Sagawa Express, were already lending their small trucks for local transport, an assistance the Miura found invaluable not only because of the hardware but also because these local branches of national transport companies "held incredible local knowledge […] for example, if that street was passable or impassable, and if it was impassable then by going around this detour you can get through." Yamato had something to propose beyond local transport assistance, however. They sent a couple of logistics experts from their company to support the Kesennuma office. "So those people were kind enough to formulate a system that managed from arrival of goods to departure of goods. And for that system, first was to write it by hand. 'On this paper, please write down what came in.' Then they started the form of writing out on the levels of the inventory. Then they would erase from there the things that were taken out." By this time electricity was being restored, "They were kind enough to bring a computer, and they built that system. Finally, they managed to set up a complete logistics

center." Yamato's professional approach helped the city staff to systematize and formalize their processes.

It took until mid-March for the logistics system to become fully operational. In the meantime the city logistics staff had been further whittled down: "Everyone was withdrawn, that is, returned to other work. So finally we were a two-person organization, myself and another person, from the city government." Those two "controlled" the process, while "Yamato put forward the know-how. Then, until the Self-Defense Forces withdrew the SDF was the manpower." This arrangement across different entities allowed for a balance between military assistance, private sector experience, and government decision-making and oversight.

Holguín-Veras et al. (2014) saw the assistance of private logistics companies as the solution that saved Japan from a worse crisis after the initial government bungling of logistics. "Independently of each other, [these companies] approached local officials during the period March 15th-19th and took the unprecedented step of volunteering to do local deliveries of relief aid" (13).

Not all municipalities used these companies, however; according to the civil servant in Kesennuma, the neighboring municipality of Minamisanriku was approached by Yamato, but refused their assistance because volunteers were managing their logistics already. Without guidance from the national or prefectural governments, municipalities were making their own decisions about whom they should partnering with to cover the parts of the response that the local government itself could not manage.

The retired extension officer's experience in Pearl River County was not so different from Miura's. She too, despite her small army of volunteers, needed to engage in some physical labor: "I learned to run a pallet jack, we did have to get somebody with a, um, forklift to come and do that, and we learned that if you didn't have that available you could hook up some stuff with a pulley chain and pull it out if we didn't have a pallet jack. At the fairgrounds we had no loading dock to unload that kind of stuff, so we had to learn to make do."

She also had an outside source of labor, although one somewhat different from the Kesennuma civil servant's: "I was very grateful for our inmate working, they were very very helpful, and you would get a chance to talk to 'em and I said, sometimes I would find out why they were in jail, but they usually don't let criminals out that has done something bad, they were mostly in there for drug, you know that kind of stuff, but I'll tell you what, they worked their

tails off." She also made use of the National Guard: "We had the Ohio National Guard from, um […] whatever their unit was came and they were here the most of September, and I had a group, the ice detachment as they called 'em that worked the ice."

Unlike the Kesennuma civil servant's constituency of affected people, the Pearl River County recipients were not neatly collected in a shelter, so the retired extension officer also used outside agencies with greater mobility to conduct outreach, although she worked closely with them to provide her knowledge of people and places.

> I had homemaker clubs throughout the county. I had been retired then about three years, but all of a sudden I wasn't seeing, if I wasn't seeing certain people, and that's where the Guard came in, the Guard would go out and I would go say – I had some elderly black homemakers that I had not seen, and of course all the road signs were gone, and I, I could tell how many roads to go down or whatever, and I would send them out, and we would send them out with supplies too.

Her somewhat opportunist use of these other entities expanded her reach beyond the limits of the point of distribution, compensating to some extent for the car-based design of the distributions. She combined her local knowledge – the reason for putting locals in charge – with the resources and mobility other agencies. For her, the State could make house calls when it was necessary in disaster response.

Continuing to Define the Task

As actors began to get a grip on the most urgent aspects of logistics distribution, they were able to refine the decisions they had made about divisions of labor and coordination with other actors and clarify the role they saw as specific to government.

In Kesennuma the civil servant and his team had been struggling to manage the physical elements of logistics on their own. The arrival of assistance in the form of the Japanese military eased the exhaustion but highlighted the role that, in his eyes, only the government could play.

> So, at first when the SDF came, the feeling was, then from tomorrow we'll receive all-out cooperation, but in terms of the SDF, at the end of the day they've both got that manpower and great strength, and then what you call inspection, confirming amounts, their speed with that sort of thing was incredibly fast. After all, they have team strength so they did things very quickly based on rules, what you could call discipline. But the fairness of where and when to deliver things, fairness and things like that, then, this is the most important thing that government employees must do, safety and such things, so that it doesn't become unequal. They had never done that kind of, um, surely government official's work, so no matter what, always delivering the same thing, in the same amounts, to the same

> place, that kind of coordination, it's not really their strong point. Then for us, on the other hand, that's our most important work, we hold the idea of wanting to deliver fairly to everyone, as much as possible good things, that is to say, the needed things, as quickly as possible so therefore the structure was that we control this. So, the power, "empowerment" [English loan word used] was, on the other hand, done by the SDF in this structure.

With the physical process of reception, sorting, and distribution moving somewhat smoothly, the civil servant and his colleagues were able to turn their attention to issues of fairness. For them at least, the role of government was not just providing goods, but providing them in a way optimized according to their value system.

He was firm about not releasing a donated item to anyone until there was enough of that item for everyone. This was both from a sense of fairness, and out of a desire to avoid trouble caused by jealousy or complaints. For him the government's role came in taking decisions balancing benefit to individuals against the good of the entire municipality, even if the technical systems were being handled by the private sector and the heavy lifting was being done by the military.

When the SDF withdrew, Yamato Logistics recruited locals without work to take their places, taking a further step back towards the normality in which the task of deliveries would be completely private sector and supporting locals in need of work. The civil servant maintained the role of the city government, however: "So, with Yamato managing the warehouse, I gave some direction, such as checking the goods that arrived, making sure the goods that had been sent on were delivered safely, quality. Had they rotted? At the time they were received, was the quantity wrong? Were things being removed on the way? Checking the temperature of the warehouse and so on." This task wasn't simple; as the immediate urgency passed, different evacuation centers had developed different preferences. "This area can cook for themselves, so as much as possible, let's send them ingredients rather than [pre-made] products. Over here is a place the SDF is cooking and serving [meals] so dessert would be good there." At this point, "The delivery service was circulating around [the evacuation centers] three or four times a day, so at that time they would ask about needs." They had even developed a standardized form for needs requests, formalizing an organization that had not been planned in any detail before the disaster.

All of this was a choice. The city team could have delegated the safety and quality checks and even decisions about fairness to Yamato and focused on liaising with evacuation center

representatives or being physically present as government officials during distributions. They did not have guidance on what part of distributions were the most important for them, because they were supposed to do all of it. But they had required the help of the private sector and the military to get a grip on the overall organization of commodity distribution, and that assistance both required them to make decisions about their own role and gave them the space to do so.

The retired extension officer in Pearl River County also had a code by which she made some of the difficult decisions around distributions, although it was different from the Kesennuma civil servant's principle of fairness. Rather, her approach was based around charity: "One of the decisions I made early on, and somebody says, we know those people, their house is not hurt. I said I'm here to help. I only have to answer for what I'm doing, they have to answer for their actions, not me. Yes, they may be taking stuff that needs to go to somebody else, but we literally got a lot." This was only strengthened by the knowledge that other places were doing it differently:

> You would hear horror stories, and people that would need help or was displaced from the area when it would go and then they would try to get help in the counties that they ran in, because they were out of the county, would not help them. And I didn't care, it was here, the flow never stopped, we always had gracious plenty, and I said it's not, it wasn't sent here to sit in this warehouse, as I called it in storage, it was sent here for me to give out, and if somebody takes it that doesn't need it, that's not something I have to answer for.

The fact that these decisions played out differently in different counties shows how ad hoc they were. Operational teams – some of them, like the retired extension officer, not even current government staff – were forced into judgment calls that both impacted affected people and represented the State.

She did try to reduce some of the behaviors she considered more egregious.

> People were coming in, after other stores started opening up, you know Wal-Mart's policy they take back anything? They were going and taking the shampoo, the toothpaste to Wal-Mart and getting a refund for money. So then I had to have volunteers to start crossing out the UPS code. Or taking it out of the, you know if the toothpaste was in a box taking it out of the box. You have people that start doing that. That was something, so now, and I even told, I said when you get a donation in of lotion blablabla, just have somebody with a sharpie mark through that so that they cannot take it back and swap it. It doesn't matter, people gonna see an opportunity to make money or get money and they're gonna do it. And so we had to start doing that.

Despite her belief in making the goods available for all, regardless of the degree of damage they had sustained, her system was implicitly exclusionary because, as she recognized herself, it required or at least was facilitated by access to vehicular transportation. "We had people that would come through, that had gas, ever however they got it, and would come through, and they would take to other people and give stuff to, that didn't have transportation to come out here and get in line, because you literally had to have gas and transportation to come get in this line." I asked her if anyone walked to the fairground to receive goods: "Mmhmm. Mmhmm. Well, probably so, there was some that would do that, but you had to haul this ice and gas back, I mean water back, so they usually had to have transportation, so."

The deputy emergency manager of Pearl River County had a different recollection of the design for making points of distribution (PoDs) car-based:

> DEM: They set up the PoD to where people could just drive through, take what they needed – at first it was kind of a walk-through thing, which turned out to be a disaster within itself, you know people were throwing things around and blablabla, anyway, it turned out to be a drive-through thing. […] We would say, come to the fairgrounds, to the PoD, that was right over at the fairgrounds, and um, get what you need. Well that turned out to be a little bit of a disaster. People were just taking stuff to be taking it, whether they needed it or not, which turned out to be a different disaster within a disaster, but anyway, um, it turned out to be a drive-through.
>
> **And with that you had more control over – you would give it to the people as they stayed in their car.**
>
> DEM: Mmhmm. Um, but they were in a car, they would, the first stop would be ice, a National Guardsman would, they would ask them how much ice they needed, one-two, they would put it in the car, pull up a little bit, get water, put it in the trunk, the National Guardsman would put water in the trunk, they would drive up, and they would have some ladies standing out there saying what do you need, if you need diapers they would give 'em diapers and what size, and if they needed anything else, and they would no longer let 'em just come in and pick through everything and get just, you know, whatever they wanted.

As with the Pearl River County distributions, in Hancock County there was no registration or attempt to manage who received what. The county administrator recalled

> CA: The Mormons would come in and they were such good craftsmen, but they'd come in and they had these heaters and everybody wanted these heaters, so you can imagine once the word got out and one showed up, and it was starting to get cool in September and October, and they were needing heaters and one of them

> got one of these expensive Mormon heaters and that word got out it just, they went like hotcakes, and it was just really hard to control those kind of things.
>
> **It was really first-come, first-serve?**
>
> CA: First-come, first-serve, if they came in and requested we basically were saying here it is.

Like policies allowing beneficiaries to take all they could carry, first-come, first-serve privileges certain segments of the affected population: in the latter case, those who have the connections to hear when things are available and the leisure and mobility to pick them up quickly.

Such laissez-faire attitudes to disseminating goods are the opposite of the Kesennuma civil servant's strict policies on not distributing to anyone unless there was enough for everyone. It is true that both the Hancock County administrator and the Pearl River County retired extension officer were more concerned with the functioning of the points of distribution (PoDs); Kesennuma had the advantage of a largely stationary, contained beneficiary population in the evacuation centers. But equally, the county administrator's conception of the government role did not include the notions of managing the distribution pattern or enforcing fairness that the Kesennuma civil servant's did.

Although the county administrator, like the retired extension officer, advocated distributing without verifying need, his reasoning was both more practical and more FEMA-influenced than hers.

> It was really one of those times that you just didn't have the time to sort through and be able to legislate, you know you can't legislate morality, these people with morals that just couldn't see beyond their needs, they took advantage of a lot of that and we know that after the fact, but it was just, this was the position that FEMA took, with all the need out there we just don't have the time that's required to sort through and validate all the needs, so when people come in and say, I need help, I need this, we basically were in the position, you didn't contest it, you gave it to them.

He did see some limits: "now, if they kept coming back day after day with the same thing, eventually you could draw the line in the sand to say no more, you've had enough, we got to get this distributed." However, he admitted:

> There were PoDs set up everywhere, there was PoD set up in Pearlington, there was one in Waveland, one in Bay St. Louis, there was a PoD in Kiln, so people actually could and they did just ride the circuit. They'd go from one PoD to the other and if what they were doing, they'd come through and say how many you

> got in your family, you know I've got, I've got 4. You know, here's your gallon of water, here's your bag of ice, here are four MREs, here are four, you know, breakfast bars or sandwiches made up or whatever it was, and they could leave that one, go straight to the next one, go through the same process. But there was no kind of way to connect one to the other, every one was kind of individually staffed and individually supplying the needs as people came in and requested them.

Just as the national level of FEMA didn't track the goods they sent out, local levels didn't even make the effort to track what they were distributing, or to whom.

While keeping track of who took what across different PoDs is not easy, it's not impossible. The UNHCR guide to commodity distribution cited above makes the case for ration cards, which have been implemented in far more chaotic environments than the Gulf Coast of Mississippi or northeastern Japan, but that solution doesn't seem to have occurred to any of the actors in any of these cases. In the US, there was little attempt to create any sort of registration or systematize commodity distribution on any scale larger than that of points of distribution, which were controlled through the deployment of armed guards or by arranging them to contain beneficiaries in cars. But each jurisdiction arranged its distributions in its own way, whether first-come-first serve like the Hancock County experience or with lists and volunteers to do the "shopping," as in Pearl River County. There was no uniformity, no attempt to ensure people got the same things or that distribution points had what was needed.

The situation in Japan was somewhat easier because the majority of recipients were contained in evacuation centers. The officials in charge of distributions were able to get numbers fairly quickly once communications were back up. Even so, they remained responsive to donations, rather than needs-based, for the bulk of the early response. The civil servant in Kesennuma and his colleagues claimed a proactive role in making distributions fair (by their estimations), but for the most part that still meant organizing what they received, rather than setting up "stable control" as advised in the UNHCR guide.

While lack of knowledge about international best practices was undoubtedly part of the reason that no one attempted to implement such a system, part of it may also be the connotations and the different attitudes related to international refugees and domestic evacuees. The idea of ration cards, in the United States, brings images of wartime privation, while in Japan ration cards were something that was imposed on colonies. The UNHCR guide presumes that the evacuation might extend long-term, while national and local governments are typically less willing to make

that assumption. With the emergent organizations already focused on returning to normalcy, it may have been easier for them to continue with ad hoc distributions, despite the extra work involved, so as not to suggest that the situation was, in any way, permanent.

Logistics: Similar struggles, different priorities

The jurisdictions studied here – across both countries, and at meso- and local levels – had underestimated the importance of logistics. The US and Japan both struggled with overwhelming needs, even more overwhelming donations, and transportation challenges as they set up their respective logistic systems. Municipalities discovered that even once goods were delivered, distributing them required difficult decisions. Both States found their planning to be inadequate. Many of the jurisdictions were able to improvise emergent organizations that, eventually and imperfectly, addressed the needs.

The lack of planning and the general inexperience of the people assigned to logistics team along with the obvious, urgent needs made it fertile ground for improvisation, and many of the jurisdictions studied here went through rounds of trial and error figuring out not only what organizational configuration would work best but also what exactly they were trying to do. For almost all the jurisdictions here in the early stages of the response that meant managing donations rather than responding to needs. This was less ideal from the perspective of the affected people, but for the logistics teams, who felt they were unable to refuse or ignore the enormous quantity of donations, tailoring their organizations to the job they were really doing was the only way of managing it.

Despite a reluctance on the part of governments to admit their importance or adequately plan for their use, external actors were crucial. The logistics job was too large for the government – non-specialized and otherwise occupied – to manage alone, and attempting to do so would have required the recreation of existing logistics and knowledge. Part of the reason for the US's national failure at logistics was underestimating the importance of engagement with private-sector trucking; part of the reason for Japan's relative logistics success was the willingness of private-sector trucking to cooperate (often on a volunteer or at-cost basis) even where engagement had been low.

It was not just the fact of sharing the task with other entities, but how it was done. While the State might accept the idea of delegating tasks to others, or determining that some tasks (like shelter and mass care, for example) were best assigned to, other, non-State entities (like non-

governmental organizations) because they fell outside the responsibility of the government for ideological reasons. The improvised nature of much of the task sharing, however, made it more difficult to rationalize as anything other than help. Once operational actors were able to settle into and formalize their processes, however, the often found ways to divide the government and external parts of the tasks in ways that fit their conception of what government should and should not be doing.

Meanwhile, at the local level, operational actors found that distributions required decision-making that they hadn't been prepared for. They had to improvise to fill in the blanks both in terms of the technical details, like how to set up warehouses or points of distribution, and in terms of what they should and should not be doing. Their choices had implications for who would receive help, to what degree, and in what way. These decisions underline the role of government in the disaster, because they are questions of priorities or values rather than of technical approach. The fact that these decisions were made in an ad hoc way, often by individuals who were neither elected nor appointed, varying from jurisdiction to jurisdiction, shows that the State had not come to a consensus about those questions. As these operational actors – often low-ranking, retired, or otherwise tangential members of the bureaucracy – tried to reconstruct a reality in which the government was stable and competent, they often needed to create a new version of that image, one that included their own ideas about what the State owed its citizens during a disaster.

Discussion

Responses, and operational organizations, begin with an urgent action in response to an immediately visible need, but as they continued both the action and the need became more difficult to parse. The immediate need to get people into shelter in harsh climates meant worrying about walls and a roof. Once the physical structure was taken care of, the needs continued, but became both less urgent and more complex: food; warmth; a place to wash themselves; a place to wash their clothes; privacy; information.

It was these post-immediate (but still within the first week or two) layers of organization that began to extensively mimic governance. As the needs became more nuanced and complicated, the operational teams studied in this chapter responded by making their organizations both more elaborate and more concerned with difficult choices, priorities, and values like fairness or charity. In some cases, like the Japanese shelters, they developed

structures for representation. In others, like the points of distribution, they concerned themselves with deciding who should receive aid and who shouldn't.

An ad hoc organization might simply dissolve after the most urgent needs were managed. Government staff, on the other hand, had to continue working on their tasks until they were moved to a different department or the task no longer existed. This does not make these operational organizations any less temporary or emergent. Many of the staff involved were reassigned from other, completely unrelated duties that they expected to return to; at least on the local level, there is unlikely to be much overlap between, say, the department of housing and the people working on temporary shelter after a disaster. The disaster-related sub-organizations were temporary, but the actors themselves were very much part of the permanent organization. Their actions therefore encompass both the immediate needs of the affected, and the longer-term need to assert the role of the State, particularly if that has been threatened by response failures.

Because the temporary organizations planned for operational teams were often vague or non-existent, when operational staff began to formalize hierarchies and procedures they were building something new, rather than trying to find their way back to or modify an existing structure that didn't quite work (as was more often the case with the CMCs). Operational actors therefore typically had significant freedom in how they built their emergent organizations. From the perspective of those actors, this was not always a positive. It can be harder to build something from scratch than to adapt an existing model, even if that model has proven ineffective.

There was also less of a transition "back" into the temporary organization than in the case of the CMCs; typically, the newly emerged organization, more elaborate and complete than anything that was planned, runs until the need for that operation is over. In cases where the emergent organizations were run by pseudo-government staff (such as that of the school principal who took charge of an evacuation center) there was sometimes attempted or successful handover of the emergent organization to more official staff. Finally, the organizations and processes developed by the emergent organizations sometimes, though not always, found their way into the permanent organization or at least future planned temporary organizations through lessons learned or new manuals.

Therefore, even if the initial stage of responding to the combination of needs and organizational space looks similar whether we are talking about new, informal organizations or

components of the State organization, as the response continues government employees are likely to have a different perspective on the organizations they are (re)creating. On the one hand, they see organizational space as already belonging to the State. If it has been temporarily left empty, filling it is not a subversive move but part of their responsibility both in terms of rebuilding government authority, and to fulfill their obligations to the affected. On the other hand, the failure to control that space during the initial response has complicated this: it raises questions about whether the government can or should be performing in certain areas.

These issues were exacerbated when, even after the initial shock, resources and planning were still insufficient for successful response and other, non-governmental actors could be perceived as doing as well or better. In such cases it made more sense – both from a "political" perspective and from an "altruistic" one – to limit the government's role, and build relationships with other actors to fill in the gaps. As operational teams emerged to fill the space left empty, they also needed to define their own role in it relative to other actors.

The building of organizations under these extreme circumstances demonstrates that this was a part of the return to normalcy for these actors. It models their approximation of government. But the fact that the organizations eventually evolved to the point of making on-the-spot governance decisions also tells us that the State itself either has not considered these questions, or has not effectively transmitted them throughout its hierarchy.

Conclusion

The local and state/prefectural officials working on operations teams in the responses to these two disasters, often cut off from communications with the decision-makers of the CMCs, struggled to find means of accomplishing their tasks. Delivering goods or registering people in a shelter was not only about the direct impact of assistance to beneficiaries. In fact, as we have seen, these actions were sometimes almost completely disconnected from their impact on beneficiaries: registering the number of people long before it was possible to fulfill their need or even communicate that number to anyone; delivering goods that had more to do with what was given than with what was needed. While the beneficiaries were undoubtedly always a part of the rationale, these actions were also about reasserting government control over a chaotic situation. Pretending stability before it was accomplished was a way of working towards normalcy.

This meant re-establishing the basic values and self-image of the government, as understood by the individuals involved; what Selznick (1957) calls "a general outlook, a tacit image of itself and its task" (9). For the mid-level or sometimes retired civil servants who made up these teams, part of normalcy was a stable government in control of the situation. For many of these exhausted, overwhelmed, and often grieving actors, fighting their way to competency was the only path back to a normal existence. Sometimes reaching competency required narrowing the field of action. Sometimes it required essentially reinventing the existence of government, though none of the actors thought about it in those terms.

But competency was important to the degree that it was necessary for the actors' perception of themselves, and of government, as fulfilling its role. This is clearest in the one area in which competence was asserted only in patches, and in some cases failed completely: the shelter sector in the United States. The government never fully accepted shelter as an integral part of its mandate, even at the planning stage. The shelter role was shared, confused, devalued, and sidetracked by an emphasis on security. There was an inability to agree on parameters of government responsibility and an inability to implement it effectively. Providing care beyond a physical shelter site was unimportant to the government's image of itself. The only times when shelter was dealt with in an urgent manner was when its failure provoked an outcry in the press that affected perceptions of government, as in the case of the Superdome, and even then it was closely linked to the deterioration of the physical structure; the solution was to move evacuees hundreds of miles to a very similar structure that (having not undergone a hurricane) was in somewhat better shape.

In Japan, on the other hand, the idea of providing shelter after a disaster was so linked to local government that even quasi-governmental volunteers thrust into the shelter management role created elaborate bureaucratic structures, many aimed at organizing the participation of evacuees and giving them representation in decision-making. Their image of government was one of rules and committees, representation and collaboration. While the actors who stepped forward to start the process showed individual leadership, they moved towards not just cooperation, but organized cooperation, with task divisions and defined structures. These groups recreated government in microcosm at a time when they had little access to their real government, and it had little capacity.

Based on these two examples, a clear sense of responsibility for the task was critical for creative and assiduous organizational improvisation. For the mid-level staff partially responsible for reinventing government after it has failed, the understanding of task and mission is a critical element in the degree and scope of emergence after the planned structures fail.

The self-image of government also impacted how logistics teams managed the difficulties is distributing scarce items. Individuals, representing individual jurisdictions, decided how they thought the government should be seen – as fair or as charitable or as practical – and acted accordingly, putting in place processes that would enact those values, even if the neighboring jurisdiction had decided differently.

The two countries had a more similar experience of failure and re-emergence in the logistics sector, although the (unrealistic) expectation that FEMA would be able to manage logistics themselves probably slowed the US somewhat in their improvisations. In both cases the government was overwhelmed by the unexpected (though well-known) problems of material convergence. Meso-level officials improvised their way into functioning transportation systems. Local staff struggled to hammer out distribution processes that reflected their values and their relationships with non-governmental actors. While these values differed from site to site – both within and across countries – the ad hoc emergence of values and the importance of decision-making beyond technical problem solving appear in multiple cases. Building or rebuilding operational organizations very often meant constructing the parameters of government assistance in that operational area.

Chapter 4: Evaluation Reports

Introduction

The Paradox of the Disaster and the State

The reintegration of disaster-triggered emergent organizations into the permanent organization of government requires the creation of narratives that smooth the fracturing of cosmology episodes, obscure the degree of improvisation, and reaffirm the role of government. These narratives may include lessons from the emergent organization, and can provide a route for innovations and improvements to be incorporated into future planned temporary organizations. But they also function to deflect challenges to the values, identity, and role of government. Fundamentally, they struggle to situate the chaos and disruption of the disaster period within the vision of a stable, competent State. Doing so, however, seems to require as much improvisation as the response itself.

Governments face a conundrum as they try to define these narratives. The existence of the crisis, by definition, implies some break with stability; but admitting too large a break threatens the State's image, its raison d'être, possibly its continuance. The narratives must therefore express the dislocation of the crisis – thereby demonstrating the importance of stability, and therefore the State, while recognizing lived experience – while also eliding any gaps in the State's authority and competence and, therefore, legitimacy. This difficulty is reflected in a similar paradox within the narratives themselves: seeking to demonstrate stability and confident State control, evaluation reports are nevertheless largely unplanned and ad hoc, differing across almost every axes from jurisdiction to jurisdiction.

The evaluation reports we examine in this chapter claim to be for the purpose of learning, but are not standardized and for the most part do not look at results, only process. They style themselves as performance evaluations, but connect to no standards or expertise. They have pretense to professionalism and competence, but their processes and formats are decided anew in each case.

These oddities in the preparation and composition of evaluation reports reflect the tension between viewing the specific disaster as a normal part of the State's mandate and seeing it as an

exceptional, unpredictable, unmanageable event. Both these perspectives contain important benefits for modern States: the first reaffirms the government's prerogative, while the second protects against accusations of failure. Writing an evaluation is a supremely normal component of government functioning; not having any standard or template expresses the exceptionalism of the event. Claiming a position of accountability and learning is a posture of good governance; obscuring the lessons by focusing on process rather than impact, officials rather than beneficiaries, and the size of the hazard rather than the needs of the population, is a way to maneuver an exception from those principles.

The evaluations themselves both normalize the disaster and perpetuate certain aspects of the idea of exceptionalism. The basic act of putting the event into writing, framing it in a narrative, and couching it in the formal language of a government report takes the experience that many successive steps from the disruption and subjectivity of a cosmology episode. Evaluations reassert the worldview shattered by the cosmology episode, fitting what seemed impossible to describe into the contained language of bureaucracy. Cosmology episodes are subjective and individual; reports translate them into a reproducible object that can be shared and compared. With their collapsed communications and focus on the immediate, disasters narrow viewpoints; evaluations broaden them out again, painting a landscape of perspectives and dismantling the sense of unique, unshareable experiences by citing the stories of multiple witnesses.

At the same time, evaluations, by memorializing the disaster, demonstrate how exceptional it was. They declare the event to have been important enough to be worth the not inconsiderable costs of formal reporting. Often, the reports are accompanied by or include some elements of memorial: photographs and survivor testimonies, for example, that are explicitly about remembering the experience rather than evaluating it. They express the need for an official version, for a permanent record.

Both the normalizing and the exceptionalizing mechanisms contribute to the return to normalcy that most actors are seeking. Through their normalizing functions the evaluations box the event safely in understood territory; by naming and analyzing the chaos they order it, reasserting control. At the same time, by describing it as exceptional they are promising that it was unique and won't happen again. Our normal is safe again, they promise: only such an unprecedented event could have disrupted our stability.

While the contradictions in the methodologies and presentations of the reports reflects this fundamental paradox in government views of disaster, the wide variation in reports show the lack of consensus around the perceived role of the State in a disaster: what the government is aspiring to when it evaluates itself. The analysis of the reports in this chapter shows different stated and implied purposes, audiences, use cases, structures, contextualizations, and approaches to emergence. This suggests an equal variation in the ways the local, meso-, and national level governments in the two countries studied here conceive of their roles in times of crisis.

The narratives studied in this chapter are both part of the progression from emergence back to permanent organization and artifacts of a process that illustrates government perceptions of its theoretical role in disasters.

The Evaluation Report as Framing Device

The primary public vehicle for these narratives from within the permanent organization is the evaluation report.[30] As the term suggests, these reports are typically couched as the documentation of performance assessments for the purpose of improving response in the future as well as achieving closure through performing accountability on the past. However, like any public text, such documents contain other meanings, signals, and purposes. The practical, new-public-management rationale of quantifying and documenting government actions in order to improve on them creates space for the symbolic, political, and emotional implications of rehashing the story of a disaster. Assessing the response gives the State a forum in which to promote their narrative of the entire disaster; as Boin et al. (2008) write, "The battle over crisis frames unfolds in the arenas in which learning and accountability take place" (18). The arranging of "facts" and the drawing of conclusions that take place for the ostensible purpose of learning serve to define and formalize the accepted history.

Evaluations are necessarily written after the most immediate phase of the response, and sometimes well after intermediate stages, when most emergent organizations have been dissolved or reabsorbed and even temporary organizations may be drawing to a close. Moreover, emergent and even temporary organizations rarely if ever have the standing to produce such

[30] The most common terminology for this in Japanese is 検証, "verification" or "inspection". The terminology in English varies as well, including "After-Action Report", "Hotwash", "Lessons Learned", and simply "Report". I use "evaluation" and "report" as general terms for, in this context, official documents examining disaster responses after the fact.

reports. Evaluations are therefore written from the perspective and under the aegis of the permanent organization. The actual writers, however, vary widely: sometimes people who were a part of the emergent organization but have already resumed their permanent or planned temporary roles; sometimes people within the national government who were not directly involved in the response; sometimes consultants entirely separate from the response but hired by and reporting to the permanent organization. This inconsistency is typical of the evaluations as a whole, which vary in contents, tone, approach, and methodology.

Despite this collective inconsistency, the reports position themselves as part of accountability and performance management. They not only document but also draw conclusions from what happened, often culminating in a series of lessons or recommendation. Their ostensible purpose is, as Hutter and Lloyd-Bostock (2017) write, "trying to make sense of what has happened, seeking to learn lessons and, if at all possible, avert a recurrence" (128). Sometimes this is purely performative. Birkland (2009), exploring the practical difficulties inherent in the glib phrase *lessons learned*, suggests that such reports "are created and disseminated for rhetorical purposes, even if their authors somehow believe that learning has really occurred" (146), going on to elaborate that "This is not true in all cases, of course, but the general trend is towards producing such documents to prove that some authoritative actor has 'learned its lessons' about a disaster and that, given this learning, will not replicate its errors" (146-147).

The existence of reports serves other rhetorical purposes as well. The act of evaluating suggests that the event in question is over, the case is closed. The report is in fact part of the process of ending the emergency; as Boin et al. (2005) write, "Crisis termination is two-fold. It is about shifting back from emergency to routine. This requires some form of downsizing of crisis operations. At the strategic level, it also requires rendering account for what has happened and gaining acceptance for this account" (14). And yet, as Birkland notes, "lessons learned reports are usually very quickly generated" (146). The House of Representatives and White House reports on Katrina were published less than six months after the hurricane hit, while people on the Gulf Coast were still waiting for trailers. Operations may have been downsized, but they were ongoing, and routine was a long way away for the people most affected.

Evaluation also proposes a position of both supervision – literally, being able to see over the entire landscape of the event – and expertise. The simple act of commissioning or launching

one of these evaluations situates the State in its usual pre-disaster position of power: not only the primary actor, but also the only entity with the authority to hold itself accountable.

Assessing performance and determining blame presuppose both technical expertise and the power to define success. However, there is no definition of a good response and no indicators for defining the distance from such a target, and while emergency management is rapidly becoming a technical area, few of the evaluations studied here were written by professional emergency managers.

Although these evaluations are ostensibly public, most have little appeal to the lay reader. There is an element of accountability, but for the most part these reports are by the government and for the government. This is not always as navel-gazing as it sounds. The audience for whom these documents are most useful is perhaps peer jurisdictions, and in at least one instance in the United States a Florida county paid for a Mississippi county to do an evaluation, with the implication that the Floridians wanted to learn from their colleagues' experiences. Far more often, however, individual entities had no contact with their peers about methodology, structure, or approach, meaning the evaluations weren't easily comparable across jurisdictions. They also had not systematically discussed results with their peers, and had not shared with them nor read the reports of other affected localities.

Even within a single jurisdiction, using an evaluation to improve disaster management can be challenging. Despite the reasonable supposition that evaluations are tied to performance management, the evaluations studied here are lacking in many of the other elements of what Talbot (2008) calls a 'performance regime', such as "performance indicators, data and targets, key performance indicators (KPIs)" (Henmen, 2016: 500). Without the sort of standardized indicators that, for example, the Sphere handbook sets out for international responses, there is no way to compare across responses (or jurisdictions within a single response) or even judge if a single instance has been "good" or "bad."

Moreover, all of the evaluations studied here focus on the experiences of responders rather than of affected people, raising the question of what is being assessed. Many of those local responders, without experience of other disasters, had no particular basis for evaluation, and yet their experience of managing the aid was prioritized over the experience of those receiving the aid. This suggests that the evaluations are more about governing a response than about learning how to better meet emergency needs. Understanding how it felt to manage the response is

certainly important data in improving the next one, but without complementary information about the impacts, it is hard to consider it an evaluation of performance.

Narratives of Exceptionalism

The oddities of disaster response evaluations, as compared to performance assessments in other public policy areas, can be attributed in part to the aura of exceptionalism. There is an implication that disasters are too unusual to evaluate in any standard way. The content of evaluations often contributes to this exceptionalism narrative. The White House report on Katrina uses the word "unprecedented" nine times, the House report twelve times, the Senate report thirteen times. The short 62-page English version of the Miyagi Prefecture report uses it six times.

The closest analog, if not exact translation, in Japanese may be *souteigai* (想定外), literally "outside of imagining" or "unimaginable". In his book *3.11: Disaster and Change in Japan* (2013), Richard Samuels describes its post-disaster usage as "the notion of failed imagination in the face of assumed vulnerability" and writes that the term "soon dominated the national discourse" (35). Samuels notes that "it is often used as a masking argument, a common rhetorical device that shifts responsibility for a performance failure" (36), much as the repeated emphasis on the "unprecedented" nature of Hurricane Katrina does. Yotaro Hatamura (2011), who uses *mizou* (未曾有) "unprecedented" to describe the discourse around the tsunami and *souteigai* for the nuclear accident, finds that "in the midst of the ambiguity of the word 'unprecedented,' there is a danger that the substance of things may be completely hidden" (15).

Indeed, the idea that the particular disaster for which a response is being evaluated was bigger and badder than any previous disaster is often used to deflect from the mechanics of what responders did or could have done. More insidiously, the idea that each new disaster is unprecedented and unique suggests that there is no possibility or point in comparing across responses.

And yet, that is not the attitude with regards to disaster responses that the US or Japan fund in foreign countries. The practices of the international humanitarian community – NGOs and UN agencies funded by governments and other donors – show that it is not impossible to create rigorous standards for response evaluations.

As early as 1995, the Humanitarian Practice Network was calling for "basic agreement among donor and implementing actors as to the criteria which should be used to measure the success of relief interventions." In 1997, the Sphere Project began developing minimum standards in different areas of humanitarian response, such as health action and food security and nutrition, as well as general process standards. Although the actors in the international community are not bound by any common agreement or affiliation that enforces their actions, the Sphere standards have become common enough to be used for interagency cooperation (for example, in attempting to standardize the type of temporary shelter being used in a specific disaster, or for one agency to complain about another's latrine placement). Perhaps more importantly, they are often used by institutional donors – governments, foundations, the UN – as at least part of their monitoring and evaluation processes. While evaluations are rarely consistent across agencies, across projects funded by different donors within the same agency, or over time, the existence of the common indicators provided by the Sphere standards allows for at least some measure of comparison and aggregation. The United States Office of Foreign Disaster Assistance (OFDA) funds the Sphere Project, as well as requiring the use of relevant indicators on its funded projects; the Japanese International Cooperation Agency (JICA) also references the Sphere Handbook in their guidance.

The Sphere Project was one element in a broad move towards professionalization of the humanitarian sector in the '90s and '00s. Barnett (2005) writes that "The institutionalization of humanitarianism was largely driven by challenges to the emerging field's legitimacy and effectiveness – challenges that emanated from donors that paid the bills […]. These challenges were answered by rationalizing, bureaucratizing, and professionalizing" (729). Barnett goes on to note that one

> feature of rationalization was the introduction of systems of accountability. This development was pushed by donors, who began to apply 'new public management' principles as they expected humanitarian organizations to provide evidence that their money was being well spent. […] states introduced new reporting requirements, developed new kinds of contracts, and demanded greater evidence of results. (730)

Barnett recognizes that

> Measuring impact and demonstrating that humanitarian organizations are responsible for success (or failure) is a

> demanding methodological task. Humanitarian organizations must define 'impact,' specify their goals and translate them into measurable indicators, gather data in highly fluid emergency settings, establish baseline data in order to generate a 'before and after' snapshot, control for alternative explanations and variables, and construct reasonable counterfactual scenarios. Nevertheless, they made considerable headway. (730)

None of that headway seems to have migrated into the domestic disaster response branches.

One critical missing piece to these evaluations in comparison with best practices in the international humanitarian community is the lack of impact, as opposed to process, indicators. That is to say, the reports were more about what the government did than what they accomplished: how many pallets of water were distributed but not how many people received them (or how many people received a minimum standard of water per day). Holguín-Veras and Jaller (2012) note "It is very telling that, although the official investigations conducted after Hurricane Katrina provided minute details about the disaster itself and the ensuing federal response, they did not discuss the actual needs of the population or the resources required by the response process during the operations" (118). For example: "FEMA's efforts far exceeded any previous operation in the agency's history. A staggering total of 11,322,000 liters of water, 18,960,000 pounds of ice, 5,997,312 meals ready to eat (MREs), and 17 truckloads of tarps were staged at various strategic locations in and near the Gulf region prior to Katrina's landfall" (House of Representatives, 2006: 59). The total may be staggering, but without knowing how many people those goods were provided for under what timeframe, there is no way to tell whether or not it was effective. Six million meals could mean one day of meals for three million people or ten days of meals for three hundred thousand. They could arrive when needed or too late, when there were other options. They could be distributed to the people who need them most or to those logistically easiest to reach, regardless of need.

In Japan too, while most evaluations include issues for improvement as a common theme, there is little firm detail on how needs were met or not met. Most evaluations put a lot of focus on the actions and behavior of both staff and citizens. Since (as in the Gulf Coast) not evacuating was one of the key determinants of mortality, many Japanese jurisdictions conducted detailed surveys about people's decisions related to evacuation. But most of the details about the mechanics of response itself – everything after evacuation – came from the perspective of staff. We learn that the staff were overwhelmed, for example, but not what it felt like to live in a

shelter for six months or what the biggest difficulty was in moving into transitional housing. There were no metrics, common or ad hoc, to, for example, benchmark the point at which a shelter becomes overcrowded or determine how much water people should be receiving per day. Part of this may have been an assumption that responders were doing the best they could under difficult circumstances, but that the lack of minimum standards hampers responders in prioritizing their limited resources.

An Improvised Return to Normalcy

The lack of standardization and metrics meant that, despite their return-to-normalcy function, composing evaluations often required improvisation and sometimes even temporary organizations. Almost every national, state/prefectural, or local entity had to come up with its own methodology, structure, and approach to writing an evaluation (some, it should be noted, contracted the task out in whole or in part, but this was also a decision that was made individually and ad hoc, rather than systematically or consistently). The exceptions are after-action reports, such as those of FEMA, which are standardized, reflecting the far more normal role that disasters have for the agencies that deal with them on a regular basis. The impulse to memorialize, to learn from, and to make sense of the catastrophes was common, but for the most part each jurisdiction was closely focused on its own experiences and there was no attempt at a consistent structure that would make comparisons possible.

This chapter will look primarily at the ways the studied reports vary, from their processes – methodology and purpose – to the result – structure, sectors, context, fact-finding versus analysis, and what they miss. By examining the gamut of different approaches taken by the reports from national, meso-, and local governments in the two countries studied, this chapter will demonstrate the lack of consensus around what evaluations, or the response they cover, should accomplish. The tension between stability and crisis is also apparent, particularly in the last section, which looks at the way the elision of emergence in evaluation reports smoothes the transition back to the permanent organization.

While the government evaluation reports examined here do not entirely fail as learning tools, the haphazard way they approach that aim suggests that their main goal has more to do with the ritual necessary for transferring back from emergency, and emergence, to the supposed stability of the permanent organization. This holds across the range of reports despite the fact that they are composed independently, without standardized templates or centralized oversight.

Like the responses themselves, many of the evaluations claim stability and professionalism but demonstrate improvisation, earnest but uncoordinated efforts, and confusion over the ultimate goal.

Improvised Evaluations

The evaluations examined in this chapter bear little resemblance to each other. The six-month evaluation from Miyagi Prefecture is nearly 700 pages long; the report from the neighboring prefecture, Iwate, is 131 pages long. At the national level United States produced three separate reports – one from the White House, one from the Senate, and one from the House of Representatives – each one with different approaches, ideologies, tables of contents, and recommendations. Some reports were done by committee, others by individuals, others by consultants.

The reports were not standardized because there was no standard process or product, and most of the people involved, with the possible exception of consultants, had never done it before. Nobody coordinated the process. The Director of the Disaster Mitigation Office in Iwate Prefecture told me that Iwate had received no standards from the national government on which to base the evaluation. Nor had the prefecture sought to influence or even be informed about the reports from its component municipalities. When asked whether the municipalities within Iwate were conducting their own evaluations, he answered: "Some places are, some places aren't […] I think they are probably making [evaluations]. Each municipality is making one, I think." In Miyagi Prefecture the staff member who worked on completing the evaluation was also unclear on the status of municipal evaluations: "Some places are doing them, some aren't." This lack of coordination in the evaluations is striking considering the interdependent nature of response activities across these jurisdictions, with the prefectural entities supporting the municipalities; you would think they would want to know what happened to the goods they worked so hard to transport.

In Hancock County, Mississippi, the lessons learned document was paid for by Florida's Hillsborough County:

> Hillsborough came in after the fact and they said hey, our board of directors, our county supervisors or whatever they are, we're in a situation where they've got some money available, and if you will work with us and if you will prepare for us a lessons learned program, and we'll work with you together on it, we'll actually give you, put a 100,000 dollars in the coffers of Hancock County and we will

> label it lessons learned from Hurricane Katrina, so we actually did that. (Hancock County administrator)

The Emergency Manager of Hancock County, who wrote the lessons learned document more or less single-handedly, clarified that "they give us some money, and in return I needed to give them a lessons learned. But thing is I was already working on a lessons learned. It was actually, it was for them, but it was for us, cause I'd already started it."

The former Parish President of St Tammany's Parish and (at time of interview) Director of the Louisiana Governor's Office of Homeland Security and Emergency Preparedness, when asked about a report on Hurricane Katrina, replied, "Aaaahh, they didn't really do them on a state level back then, we did it at a parish level."

Not only was there no standardized format for evaluations, there seems to have been little comparison or sharing across jurisdictions. Asked "was there much talk between you directly or other people here and the people on the Louisiana side?" the Mississippi Emergency Management Agency director at the time of Katrina responded: "Not much. We was just so consumed by what we were dealing with, we really didn't have any idea what was going on in Louisiana. […] Woke just, I mean I really, for those months after Katrina I had no idea what was going on in Louisiana, I mean we just, we were so consumed with what we were doing we just didn't have time to even think about that." Even after the worst of the response, he went on, "Not much. I mean you know, they were doing presentations, things were just totally different over there."

The Emergency Manager in Iwate Prefecture stated in 2013 that there had been no meetings or conference bringing him together with counterparts from Miyagi and Fukushima prefectures. The representative for the Japan Platform, an NGO consortium, who had opportunity to observe practices across the affected prefectures as he attempted to coordinate with their governments, initially agreed: "I think they didn't [share across prefectures] at all." He then recalled, however, that there must have been some transmission of information: "But, when we talked about [including NGOs in] coordination before, Miyagi only moved because Iwate was doing it. When the neighboring prefecture is doing it, they sweat a little, say they have to do it. Without that, we can tell them that it's bad not to do it but it won't move forward at all however, say 'Iwate did it!' and…[they comply]." What convergence occurred across prefectures seems, at least in that case, to have been as ad hoc as the reports themselves and based on rumor. The lack

of interest in openly comparing across jurisdictions (with the notable exception of the Hillsborough-Hancock County relationship) throws into question the idea of using these evaluations as learning tools.

Purpose (Stated and Otherwise)

The first question about such evaluations is why they need to occur at all. There is a social norm that requires them at this point in history; Parker and Dekker (2008) write that "Launching an official investigation almost seems a Pavlovian response to crises in western democracies" (255).

Part of this impulse is the need to reassert stability and normalcy. The post-modern government is not only about "seeing" in the sense of Scott (1998) but in demonstrating that sight; new public management is not only about control but about reflecting on and refining that control. A report both memorializes the extraordinariness of the disaster and proclaims that we are back to business as usual.

Parker and Dekker[31] identify three main rationales: learning; realpolitik, including blame assignation and deflection and postponement of decisions; and symbolism. These are, of course, not distinct; most reports driven by a combination of these forces. Each may blend with and overlap the others: learning is often used as a means of (or excuse for) assigning blame, and vice versa. All three contribute to the symbolic emphasis on resuming normalcy. Learning presupposes not only the competence and commitment to garnering and applying experience, but also the basic stability of government and its continued mandate into the next disaster. Realpolitik signals that the (perceived, performed, or real) unity of the immediate post-disaster period is over.

Although Parker and Dekker write that learning "is generally the most overt and manifest purpose of commissions" (261), some of the reports studied here are equally explicit about their role in assigning blame. Harried by widespread public perception of failures, the US reports state openly that their purpose includes "to acknowledge what was done well, to identify what was done poorly or not at all" (Senate, 2006: iii) and "to figure out why [local, state, and federal government agencies failed to meet the needs of the residents]" (House, 2006: ix). The White

[31] Parker and Dekker are writing specifically about investigative commissions, with the 9/11 Commission as their case study. While there are obvious and important some differences between such independent commissions and in-house government reports, the observations quoted here are likely to hold for both forms of investigation.

House report, as Preston (2008) notes in his review of post-Katrina politicking by the Bush administration, was more concerned with "emphasising the theme of 'lessons learned' while predictably accepting only limited blame for the outcome" (51-52); that report states its objective as "to identify and establish a roadmap on how to do [better in the future]" (White House, 2006: 2).

The recriminations and media outrage after Katrina led to a considerable amount of realpolitik. Preston (2008) writes that "there was a clear effort by Republicans to maintain a tight grip on the Katrina inquiries (and the blame game) and to limit their scope. These efforts were greatly assisted by GOP control over Congress […] Although these inquiries resulted in some embarrassing revelations, this strategy proved largely successful at insulating the White House from the lion's share of the blame […] Finally, even with the tightly controlled nature of the congressional inquiries, the White House also sought to deflect blame by refusing to fully cooperate with the committees, supply key documents or allow testimony by top administration officials (citing executive confidentiality privileges)" (51-52, 57).

Despite the deeply contentious elements of the national-level evaluations – in particular the House report, which was only nominally bipartisan – to characterize all discussions of what went wrong as blaming or cynical admissions of fault is unfair. The US reports hint at a continued sense of disbelief, a lingering effect of cosmology episodes. The reports suggest a disbelief about how bad the response that was no less genuine for the complicity of those doing the reporting. The evaluations thus function as further sense-making, explanatory for the purpose of knitting together reality again as well as for promising that such breaks won't recur. As Parker and Dekker (2008) write, "postcrisis inquiries […] play a vital role in the 'meaning-making process', which helps the members of a stricken polity come to terms with the adversity encountered. This process, in turn, facilitates the return of a sense of order" (271).

In Japan too, some of the reports state the intention to look specifically at what went wrong. The Iwate Prefecture report ties its purpose directly to the failures during the event, referencing "difficulties in collecting information about damages because of failures of telecommunications functions and large-scale blackouts, delivery of relief goods being delayed because of lack of fuel and infrastructure blockages." Its mission is to "clarify problems and issues related to emergency countermeasures" so that in the future they can "respond precisely to

large scale disasters, revise the Iwate prefecture regional disaster mitigation plans, and strengthen the disaster mitigation organization" (3).

In general, the Japanese reports tend to be more focused on planning on the future, pointing to possible future disasters. The Miyagi and Iwate Prefecture reports both mention "future large-scale disasters." The Sendai city report hopes to be useful to other jurisdictions, "especially those for which the occurrence of a major earthquake is expected" (5). The Rikuzentakata evaluation references two specific disasters that received a lot of attention in Japan and were mentioned by more than one informant during interviews: "the predicted Nankai trough mega-earthquake, [and the] earthquake directly below the capital" (8). Both those disasters, along with volcanic eruptions, are referenced in the first chapter of the Central Disaster Management Council Final Report (2). In the Midterm Report that Council highlights them in an entire section devoted to "Large-scale disasters that are likely to occur" (2-7) and writes that "even while we are continuing to respond to a large disaster, we must speed our preparations for the future large scale disasters etc. that are causing concern" (1).

The Rikuzentakata report frames its purpose directly in a question. After stating the loss of many lives and noting that those losses prevented an effective initial response, the report boils its purpose down to "Why did this much damage occur and were so many lives lost?" The report goes on to hope that verifying the root cause will support preparedness for future predicted disasters.

Another purpose of the evaluations was as institutional memory in a context where local civil servants change departments every two or three years. In Miyagi prefecture, I asked two staff members who worked on compiling the evaluation what they thought the most important use for it would be. The first, who was in law prior to the disaster and during the response supported evacuation centers in the municipalities but was subsequently transferred to the disaster management office and tasked with the report, said that

> It is being reflected in the disaster mitigation plan, but finally […] that turn-over, once every three years the transfer, there is personnel reorganization once every three years, for some early people once every two years, so of course, eventually people with experience may come back but until they come back, there's nobody who has done disaster response. […] it's in order to hold common knowledge [or "institutional knowledge"].

He suggests here that the adjustments to the disaster mitigation plan, while important, could not replace the value of the documentation of the experience. Independent of the learnings, he saw value in the memory of the facts that gave rise to those learnings.

His colleague felt that the most important use for the report related to "When there was that degree of large-scale disaster […] we want a wide understanding among all normal prefecture citizens, it's important that they not forget it […] That's why we put it all on the home page." For her, the report was not only about institutional but collective memory: having a set of documentary evidence that was available to everyone, and especially to everyone in the prefecture. Parker and Dekker (2008) write that

> Official inquiry reports are mainly written for public consumption and shape official discourse (Burton and Carlen 1979). Hence, their main contribution is directed at 'reaching understanding in a social context' and reducing the sense of crisis (de Haven-Smith 1988: 85). By providing an authoritative interpretation of events and corrective recommendations, the circumstances surrounding the crisis are demystified" (272-273).

For this Miyagi Prefecture staffer, at least, this was not about accountability or even learning but about a common understanding, about not forgetting. Interestingly, the word both she and her colleague used primarily was not *kensho* (検証), "inspection," which is the word I usually used in interviews and the word that is on the cover of their report, but *kirokugami* (記録紙), "record" or "documentation." The documentation of the events has a value in and of itself, beyond what conclusions can be drawn.

Similarly, the Ishinomaki report states that the "close-listening hearings" that formed part of were not only "to grasp the situation of the emergency response actions [but] at the same time to grasp the situation of the experience of the disaster and what was seen and heard in the surroundings" (Ishinomaki, 2012: 3-2). There is an emphasis on the experience itself, as well as actions taken.

The Ministry of Land, Infrastructure, Transport and Tourism's report, *Leading the first response to Large-Scale Natural Disasters*[32], is written more like a manual than an evaluation, although it does reference specific incidents from the Great East Japan Disaster and includes points for improvement based on those cases. In the preface, the authors – listed collectively as

[32] I received a copy of this report that had been professionally translated into English; quotes are from that edition and not, like quotes from the other Japanese reports quoted here, translated by the author.

the Tohoku Regional Bureau – "hope that this book will assist all the leaders and personnel who face large-scale natural disasters to plan and execute operations more effectively in future disaster events."

In Japan, it was much easier than in the US to accept the idea of being bested by a (so-called) natural disaster; the popular imagination was already committed to the possibility of something worse happening. For Japanese governments, then, the task was not so much *make sense out of this incomprehensible failure* as *salvage some meaning from the tragedy by convincing us it will help us do better next time*.

This range of purposes and motivations is indicative of the lack of consensus over what the reports should do and, more broadly, what the government should do in these situations. The variation continues in the ways the evaluations were constructed.

Methodologies

In their broad outlines, the methodologies employed by the writers of the reports are fairly similar. The main techniques were formal, sometimes public, interviews and documentary research. The Senate report, for example, was based on "formal interviews of more than 325 witnesses, reviewed over 838,000 pages of documentation, and conducted 22 public hearings with 85 witnesses in the course of our information gathering efforts" (3). The House report included "9 public hearings, scores of interviews and briefings, and the review of more than 500,000 pages of documents" (2006: x).

The public hearings, with all their pomp, were limited in the number of perspectives they offered. The witness list for the hearing on "Hurricane Katrina: Preparedness and Response by the State of Mississippi" for the House report, for example, includes five respondents, all at high levels: the governor, the state health officer, the director of MEMA, the FEMA Federal Coordinating Officer, and one mayor. While these people were key figures in terms of managing the response – and, per the record, had a lot to say about their difficulties both in coordinating with the national level and in dealing with the physical obstacles of the response – only a single witness, the mayor, could be construed as an affected person or a recipient of assistance (Select Bipartisan Committee, 2005), and he certainly held a privileged position in that group. On the whole, testimony from beneficiaries of the response, rather than those tasked with implementing it, were few and far-between.

State-level reports in the US, such as the Louisiana After-Action Report for Hurricanes Katrina and Rita (State of Louisiana 2006) and the DHS/FEMA Hotwash for Louisiana (FEMA 2006) were based on conferences, the results of which were then written up into reports. While this presumably ensured some degree of stakeholder inclusion in the process, it also effectively removes that from the written record, leaving the participants and their deliberations out of the final document. Whoever was involved in the meetings had a more active role, but their identities, comments, and reactions were assimilated into the final results instead of being noted and attributed in the way witness testimony was.

At the local level such intensive efforts were impractical. The Hancock County lessons learned document, funded by a Florida county, went all the way to the opposite end of the range: it was written by the emergency manager, more or less single-handedly, although there is no description of any methodology in the report. There is a section called "Lessons Learned From FEMA Division Group Supervisors At Hancock County EOC", but it is unclear whether it is a result of discussions with those supervisors or a compilation of learnings over the course of the response. There is also an addendum which "was used for after action with the Mississippi Emergency Management Agency" although it repeats a lot of the same information.

The main difference in the Japanese approach to evaluations was the tendency to use written surveys in addition to "hearings," which can mean either public hearing or interviews. The Iwate Prefecture report, for example, is extremely detailed about its methodology. The disaster mitigation office evaluation team first conducted a questionnaire survey through every department in the prefectural office, all the municipalities in the prefecture, and disaster-mitigation related entities (such as, for example, fire and rescue). They had a 100% response rate within the prefectural office (suggesting an official mandate), but only 48.5% from the municipalities (many of which were still mired in reconstruction). They then held "hearings" in fourteen cities and towns. The photograph showing the hearing in Ofunato shows four men in a room designed for not many more than that, suggesting that these were targeted interviews with officials or other elites. Following that they carried out a survey of citizens based on a survey designed by the national Disaster Management Council. Key issues were then discussed at the prefectural disaster management meetings with invited outside experts.

The Rikuzentakata City evaluation describes its methodology with a one-page flowchart in the first chapter of the report. It includes meetings of two committees and the city council; just

under a month of “hearings” that include citizens as well as city staff; almost a month for public comment; a survey that went out to all households about evacuation measures; and another two weeks for public comment. According to the flow chart, the evaluation document itself is supposed to lead into: an evacuation manual; an evacuation center management manual; a manual for initial response (初動対応); and revision of the city’s regional disaster mitigation plans. The report also lists the names of the evaluation committee.

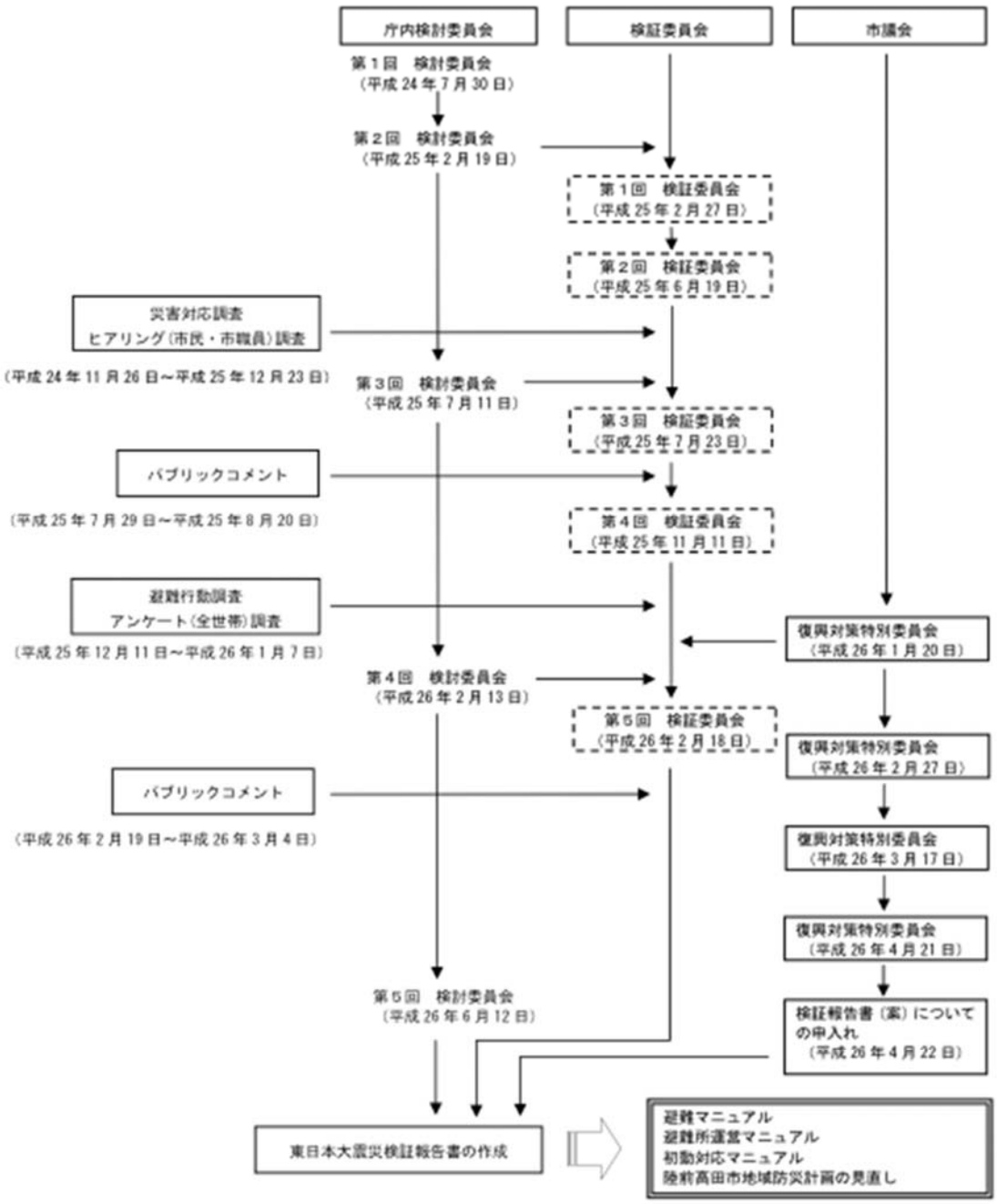


図 1.3　検証の流れ

Figure 17: Rikuzentakata evaluation methodology (Rikuzentakata, 2014: 9)

The Ishinomaki report references a survey, hearings, and a workshop, the latter two facilitated by professors from Tohoku University. It discusses these approaches at length if not always rigorously ("The survey methodology was largely quantitative and qualitative" (3-1); a section titled "Workshop" that is mainly about the hearings, etc). Hearings were limited to five people or fewer per group. The scope as included, in addition to town staff: public education staff; firefighters; police; medical personnel (such as the doctors' association and the staff of the disaster focal point hospital); and local residents, particularly the leaders of the local disaster countermeasure groups. The report references the use of both quantitative (multiple choice) and qualitative (interview) approaches. The workshop used cards to graph out the activities referenced by participants in the hearings across time and work group.

Many of the jurisdictions, like Iwate, constructed an internal team to carry out the evaluation – a temporary organization. Miyagi prefecture combined a consultant with an internal team. The consultant, a professor at the Disaster Reduction and Human Renovation Institute (DRI), told me in an interview that it really was a team effort.

> The prefecture built a new section for the purpose of that report […] within the prefecture, interviews were done for every department that responded to the disaster. When people had already transferred they were requested to come and were interviewed. So, we looked at the content [of the interviews] with the prefecture, we went to the interviews together and listened to their talk, "well this was good and this was bad."

In the US, the Senate and House reports were put together by congress people and their aides, while the White House Report was delegated to the Assistant to the President for Homeland Security and Counterterrorism.

All of these teams were temporary: they were task-oriented and time-constrained, not improvised on the spur of the moment as with the emergent systems during the height of the disaster. However, even though the need for such a function is predictable, they were invariably defined and created after the disaster. Despite the promise of stability embedded in the reports, the process used to arrive at them was variable, unpredictable, and invented on the spot. Like the responses themselves, the idea of conducting evaluations seems to have been shrouded by a certain amount of denial.

Varied Structures

Sectoral Breakdowns

Like the crisis management centers dividing their task into component parts for delegation, the composers of evaluations needed to structure their reports, categorizing the information they compiled into sections and chapters. Although there are exceptions (notably the Miyagi Prefecture report, which closely follows the structures determined by the disaster response headquarters), most of the evaluators found *different* ways to divide the information than the CMCs, so that chapter headings and sub-headings do not match the planned or emergent organizational divisions in the CMCs. Moreover, none of the reports match each other. It is here, perhaps, that the ad hoc nature of the evaluations is especially problematic and interesting: a wide range of categories, most of them without explicit definition, makes it especially difficult to do a comparison across jurisdictions.

For example, while the House report has sections on Shelter and Housing, Logistics and Contracting, and Medical Care, the Senate report has a chapter on Logistics and another on Medical Assistance, but locates most of the shelter data in the two evacuations sections. The White House report uses a chronological division with some operational sub-sections. None of them maps onto the terminology of the emergency support functions (ESFs) used by the National Response Plan.

The State of Louisiana Hurricanes Katrina and Rita After-Action Report, based on a series of after-action conferences, does use the ESFs, although "Not all ESFs are mentioned in the report because some were not addressed during the After-Action Conferences" (State of Louisiana, 2006: 1) and the report, almost entirely in table form, starts from the recommendations, leaving out the criticisms that presumably formed their basis as well as any discussion or analysis. The DHS/FEMA Initial Response Hotwash for Louisiana was similarly based on a meeting; out of an initial six "focus areas," not aligned with ESFs and presented as a given, one (Initial Response) was broken down further during the conference into six underlying issues, resulting in eleven focus areas for the report (FEMA, 2006: i-ii).

As frustrating as this haphazardness can be, it demonstrates the subjectivity of evaluation structures and thereby offers clues about the priorities of the writers. The decisions about what

information and analysis to include and how to categorize that data tell us about the report writers' concerns, both performative and unconscious.

The charts below align sectors that are roughly comparable across reports, allowing us to see quickly which sectors are unique to one jurisdiction's evaluation, which are common concerns across many, and how they are framed. The US chart includes a list of the emergency support functions, the official sectoral breakdown. These tables give a sense for what topics are covered, in some fashion, by multiple jurisdictions. This offers a partial map of what each jurisdiction considers important and where they draw the lines separating different tasks. They demonstrate both the wide variety of different sections, and the lack of consensus on terminology even when the same topics were covered. Some of the variation arises from the different roles at different government levels: the functioning of the tsunami alarm in Japan, for example, is a central government responsibility. (Note that topics beyond the scope of this work, such as reconstruction or the nuclear accident, are excluded for simplicity's sake.)

Figure 18: Sectoral breakdowns in US reports						
ESFs	**House**	**Senate**	**White House**	**FEMA LA Hotwash**	**LA AAR**	**Hancock County**
	Levees	Levees: Who's in Charge?	National Preparedness	Staffing		Preparedness
	Charitable Organizations		Offers of Charitable Assistance			Volunteers
						Asset Management and Tracking
		FEMA Waste and Fraud	Pre-Landfall	Action Request Form Process		Emergency Operations Center (Physical Plant)
			Impact on State and Local Response	Continuity of Government		Emergency Mutual Aid Compact
						NICS
				Parish Liaison Teams		IT Infrastructure
						GIS Infrastructure
						Financial Support
Transportation	Evacuation	Pre-Storm Evacuations	Post-landfall evacuations	Post-Landfall Evacuation	Transportation	Traffic Control
		Post-Landfall Evacuations				Evacuation Plans
						Transportation
Communications	Communications	Communication Voids	Federal Communications Assistance	Communications	Communications	HAM Radio
						Communications
Public works and engineering						Emergency Debris Sites
Firefighting						ESF-4 Fire Services
Emergency management	Command and Control	Failures in National Response Plan: Unified Command	Federal Incident Management	Command and Control	Emergency Management	Dual Roles
						Documentation of Decisions
						ESF Functions
Mass Care, Housing, and Human	Shelter and Housing				Mass Care, Housing, and Human	Feeding Stations
						Shelters

Services					Services	Mass Care
Resource Support	Logistics and Contracting	Logistics	Federal Resource Challenges	Logistics	Resource Support	Fuel
						Points of Distribution
						Donations and Donations Warehouse
Public health and medical services	Medical Care	Medical Assistance	Federal Health and Medical Support	Medical Response		Mental Health
				Mortuary Affairs		
Urban Search and Rescue		Search and Rescue	Search and Rescue			ESF-9 Urban Search and Rescue
						Federal, State Search & Rescue Teams
Oil and Hazardous Materials Response						
Agriculture and Natural Resources						Waterways
Energy					Energy	
Public Safety and Security	The Military	Military Operations	Military Assistance		Public Safety and Security	EOC Security
	Law Enforcement	Public Safety and Security	Public Safety and Security			State Law Enforcement Resources
Long-Term Community Recovery and Mitigation					Long-Term Community Recovery and Mitigation	
External Affairs		Protecting Infrastructure; Public Communication; Role of the Media		Media	External Affairs	
						County Coroner
						Stennis Space Center
						American Red Cross
						MEMA

						FEMA and MEMA
						FEMA Forward Area Command
						Damage Assessment Team
						Communications with County, City Governments and the EOC
						Mississippi Department of Health
						Salvation Army

In the US, it is striking that most of the reports ignored the ESF categories, using different chapter titles even when the topic aligned with an ESF. Even the FEMA Hotwash, presumably aimed at experts who were familiar with the ESF, eschews its terminology and finds other divisions more useful. Only the AAR, which is almost entirely based around the ESFs with minimal contextualizing (introduction) and no other topics, follows ESF terminology. This choice does nothing to mainstream the at the time relatively recent ESF system; it might suggest an unwillingness to maintain the structures of the temporary organization into the permanent sphere. It also indicates a lack of concern about the potential for comparison across reports.

The local jurisdiction report shows by far the most additional sections. For the locals in Hancock County, the standard sectors did not fit the extent of the topics that they need to review in their response.

Figure 19: Sectoral breakdowns in Japanese reports			
Central Disaster Management Council (Midterm Report)	**Iwate Prefecture**	**Miyagi Prefecture**	**Rikuzentakata**
Alarm Announcement and Transmission			
Evacuation Immediately After the Disaster	Evacuation Behavior		Maintaining the Evacuation Route
Information Sending and Information Understanding	Communications and Information	Information Group	Information communication methods and safety of disaster response staff
		Communication Group	
Medical Care	Medical Care Activities		
Goods and Transportation	Goods Preparedness and Support	Goods Group	
		Goods Procurement Group	
Receiving Overseas Assistance	Support from Other Prefectures	Related Entities Liaison Center	
Fuel	Securing Fuel		
Establishment and Management of Evacuation Centers	Evacuation Center Management	Evacuation Center Group	
Secondary and Wide-area Evacuation			
Attention to Vulnerable People During Disasters			Building a society friendly to socially vulnerable people
Perspectives on Gender Equality			
The Structure of Public Organizations in Affected Areas			
Structures Supporting Disaster Response in Affected Areas			Improvement of Local Area Disaster Mitigation Capacity
Activities of Disaster Mitigation Volunteers	Volunteers	Assistance related to establishing and managing Disaster Volunteer Centers	
		Assistance towards the activities of disaster volunteers	
		Results of disaster volunteer activities	

	Emergency Electricity Preparedness and Actuality		
	Structure and Activities of the Prefectural Disaster Response Headquarters	Management Group	Establishment of Disaster Response HQ
		Countermeasures Group	Actions of Staff as Tsunami Hit
		General Affairs Group	Protecting the Capacity of the DRHQ
	Lifesaving		
	Summarizing Human and Material Damages		
	Public Relations Activities	Public Relations Group	
	Infrastructure Damage		
	Occurrence in Isolated Areas		
	Firefighter Activities	Emergency Firefighter and Rescue Brigade Coordination Group	
	Mortuary Services		
	Logistical Support Structures	Logistics	
	The Capacity of Government Staff in Affected Municipalities		
	Removal and Disposal of Debris		
	Temporary Housing		
		Helicopter Operation Coordination Group	
Other			

In Japan, without the framework of a functional breakdown like the ESFs to work from, there is even more variation. The only area that all reports include is communications, which also merits a section in all of the US reports. With all the similar problems that each jurisdiction was facing, the most consistent concern is about transferring information between governmental levels. This is certainly a critical area, particularly in situations where local capacity is badly damaged. Communications technology also provides a convenient scapegoat to avoid discussing more deeply ingrained organizational problems (and create spending for upgrades and interoperability). The lack of communications was one of the key triggers of the cosmology episode for many actors; not being able to give or receive orders, request help, or check on procedures was traumatizing. For meso-level and national actors outside of the impact area, it was often the main disruption that they faced in attempting to follow their plans.

However, while the reports often call for better communications technology, they rarely question the dependence on it. The US House report lists among its ten top failures, “A complete breakdown in communications that paralyzed command and control and made situational awareness murky at best” (2006, 359). The Iwate report offers this diagram to illustrate the technical issues involved:

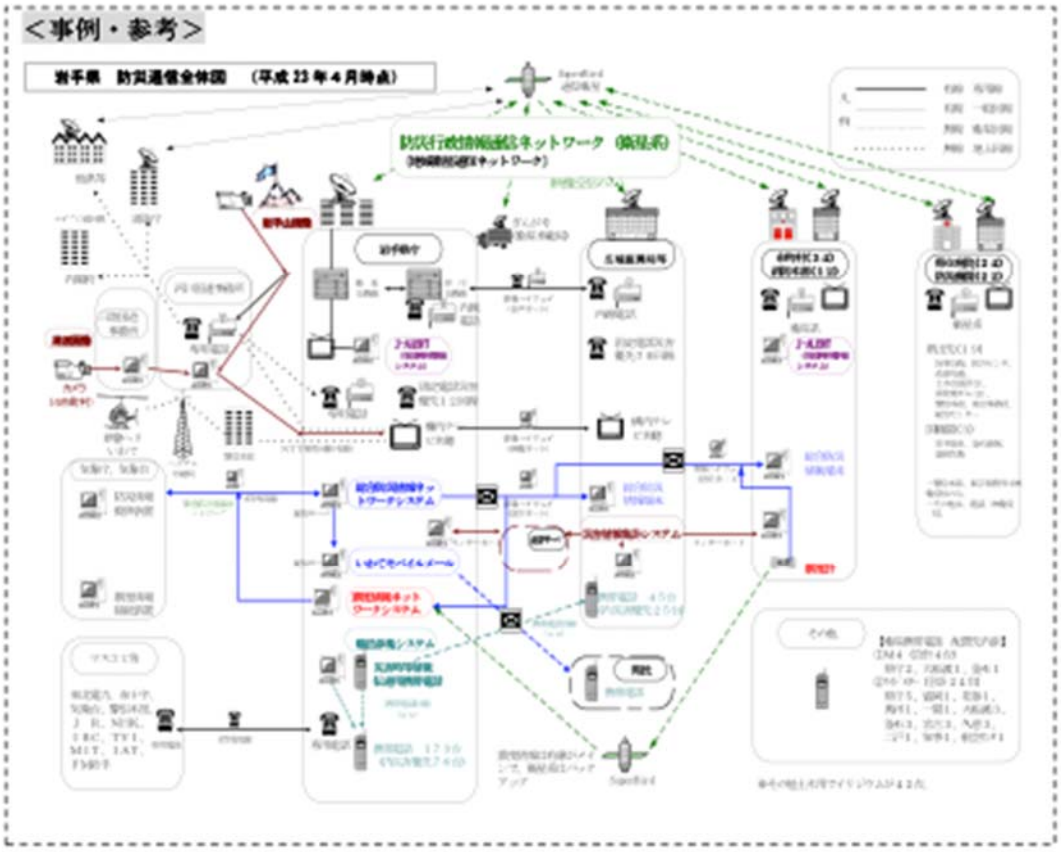


Figure 20: Iwate Prefecture Disaster Mitigation Communication Map for April 2011 (Iwate, 2012: 14)

The subsequent recommendations also focus largely on technical solutions. It is easier to plan to fix communications than to work on interpersonal or interagency relationships.

Overarching Structure

In addition to the sectoral breakdown, the reports show a wide range of variation in their structure: how much background they provide, whether they discuss the methodology, and how they format each section. These decisions about contextualizing the main findings are indicative of the expected audiences and use cases for the reports.

While most of the reports don't discuss decision-making around the sectoral breakdown at all, the Iwate Prefecture report is unusually explicit about the fact that its twenty-one sections were decided by the evaluation team. The sections are almost all operational areas, with the exceptions quasi-operational topics like "Volunteer [groups and individuals]." With a thorough methodology section but otherwise only brief introductions and conclusions, the structure seems

designed to facilitate quick accessibility for someone interested in a specific topic, such as a civil servant suddenly assigned to, say, supervising medical teams; or finding fuel; or serving remote and isolated areas in the next disaster.

The thousand-page Miyagi prefecture report begins with a brief summary and methodology section. Its first numbered section is about the details of the disaster and its effects. The second is about the first twenty-four hours of the response, and largely concerned with the actions of the disaster response headquarters. The third section, on the bulk of the response, is divided according to the groups that participated in the response, whether existing government departments or temporary structures created under the aegis of the disaster response headquarters. Each sub-section starts with an accounting of the number of staff in that department, including any changes throughout the term of the response. The content (内容) of that department's work is then described in narrative, charts, and bullet points, followed by a box on the inspection (検証) for that department, with bulleted problems and recommendations. The remaining numbered sections are on volunteers and on the effects of the nuclear accident at Fukushima Dai-Ichi.

The Central Disaster Management Council Midterm Report begins with some background about Japan's propensity to natural disasters. The chapter on "Things We Can Learn from the Great East Japan Disaster" includes an introductory section on the response and a conclusion, with the three other sections focused around large questions: "Did the disaster emergency response function well?"; "Did the restoration of lifestyle, rehabilitation, and reconstruction progress smoothly?"; "Was the pre-event preparedness sufficient?". The section that most concerns us, on the emergency response, is, like the rest of the report, written in bulleted paragraphs. It is a policy-focused approach: framed around policy questions; not entirely quantitative; broken down into short sections of text.

The Ishinomaki report, rather like the Louisiana AAR, is based largely on surveys and workshops, but the Ishinomaki staff used different organizing principles. Rather than dividing recommendations along sectoral areas (in the Louisiana case, ESFs), the Ishinomaki report is divided into tables for professional groupings drawn both from within the disaster response headquarters and externally (e.g., the disaster countermeasures planning department; the city hospital; the education liaison group). The responses for each grouping are divided into *Actual*

Response (detailing actions taken); *Situation (hazard)*; *Situation (damages)*; *Situation (other)*; *Resources (human)*; *Resources (things)*; *Resources (money)*; *Future goals*. This offers a different perspective than the majority of the reports, building up a picture of both the hazard and the damages through many fragmented experiences, in addition to the more typical synthesized version that makes up the first section of the report. It also puts a notable emphasis on resources as a specific issue. Finally, there is a tight focus on the first week of the response; the responses are divided chronologically by day over the first five days, with the last column titled *Day Five and after*.

Several other Japanese reports, like the White House report from the US, use chronology as the top-level structuring principle. The Sendai evaluation has two chapters on "immediately after the disaster" (災害直後) then moves on to "restoration" (復旧) and then "reconstruction" (復興). The MLIT report is divided into "Within One Hour of the Disaster," "Within the First Day of the Disaster," and "Within One Week of the Disaster." These choices reflect a sense that temporal proximity to the disaster has a significant, qualitative relationship to the way the response was or should be handled, implicitly recognizing the effects of cosmology episodes.

The vast differences among the reports reflect the range of values, concerns, and approaches across the various jurisdictions. But the divergence also undermines the purpose of evaluation. If each report is different, if each is based on ad hoc ideas rather than some kind of standardization, there is no way to track improvement or lessons across locations or over time. On a more symbolic level, as the reports strive to show stability and mastery, their ad hoc construction reveals instead a lack of standardization and competence.

Facts versus Recommendations

One telling divide in the reports is in the amount of space allocated to the enumeration of what happened as opposed to recommendations for the future. Parker and Dekker (2008) divide the learning function of a commission into two main tasks: "First, the contribute to the collection of information about the causes of a crisis, a process that we may refer to as fact finding. Second, they engage in lesson drawing" (261). Both of these functions overlap with Parker and Dekker's other rationales for evaluations. The documentation of facts can, as we've seen, hold symbolic value, while choices about which facts to include and how to present them can serve realpolitik ends as much as the interpretation of lessons from those facts.

One of the most contested issues in the Hurricane Katrina response was the delay in providing buses to evacuate people from the Superdome. On this point – a minor incident in terms of the entire response, but hugely important for the people trapped in the damaged, underserved Superdome and of concern to politicians because of the media coverage of that failure – all three of the US federal reports disagree.

The Senate report place the blame squarely on FEMA and highlights the agency's lack of transparency, recounting that "On Monday, the day of landfall, Louisiana Governor Kathleen Blanco had turned to FEMA Director Michael Brown with a request for 500 buses. He promised they would come. For reasons that have never been explained, those buses did not begin to arrive at the Superdome until Wednesday evening" (32).

The House report, in contrast, questions Blanco's story, stating that "the first task order for buses by the federal government to evacuate New Orleans post landfall was not issued until 1:30 a.m. on Wednesday, August 31. Although Blanco claims that Brown told her that he had 500 buses standing by and that she was concerned when those buses did not materialize sooner, the Select Committee found no other evidence that any such buses were, in fact, "standing by" or that Brown had made such a statement to Blanco" (120).

The White House report manages to avoid the controversy about Federal involvement by ignoring the question altogether, moving from "Governor Blanco visited the Superdome on August 30 and concluded the stadium needed to be evacuated 'as soon as possible'" to

> FEMA personnel at the Superdome requested that FEMA headquarters provide buses to transport evacuees from the stadium. Within an hour of receiving the call, FEMA tasked the Department of Transportation – as coordinator of ESF-1, Transportation – to support the evacuation operations. DOT began assembling a bus fleet of over 1,100 vehicles, equal in size to some of the largest transit agencies in the Nation to evacuate thousands of persons from the Superdome and other parts of New Orleans. (39)

The problematic episode is presented almost as a success here, with quick action ("within an hour of receiving the call") by FEMA and most of the responsibility falling on the Department of Transportation. These discrepancies demonstrate how "fact-finding," both as the basis for "learning" and as part of a symbolic "closure", can be intensely political, and that gaps in the knowledge base can be angled to throw the blame in any direction.

While this incident plays out in the reports as a political tidbit to be batted back and forth, the implications of these varied explanations are days of intense suffering for the people in the

Superdome. What none of the reports do is identify where the responsibility lies for avoiding such delays in the future.

Recommendations can similarly be used to cast blame or suggest shifts in power. They can also be empty symbols of strength and stability, particularly when those writing them know they are unlikely to be implemented.

The balance between these two concerns suggests where symbolic and practical emphasis lies: on revisiting the past – for closure, absolution, or clarity – or on looking towards the future. For example, the White House report decision to use seven chapters moving from "National Preparedness" through the pre-landfall, the first post-landfall week, and "Lessons Learned" "Transforming National Preparedness" indicates a preoccupation with larger themes; "Recommendations" was relegated (conveniently, for those who wanted to skip everything else) to an Appendix. The Senate report's 28 chapters and subsequent additional Overview, Findings, and Recommendations sections suggests a willingness to get into the operational details.

The House of Representative Report opens with an epigraph from Henry Ford that admonishes "Don't find a fault. Find a remedy" (v) but then announces in its conclusion that "The resolution that created the Select Committee charged us with compiling findings, not recommendations" (359). The report continues to claim, somewhat disingenuously, that this doesn't matter: "But in reality that's a distinction without a difference. Moving from our findings to legislative, organizational, and policy changes need not be a long or difficult journey" (359).

Evaluations that focus entirely on recommendations, like the Louisiana State After-Action Report, prioritize their positioning of expertise by removing the reader's opportunity to evaluate the link between data and conclusions. That step often requires examination; Parker and Dekker note that even the relatively well-received 9/11 Commission report was criticized because "the recommendations are not always grounded in the empirical findings" (263). Recommendations also become an empty exercise if they are politically unlikely to be followed; while this depends on a multitude of contextual factors (Birkland 2009), if recommendations are grandiose and costly like those of the White House Report, or if they are "vague and amount to little more than empty bromides" as Parker and Dekker write of the 9/11 Commission report (264), their implementation is not to be expected even by the authors.

The Hancock County report pairs Concerns and Recommendations in each of the subject areas covered, letting a hypothetical future responder look up the full package for their sector of interest quickly.

Similarly, the Japanese prefecture reports tend to tie descriptive and prescriptive sections closely together under each sector, rather than separating out all the recommendations at the end of the report. The Iwate report combines findings and results in each section operational section, which includes a brief narrative; a short example or case study; and problems with corresponding root-cause analysis and challenges or strategies for improvement; and reflections for disaster mitigation measures. The Central Disaster Management Council split its results, with the majority of the findings in the midterm report and recommendations in the final report. The Ministry of Land, Infrastructure, Transport and Tourism's report, which styles itself more as manual than an evaluation, reverses the structure of most of the others: each section begins with instructions on how to manage that area of disaster response, and then presents examples from the case of the Great East Japan Disaster, and sometimes points for improvement.

Context Beyond Operational

Based on the idea that evaluations have something to do with learning, it seems that they should be focused on management and operational problems and successes. However, it can be challenging to find a place to separate disasters from the hazards that trigger them and then context in which they occur, and many of the evaluations include significant text surrounding the substance of the response. There are some reports, like the Louisiana After-Action Report or the Iwate evaluation, that aside from introductions briefly setting the scene and explaining the methodology, are entirely focused on what was done by staff and recommendations for changes. The Hancock County report offers no context at all beyond the page-header title, jumping straight into concerns and recommendations.

However, those context-less reports are the exception. Most evaluations at least mention the facts of the hazard and its impacts. Some include full sections detailing the specifications of the hazard – often with maps and other graphics – and the effects that it wrought *before* the response started. The Ishinomaki evaluation includes detailed shake and flood maps along with a number of very technical graphs related to the seismic event. One of the most quantitative sections of the Senate report is all about the impacts of the hurricane, including such items as "Ratio of area damaged by Katrina to area of United Kingdom 1:1" and "Gulf of Mexico daily

oil output shut down by Katrina 95%" (37) and "Approximate ratio of New Orleans population in 2000 to January 2006 3:1" (38).

This type of data, while not directly related to evaluating the actions of responders, is tangentially relevant, particularly if the purpose of the report includes learning about preparedness, but it also has symbolic value. Describing in detail the history of the hurricane from tropical depression to second landfall, or mapping out the shaking intensity of the earthquake over the entire coast and not only the relevant jurisdiction, raise the stakes of the response. Such descriptions memorialize the hazard, highlighting the heroism of the efforts to withstand it and confirming that the participants did indeed live through something momentous. They also have the talismanic effect of quantifying – because these descriptions are heavily "scientific" and quantitative – something that was experienced by most of the participants in a distinctly qualitative, subjective, partial, and jumbled way. By putting numbers to the maximum wind strength and the height of the waves, by stepping back from a personal perspective into a combined panoramic view supposed to encompass the entire disaster, these chapters distance, flatten, and symbolically control the hazard.

The US national-level reports also spent a number of pages explicating the existing emergency management structures and the history of preparedness (in particular, the prophetic Hurricane Pam exercise). This made sense for a number of reasons: the emergency management system was relatively new, and so still poorly understood by parts of the potential audience. Also, these reports were interested in changing the system.

These varied efforts at contextualization show that even as governments try to separate the disaster from their longer-term, quotidian policy decisions, they have trouble removing the response from the larger environment. Unsurprisingly, discussions of the size of the hazard are particularly tempting to the writers of these reports, since the scale of the hazard is one of the main excuses used for perceived response failures. While the reports usually stopped short of discussing poverty, racism, infrastructure, or housing and their impacts on the disaster, they did try to situate the disaster in its particular place and time.

Narrative versus Data

The evaluations range from being presented almost entirely in narrative form, like the federal reports in the US, to on the other extreme the Louisiana After Action Report or the Ishinomaki Evaluation chapter on the response, which organize data garnered from workshops in

pages of tables or in long lists of bullet points. Most of the Japanese reports fall somewhere in the middle: many of them are divided into short sections that follow a roughly consistent pattern including sections of narrative along with boxes, bullet point lists, and graphics, while others employ paragraphs or narrative chunks bulleted into lists.

The choice probably has some practical considerations – certainly writing a narrative takes more time than copy-and-pasting collected data into a list or a table – but it also conveys stylistic information. The narrative structure comes across as more polished and formal, but also as more accessible to a general audience. Tables, which are cumbersome to read through in order, allow more easily for a quick look up of information specific to a certain location or topic; they suggest functionality (although it is a limited functionality, making other types of search more difficult) and a nuts-and-bolts approach more appropriate for practitioners. Stories and histories are for everyone; technical details are for practitioners or policy makers.

The process of synthesizing data into narrative necessarily incurs analysis, framing, and selection. The authors of narrative reports are doing some of the work for the reader and at the same time, inevitably, imposing their viewpoint. But narrative also works on a subtler level. By distancing readers from the raw data, it distances them from the impact of the disaster. The act of narration insists on the narrator being outside the event, while quoted testimony comes from within the experience. Narrative also suggests completion. It is rare that we read unfinished narratives, so the past-tense sentences create a feeling of time between us and the completed event in a way that the tables of data do not.

Missing Pieces

Despite their hundreds of pages, hours of testimony, and variety of topics, these evaluations necessarily leave some elements of the response out. Such absences often tell us as much as what is included. We have already seen above that the reports use few quantitative indicators, and that those that are referenced tend to be about the hazard itself (windspeed, magnitude) or about the mechanics of the response (number of pallets of water delivered) rather than about the impact of the response (how many people received that water over how many days). This aligns with the focus on responders, rather than beneficiaries; the interest is in what was done and how it was accomplished (or how it failed) rather than on what its impacts were.

Similarly, social science theory on disasters is absent even from those reports that provide an abundance of context about the hazard from a natural science perspective. Evaluations with

shake maps and detailed histories of the progression from tropical depression to hurricane do not consider social networks or elite panic. In the House report on Hurricane Katrina, the term "vulnerability" appears only in the context of the city of New Orleans' topographic vulnerability to flooding (51, 133) The evaluations ignore decades of existing disaster studies literature. "Vulnerable" is used six times for the city's geography (50, 51, 87, 89, 291, 311) and once as a descriptor for "population groups" (19). The latter is part of a section describing the congressional hearing focused on "African-American voices" that contains significant references to social science data, including a survey from the Natural Hazards Center at the University of Colorado-Boulder looking at the experience of evacuees (19). However, the section is largely focused on post-response political perceptions, also referencing a CNN-Gallup poll and quoting emails to show that "officials were almost immediately sensitive to public perceptions of race as a factor in the inadequate response" (19). In the Senate report as well, "vulnerable" and "vulnerability" are used primarily in reference to the city or the coast, and are connected to people and populations only in the most general way, primarily in relation to special needs shelters.

In some cases knowledge that was important to responders can be intentionally or unintentionally omitted during the preparation of the reports. During the interview the head of the disaster mitigation office of Iwate Prefecture noted that partway through the disaster they realized that it was important to have women conduct needs assessment interviews of women in the evacuation centers (since the women were sometimes reluctant to discuss, for example, the need for menstrual care products with men). I asked him if that observation was included in the evaluation; he wasn't sure. In fact, the report mentions gender only three times and the word "female" only once (in connection with having private spaces for changing clothes), and while it does note the importance of dividing needs along lines such as gender and age, it says nothing about the specific lesson learned of using same-sex interviewers for needs assessments. That knowledge, which was important and surprising enough for a high-level manager to mention unprompted during an interview, was lost from the formal evaluation.

Like all of the evaluations studied here except the Central Disaster Mitigation Committee's Midterm Report, the Iwate report does not include a separate section on gender; while the information could easily have been included in a different section, the inclusion of a

gender section would have made it more likely.[33] However, such a section is, for the moment at least, unimportant to the State – a State that is represented, in the form of the evaluation team, almost entirely by men – and therefore invisible to it. For them, gender is not a part of the categorization of knowledge about the disaster response, and even though the team had knowledge about how considering gender could make the response better, it did not find a place in the report.

The Disappearance of Emergence

Unsurprisingly, most of the reports have an uneasy relationship with improvisation and emergent organizations. The House of Representatives report offers perhaps the most obvious example. Titled "A Failure of Initiative," the authors claim to celebrate "Those who didn't flinch, who took matters into their own hands when bureaucratic inertia was causing death, injury, and suffering" (House, 2006: 1). But the House report also criticize those actors, like the U.S. Coast Guard, that took action without coordinating or following the (at that point essentially non-existent) chain of command (e.g. 4). They seem more comfortable with individual, non-governmental initiative, like the nursing home owner and pathologist they name in the Executive Summary, than with ad hoc organizational changes.

It is instructive to examine how the three US federal reports deal with one of the clearer examples of reorganization: the impromptu shift in logistics supply chains that allowed the state of Florida to send goods to Mississippi without going through the full request process. This shift was largely engineered by the FCO of Mississippi and the Florida Emergency Manager, who knew each other from the previous year's hurricane season.

The House report describes this in glowing terms, including the text of two messages from an email exchange between Mississippi FCO Carwile and Florida Emergency Managemetn Director Fugate (House, 2006: 138). The report frames this episode not as the restructuring of an entire supply chain and the short-circuiting of a highly formalized (and time-consuming) request process, but rather as "the switch to a push response" (138) that should have occurred within the

[33] While none of the evaluations studied here include a section on gender, it is not uncommon for the subject to receive attention in international disaster management. For example, the World Bank has produced Guidance Notes specifically on Gender Informed Monitoring and Evaluation in Disaster Risk Management (http://www.gfdrr.org/sites/gfdrr/files/Guidance_Note_3_Gender_Informed_Monitoring_and_Evaluation_in_Disaster_Risk_Management.pdf)

system: “Even though [Secretary of Homeland Security] Chertoff never invoked the catastrophic annex, federal officials in the field began, in an ad hoc fashion, to switch from a pull response to a push system because of the operational demands of the situation” (138). In this framing, the system would have worked had it been properly operated by the person in charge; the improvisation realigned reality with the system rather than rejecting the system.

The Senate report describes the incident both more briefly and with more substance, explaining that Stennis Space Center in Mississippi was used as a staging area and that “Florida’s contributions raised Mississippi to 40 to 50 percent of requested amounts” (Senate, 2006: 385) – a key recognition that even with this improvisation, the flow of goods remained in adequate. The Senate report quotes a MEMA official as saying that “The Florida teams ‘basically circumvented’ FEMA’s logistical system” (385) but without the context to clarify whether this was meant in a positive or negative way. The “Florida pipeline” is described among other supply chains, including the FEMA supplies and the National Guard; without the quote from the MEMA official, there would be nothing to indicate that it was unusual.

The White House report doesn’t mention the Florida assistance at all.

Meanwhile, the Louisiana After Action Report, by focusing entirely on recommendations without discussion of action during the response, erases any evidence of improvisation. The similarly table-formatted Ishinomaki evaluation describes actions, but without the context of the planning or descriptions of the scramble to decide what to do, it is hard to identify emerging organizations.

Out of the reports examined here, the MLIT manual-style is the most comfortable with emergence. Its unattributed epigraph exhorts future readers: “We must first be prepared, then transcend those preparations.” That sentiment continues through the body of the report, which states that “decisions [to implement appropriate measures] were founded on preparation, research, and studies performed in advance of the disaster. The adaptability of these individuals also played a crucial role” (MLIT, 2014: 9). The report then gives examples of such adaptability, or improvisation: the early launch of the helicopter as compared to the official response guidelines (which was also mentioned in the interview); the director of a local branch independently contacting “local construction and supply companies to procure sandbags, cold-mix asphalt and other materials” (MLIT, 2014: 10).

In the section on setting up an initial response framework the MLIT evaluation is even clearer: "It is important to remember that all disasters are different. The framework stipulated in the Disaster Prevention Operations Plan may not be appropriate for a given crisis. If it seems that staff and departments need to be reorganized to meet a crisis, it is crucial that the reorganization is carried out regardless of the stipulations of the aforementioned plan" (16). The plan also included an "Internal Support Group" whose role seemed to be to provide room for flexibility and improvisation: "On March 11, the Internal Support Group was given (and completed) the mission of securing food supplies. However, they could also have been ordered to assist the recording and documentation team, or to ascertain injuries or damage in the RB building" (17).

Despite its emphasis on individual decision-making the MLIT evaluation, like many of the Japanese reports, treats its subjects as largely anonymous. In the first section it states that "Many of the appropriate measures […] were made through the decisions of nameless officers at varying levels of command" (MLIT, 2014: 9). The officers were not, of course, nameless, and it seems unlikely that they were nameless even in the sense of being unidentifiable in hindsight. Indeed, in each of the examples given the decision-maker is precisely identified, but by position, rather than name.[34]

This de-personalization is evident in some of the content as well. The report notes that "An over-excited atmosphere started to emerge as the response operations progressed. Senior officials therefore allowed a short break so that staff could compose themselves and reapply their efforts to the tasks at hand" (19). The evaluation also recommends further standardizing some of the most personal parts of the process: "The DPO Plan should be revised to indicate when and in what circumstances there should be automatic checks on personnel and their relatives (for example, in an earthquake measuring level four or above on the JMA Seismic Intensity Scale)" (20).

The Miyagi Prefecture Report – covering the activities of an entity based in the same city, Sendai, as the MLIT Tohoku Bureau – is less explicit about improvisation, but it is clearly in evidence. Each section of the operational chapter of the report, corresponding to one of the groups involved in the disaster response headquarters, begins with the number of staff assigned

[34] The booklet includes a partial organigram of the Tohoku MLIT headquarters with names attached to eighteen of the positions, but not the ones cited in the examples, who were often from smaller regional or branch offices.

to that group and how that number changed over the duration of the response. The countermeasures (対策) group, for example, had seven changes in staffing numbers between the disaster on 11 March and the beginning of July; even though most of these changes were in increments of one or two people (from four people to three, then to five, then back to three, and so on) the evaluators found the question of human resource allocation important enough to note each one. The relief goods (物資) group changed eight times with a maximum of 26 people and a final minimum of two. The evaluation makes clear through multiple, evolving organigrams as well as description that these shifts were not always simple additions or subtractions of staff to existing teams; they often involved significant structural changes as new organizational forms emerged in an attempt to manage the demands of the response.

Nonetheless, the narrative is anonymous and (as is common in Japanese formal writing) passive voice. The discourse relating to the changes in number and in structure is largely focused on the size of the disaster, the scope of the work: "With the large number of requests for human and material aid from heavily damaged municipality disaster response headquarters, as well as the offers of goods from companies and individuals, it was difficult to manage with the prescribed staff" (Miyagi Prefecture, 2012: 114). In the section about the relief goods group splitting off from the countermeasures group, the report goes so far as to state that the staff "were being killed by busyness" (忙殺された), an idiom that gives a sense for the exhaustion of the time (137). The "workflow" and its difficulties are described in detail, but the changing of the structure is described with a simple passive verb: "was organized" (編成され) (139). The process of reorganizing, the decision to do so, questions of approval or disagreement are not discussed.

Conclusion

Many of the report writers were earnestly trying to provide lessons for future disaster responders, only to fail to do so in many of the same ways, and for many of the same reasons, that they failed at parts of the response: lack of training; lack of tools; lack of guidance leading to miscoordination; unclear priorities; and inefficiencies.

Without standards or instruction, the jurisdictions studied here improvised their ways into methodologies and formats in an effort to move past the cosmology episodes and dislocation of

the catastrophe and reestablish the normal and safe-seeming structures of the pre-disaster times. Each found different ways of balancing the impulse to memorialize the scale of the disaster with the desire to minimize the gap in their accustomed reality. They targeted their reports to different implied audiences, identified different sectors as important, and structured them in different ways for different potential use-cases. To different degrees, they documented, rejected, or obscured the emergence of unplanned structures during the upheaval that rendered the planned temporary organizations useless or ineffective.

These evaluations are useful artifacts both individually and collectively, both in their processes and in their results. Individually, they tell us about what their writers believe is important in disaster response and how they hope government will be perceived. While the idea of evaluations as framing devices is not new, the insight gained from looking at the variations in reports of the same disaster from different jurisdictions has not been broadly explored. The absence of standardized processes or formats demonstrates an unexpected unwillingness to prepare and a lack of alignment across governments within a single country. Practically, this makes comparisons of responses, across jurisdictions or over time, all but impossible, undermining supposed purpose of these reports as learning documents. It also speaks to the larger argument of this dissertation: that modern States have not defined exactly what they want their role to be in disaster response, and this negatively impacts their effectiveness.

Even for those reports that manage some insight, there is a sense that they are in a losing battle in terms of transmitting it in any kind of permanent or even long-term fashion. The link to a Hurricane Katrina memorial project by Saint Tammany's Parish, touted in the New Orleans Times-Picayune in 2010 (Harvey), now leads only to a 404 error[35]. Even for those reports with more public interest and longer online caches, it is hard to believe that in the long run they will be any more effective than the ancient carved stones along Japan's coast, warning villagers not to build below a certain height above sea level. Improvised methodology results in idiosyncratic reports that seem unlikely to accomplish their primary aim: bearing witness to what occurred.

[35] http://www.stpgov.org/katrina/index.php

Conclusion

Introduction

This dissertation asks *how organizations re-emerge within government after an organizational collapse.* To answer that question we have traced the processes undertaken by government officials in local, state or prefectural, and national governments as they attempted to re-establish their organizations after Hurricane Katrina and the Great East Japan Earthquake Disaster. This gives us a different perspective on organizational improvisation than the more numerous studies of organizations that emerge spontaneously and independently, without prior allegiance or affiliation. The government actors in these cases hold legitimacy, authority, and the (sometimes dubious) advantage of believing without a doubt that the disaster is their responsibility to fix. At the same time, the collapse of communications, plans, and procedures signaled failures on the part of the larger organization that granted them that legitimacy and authority. The majority of the actors we followed in this dissertation, therefore, were in the awkward position of figuring out how to do something new without entirely repudiating the old.

Because of that very difficulty, we are able to ask a further question: *how do governments see their responsibilities with regard to disasters?* It is a question that pries at underlying assumptions, which are easier to see in moments of confusion and disorientation. They are also easier to see with multiple examples to compare. What seems unremarkable with a single point of reference can be revealed as inexplicable when there are more cases to observe.

Decentralization and Re-emergence

I started this research with the idea of comparing disaster response in two wealthy, democratic, technologically advanced countries. I expected the difference in government structures to be the main driver of differences in both the temporary and emergent organizations. The US is federal, with strong state and (particularly in Louisiana) local sovereignty, while Japan is relatively centralized. I wanted to look at the ways relative decentralization impacted local governments' responses to disaster.

I was surprised to find that the differences between the two countries in both disaster response policy (the plans) and disaster response implementation (the practice) were far fewer

than I expected. Both countries give local governments primacy during disaster responses. Both supply additional funding through the national government. Both, as it turns out, used many of the same processes (e.g., coordination meetings) for working their way through disaster response, and they shared many of the same organizational difficulties (for example, managing supply chains that crossed jurisdictional boundaries from national, to meso-, to local governments).

If anything, the countries behaved in the opposite way from what I expected. Japan, with its traditions of centralization and standardization, had no standards for disaster response. The central government mandated only the most general of emergency structures, which could then be filled in as desired by localities. Formal patterns of communication from level to level of government were broken in unprecedented ways during the crisis. Meanwhile, the US that had developed a standardized structure for disaster response operations, the incident command structure (ICS). The US also had an active national emergency management agency in FEMA, something Japan lacked. While some localities rebelled against federal control in a very local-sovereignty way during the disaster, there were other cases that showed an intense effort by all levels to integrate their efforts.

For both countries, therefore, both the formal systems and the unwritten cultures of working during the disaster were exceptional with relation to their normal *modus operandi*. The necessity of doing things differently was consistent, even when the backdrop of normalcy was completely different between the two cases.

While the framework of the dissertation shifted from decentralization by levels of government to a more temporal-functional framework looking at permanent, temporary, and emergent organizations, the dynamic is not dissimilar. The permanent government plans and empowers its temporary spin-offs, but is reluctant to completely cede control. The re-emergent organizations need the expertise and resources from the permanent, but receiving them will compromises their autonomy. Much as the local level of government is given nominal authority to lead in disaster response, but has difficulty doing so without extensive support from the national level, the re-emergent organizations bear the brunt of ensuring government continuity but remains essentially dependent on the permanent organization for the organizational frameworks that it mimics, as well as for its legitimacy.

Results

What we have found in this dissertation lends itself to three main groupings of conclusions, each of which offers potential for further research as well as results drawn from the evidence here. Firstly, and most directly with regards to the research question, we can consider what we've learned about re-emergent organizations: how they improvise themselves into existence; what conditions support or hamper their re-emergence; and how they relate to our understanding of disaster response.

Secondly, building off of the answers to the previous set of questions, we can use these artifacts of government-run crisis management to examine how modern States conceptualize disasters; or perhaps more aptly, how modern States use disasters to conceptualize themselves. In particular, we look at the tension in the potential for failure and destabilization against the backdrop of expanding control and responsibility.

Finally we explore how that tension is reflected in the State's approach to disaster response as a policy area.

Re-emergent Organizations

To understand re-emergence, we looked first at the phenomenon of the temporary organization that the government plans to employ in emergencies. These temporary organizations – the new sets of hierarchies, procedures, and titles put in place to manage emergencies – show us how government actors attempted to address the challenges of the disaster. They also tell us about the types of organizations that existed as examples for our actors. The priorities and approaches of the temporary organizations give us a sense for how the government wanted its disaster response to go.

The temporary organizations typically collapsed during what we can call, following Weick, a cosmology episode: a shift in circumstances so dire and unexpected that it undermined the worldview of those affected. This is most obvious in local governments badly affected by the disaster, where the entire physical landscape changed beyond expectations, leaving government officials struggling to make sense of their world even as they felt obligated to provide leadership and assistance. However we can also see an echo of these episodes in the reactions of officials less directly affected, when the communication and hierarchical systems they believed in dissolved.

The breakdown that occasioned the cosmology episodes opened a space for new organizations to emerge. In two countries, across localities with varying degrees of damage, and at all levels of government, individuals re-knit themselves into one-off collaborations and then elaborate new organizations reflecting the new reality they found in front of them. In the previous three chapters, we've seen the experience of managing disaster response after a catastrophic breakdown from different perspectives.

Following the CMCs, a relatively new development in emergency management, we saw the way elites rebuilt the forms of governance in order to find their ways back to their functions. The actors responded to the lack of communications and assistance by going out to begin implementation themselves, and then slowly set up systems for supervision, creating order out of their organizational chaos to begin imposing order on their conception of the outside world.

With the operational teams, responders dealt in a hands-on way with the needs of recipients, making decisions about who would get aid and how. Often with no experience in the technical area they were tasked with, the teams developed systems that grew more and more elaborate as mid-level actors made critical decisions with little guidance.

Finally, with some distance from the disaster, the responses were written into the history of the State by improvised groups that composed ad hoc evaluations of the responses. Examining the processes and contents of evaluation reports demonstrated how the State refashioned the narrative to elide the break in control as well as the improvisation that emerged in response to it.

What we saw at all of these levels was a struggle to rebuild a normalcy that depends on a functioning bureaucracy and an ideal of stable, capable, maybe even unassailable government. While there is considerable literature on how government actors attempt to navigate crisis without catastrophic organizational collapse, and on how new organizations emerge independently from disasters, this data set offers us a view of the less studied phenomenon of emergence within government. There were striking similarities across levels, jurisdictions, cases and countries in the ways that these actors improvised organizations, sometimes quite successfully and in other cases with more difficulty or only with outside help.

These actors, often still reeling from the shock and disruption themselves, were generally driven to their initial actions by the needs and capacities immediately visible to them. They transport people, cook food, search through neighborhoods, sometimes alone and sometimes in small, often ad hoc groups.

While some of these are isolated actions, some become repetitive. As these actors continue to elaborate on their new organizational forms, they do so in ways that mimic the bureaucracies they are familiar with. The organizations re-emerge both by seeking to address needs through action, and through the urge to make sense of the disaster and reclaim normalcy through familiarity.

The many similarities also serve to highlight the areas that were different, both at the country level and at the local jurisdiction level. We see significant variation in the areas that were left undefined by the permanent organization. At the country level, this meant sectors that were considered less important or marginal to the government's role, as shelter seems to have been in the United States. At the local level, it meant questions that hinged on values, such the idea of fairness: who was served first when there wasn't enough for everyone? Should people who didn't belong be turned away even when there was enough for everyone?

It is important to note here that none of this was easy. The actors that I interviewed recalled the post-disaster period as a time of grief, pressure, and the desire for more guidance. Some of them also remembered camaraderie and growing confidence, but the re-emergent organizations I've described were largely products of anguish.

Future studies may choose to look more broadly at some of the mechanisms I've described here, to determine just how "universal" they may be; or more deeply, to trace in more detail the processes of re-animating a single organizational unit during a catastrophe. There is also much space for further research on the relationship between the re-emergent, usually local organizations and the larger permanent one: when and why does it become contentious? Are there circumstances in which government actors no longer wish to claim themselves as agents of the State, or vice versa? We have seen that some innovations from the re-emergent organizations translate into planning for future disasters, but how much of that is likely and what determines whether it happens?

The Paradox of Disasters for the Modern State

The efforts for normalcy that we see in the re-emergent organizations studied here suggest a powerful impulse towards government, towards stability and familiarity, that thrives even in situations that are essentially ungovernable. At the same time, this data also shows that governments have an equally powerful resistance to imagining that anything could be ungovernable. Disasters therefore both reaffirm government – by demonstrating why stability is

to be prized – and threaten it on an existential level. That tension drives many of the paradoxes and seemingly irrational choices in the cases studied here.

The actors struggled to assimilate the contradiction of improvising within the aegis of a powerful, insistently permanent organization. For some this meant differentiating between their own local government and the larger national body, even to the point of conflict. For others it was expressed in continued frustration over the lack of assistance: they shouldn't have to improvise, because someone within the government should know how to do this properly. Some were able to obscure it in their own memories and reports.

From our perspective it becomes clear that this contradiction reflects the larger paradox facing the State with disasters: it can neither accept them nor ignore them. Accepting that disasters happen means admitting the fallibility of the State. Either it is impossible for a government to protect its citizens from every eventuality – a conclusion that should be self-evident, but which is undermined by the discourse of modern States – or, if it is possible, then the government that allows a disaster has failed to do so. Ignoring disasters risks greater failure, and removes the rich expansion of control that disasters offer governments, whether they involve the declaration of a state of emergency; the proactive funding of an entire agency; or decisions about reconstruction.

This creates a fundamental contradiction for modern States. On the one hand they must succeed, or at least be perceived not to fail, in protecting their citizens from disasters. Indeed, they want to keep disasters firmly under their purview, as such events offer extensive rationales for control. On the other hand, however, disaster response invites failure: the disaster itself is a failure. Anderson (2017) writes that "Emergency is an occasion, perhaps, when government is brought into contact with that which is outside it and that which threatens to exceed its capacities" (468); for the State, merely the admission that something exists outside of it is already a threat. Worse still, a disaster is a failure that hints at long-term failures in the quotidian running of the government. The only way to completely succeed is to avoid disasters altogether. Admitting the possibility of disasters opens the prospect that the State is not permanent, stable, and protective. Throughout this dissertation, we see the State – both in its formal, monolithic, planned aspect, and in the form of individual government actors – struggling with this contradiction and finding ways to work around it.

Thus, in the chapter on evaluations, we see that these States are reluctant to prepare for or standardize the process of evaluating their responses, inevitable though that process seems to be for them. While some of this reluctance may have to do with the fear of failure, a more standardized process would also highlight the expectation that disasters will happen again. Standardized indicators, as those used by the international community, would clarify errors and incompetence. They would also, perhaps more importantly, reveal the possibility not to say the expectation that people in these "developed" countries might end up subsisting in ways associated with poorer places: with ration cards; crowded into shelters; dealing with problems of hygiene. Worse, once standards say that people should not have to live in these conditions even after a disaster, or that living in such conditions in itself signifies a disaster, the State might have to recognize that there are people in "developed" countries who live like that already, and then it would be a very short step to taking some responsibility for it. Admitting to standards might mean admitting that the State cannot, after all, protect all its people from every hazard, no matter how much money or technology it throws at the problem.

Similarly, in the chapter on operations we see that critical decision-making often occurred at the locality or even individual level, and varied from place to place based on the particular value set of the person in charge. These were not simply technical decisions, but questions about what the government was willing to do in the response, and for whom. To admit that disaster response requires value judgments is to admit that it won't be complete, that there will be scarcity. It also suggests that those same value judgments from the government may continue in non-emergency times; if every citizen is not equal during a disaster, why would they be in normalcy?

The chapter on crisis management centers shows the least direct interaction with these contradictions, because the elite actors in those centers are attempting to recreate the stable bureaucracy that obscures them. In the context of the CMCs, access to the contradictions is through the break in control and competence. That break is covered with a focus on individual failures or individual heroics and with discourse about the lack of situational awareness or descriptions of extreme, sleepless efforts. Ultimately, it is obscured by a focus on the unprecedented or unimaginable (想定外) scale of the disaster.

The story in this dissertation is largely about how the State avoids navigating the disaster paradox. Not surprisingly, the burden of that avoidance lands primarily (though not exclusively)

on the people at the local level, usually considered the lowest and least important. Local actors are pushed into sudden, supposed dominance based on the convention, common across the two countries studied here, that disasters should be locally led. These officials then find themselves faced with an expectation of responsibility that is both unreasonable and poorly defined. Unable to deal with it in any systematic way, they then become examples in the service of claims that the problem is not the system, but human error due to being insufficiently trained in the system; or that the disaster was exceptional and unprecedented and nobody could be expected to respond to it. These framings allow the less visible aspects of the system – assumptions about what is possible and what is not; disconnecting disaster impacts with long-term governance; the lack of consensus on what the government's role should be – to remain unexamined.

In the introduction, I suggested that the temporary organizations offer the State a way to manage disaster response while maintaining some distance from its potential pitfalls. Temporary organizations signal exceptionalism, urgency, and action while also offering a ready scapegoat to blame if the response is perceived to go badly. Re-emergent organizations may not be planned or desired, but they can serve much the same function for the State. They act as the State, allowing it to claim credit for what is done well, but they are easily blamed as separate and unsupervised, unauthorized and faulty, when things go wrong.

We have seen that some aspects of re-emergent organizations can migrate into planned temporary organizations – indeed, the entire idea of a crisis management center, or at least of a coordinating body, seems to have come from its repeated emergence. But the data also shows a reluctance to recognize the existence of emergence or improvisation, even, sometimes, among the actors who accomplished it. Certainly, the break that makes emergence necessary demonstrates a failure in government stability, but the ability to improvise within and immediately after that break is the success that maintains government continuity. Re-emergence enables governments to continue treating disasters as exceptions rather than inevitabilities tied to long-term policy decisions, and for that same reason must remain hidden.

The paradoxical relationship between the State and disasters has many facets that could benefit from further research. For example, there are nuances across the typology of disasters, whether industrial, terrorism-related, rapid-onset, or slow-onset. I am particularly interested, as should be clear from the above, in the positioning of local government in the efforts to resolve the contradictions between promised stability and real-world chaos. There are also questions

about how this dynamic will evolve: will governments continue to promise a safety that they can't deliver, and pretend that any failure in that regard is inexplicable and unlikely to be repeated?

Disaster Response as Public Policy

This insistence on the exceptionalism of disaster and the refusal to admit to its inevitability or connect it to longer term, day-to-day problems, mean that disaster response is not being treated as a public policy area. That is to say, despite the agencies and departments, the planning and funding, all of which indicate that disaster preparedness at least is something government does, the disaster itself is treated as exogenous and unexpected while the response is unmeasurable and unique. This unwillingness to recognize disaster response as subject to the same levels of accountability, strategy, and definition as other public policy areas is reflected in the lack of intentionality, decision, and transparency in the State's relationship with disaster response.

Much has been written on the social construction of disaster, but the social and particularly the political construction of disaster *response* is far less studied. The States included here present disaster response as something inherent to their mandate, but fail to define where that mandate begins and ends, a question that is particularly complex since the limits, such as they are understood, are evolving rapidly.

Public expectation, escalating efforts by representatives to fund their districts' disasters, and government expansions have contributed to a centuries-long mission creep from ad hoc individual reimbursement to (somewhat) systematic implementation of response activities at scale. As we saw in the introductory chapter, the national government, in particular, has moved from having almost nothing to do with disaster response into a critical funding and support role that many people – including some of those most directly involved – believe is actually a response implementation role. Unlike NGOs, sovereign nations do not need to define their disaster response approach or justify their involvement, at least as long as their constituents believe it is part of what government does. This allows for a vagueness around disaster policy that, as we have seen, has significant impacts for the implementers of that policy as well as for those on the receiving end.

In general, legal formalization has traced the informal expansion of government responsibility in disasters, if lagging behind it. There is some pushback; in Japan, for example,

the Kobe earthquake generated an unprecedented number of volunteers, inspiring the popular epithet "Year One of the Volunteer Era" (see e.g. Avenell, 2013) while the Great East Japan Earthquake and Disaster led to a greater awareness of the existence of non-profit organizations involved in disaster response overseas and at home. Such recognition could in theory reduce government predominance in disaster response, but as we have seen in the examples here the division of labor between volunteers or non-profits and the State continued to be ad hoc by jurisdiction. The government controls all aspects of the response, and decides at its discretion who else can be let in to do what. Moreover, there is still no common consensus on what is fundamentally a government job and what can or should be done by other actors.

Figuring out how to delimit a policy area is challenging. In the data studied here the differences, and sometimes the similarities, across jurisdictions point to gaps in the political constructions of disaster response. Each government – local, state or prefectural, and national – delineates a different shape to their responsibility, accepting some sectors and ignoring others. Individual actors had to make value judgment in their implementation of the response because the State had not left them with any informal sense of or formal guidance on what official values should be.

If the contrasts between two governments – whether local or national – show us where disaster response is underdetermined, adding international humanitarian responses to the comparison enables us to see even more potential sectors, approaches, and metrics. Concepts such as standardized impact indicators and the use of ration cards remain unconsidered in these two countries, excluded from the mandate of State disaster response as though they were impossibilities, even though they are standard practices internationally.

My understanding of the socio-political construction of disaster response is largely limited to these two countries, although cursory research and work experience suggests that there are similar issues in at least a few other wealthy and middle-income countries. Generalizing, or finding exceptions, to this approach is one area for future research. Given the relatively rapid fluidity that we see in the history of this area, another question is whether the disconnect will continue, widen, or shrink in the future. As risk management takes on a larger and larger role in governance, will disaster response become more recognized and standardized as a policy area?

The findings in this dissertation show that in both countries the government's conception of disaster response as a public policy continues to be incomplete and contested. The lack of

consensus on the role of the State left individual localities – often individual actors – to develop their own philosophies of disaster response, while planning for future disasters suggests that both countries are reluctant to recognize disaster response – or emergency management – as a public policy area. They instead continue to isolate it as an exception to the normal business of the State, in spite of shifts over the last half-century that locate more and more of government legitimacy in the protection of its citizens from unexpected harms. The involvement of the State has progressed more rapidly *de facto* than it has *de jure*, leaving a gap between what is expected and what is defined.

Faced with this, when we ask how the State sees its role in disaster response, we know the answer must be a contradictory one. While the efforts of isolated actors to reconstruct the organizations that make them feel safe allow that inconsistency to continue, this research suggests that governments would do well, both for their constituents and also, perhaps especially, for their own staff, to consider and explain exactly what they propose as disaster response policy.

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Annex 1: Interview List

United States Interviews

Senior Professor, Tulane School of Architecture	New Orleans	22 May 2013
Volunteer, City Planning, Construction	New Orleans	23 May 2013
Common Ground - independent volunteer	New Orleans	23 May 2013
Former School Board President	New Orleans	24 May 2013
Greater New Orleans Community Data Center	phone	28 May 2013
Former New Orleans Police Department Captain	New Orleans	28 May 2013
Jesuit Social Justice/Loyola University	New Orleans	29 May 2013
Professor of Sociology, Tulane University	New Orleans	29 May 2013
Backyard Garden Network (community organizer)	phone	29 May 2013
New Orleans Homeland Security Emergency Preparedness	New Orleans	30 May 2013
New Orleans Homeland Security Emergency Preparedness	New Orleans	30 May 2013
Former City Council President	New Orleans	30 May 2013
Comvest, former Governor's Commission member	Biloxi	31 May 2013
Mississippi Center for Justice	Biloxi	31 May 2013
FEMA (retired)	phone	24 Jan 2014
Bay St Louis Director Public Works	Bay St. Louis	13 Mar 2014
Mayor of Waveland (Former Fire Chief)	Waveland	13 Mar 2014
Hancock County Child Care	Bay St. Louis	14 Mar 2014
Executive Director, MEMA	Jackson	17 Mar 2014
Harrison County administrator and Supervisor	Gulfport	18 May 2014
Operations Harrison EMA	Gulfport	18 May 2014
Hancock County Clerk	Bay St. Louis	19 May 2014
MEMA Area Coordinator	Poplarville	19 May 2014
Hancock County EMA	Hancock Cty EMA	20 May 2014
Pearl River County volunteer and donations coordinator	Poplarville	20 May 2014
Governor's Office of Homeland Security	Baton Rouge	24 May 2014
Governor's Office of Homeland Security	Baton Rouge	24 May 2014
Former SCO Louisiana	Baton Rouge	25 May 2014
Mayor of Biloxi	Biloxi	26 May 2014
Former City Council President	New Orleans	27 May 2014
FEMA operations	DC	2 Apr 2014
City Councilwoman, New Orleans (since April 2005)	phone	2 Apr 2014
Manatee County Emergency Manager	phone	3 Apr 2014
FEMA operations	phone	3 Jun 2014
FEMA	phone	23 Jul 2014

Japan Interviews

Sophia University	Tokyo	4 Mar 2013
Tokyo University	Tokyo	4 Mar, 2013
Central Government (Somusho)	Tokyo	5 Mar, 2013
Miyagi Prefecture Emergency Management	Sendai	7 Mar, 2013
Iwate Prefecture Safety	Morioka	8 Mar, 2013
Iwate Prefecture Emergency	Morioka	8 Mar, 2013
Japan Platform	Sendai	9 Mar, 2013
Former School Principal, Kesennuma (Evacuation Center leader)	Kesennuma	10 Mar, 2013
Chamber of Commerce (Evacuation Center leader)	Rikuzentakata	12 Mar, 2013
Consultant working for Central Govt in Rikuzentakata	Rikuzentakata	12 Mar, 2013
Sendai City DRR	Sendai	13 Mar, 2013
Japan Self-Defense Forces	Sendai	13 Mar, 2013
Tohoku University/ArchiAid	Sendai	14 Mar, 2013
Reconstruction Ministry, field-based	Sendai	14 Mar, 2013
Reconstruction Ministry, Sendai-based	Sendai	14 Mar, 2013
International Reconstruction Platform	Kobe	15 Mar, 2013
Disaster Reduction and Human Renovation Institute	Kobe	16 Mar, 2013
ICAS Temple University	Tokyo	18 Mar, 2013
Reconstruction Ministry, Tokyo	Tokyo	18 Mar, 2013
Reconstruction Ministry, Tokyo	Tokyo	19 Mar, 2013
Tokyo University	Tokyo	19 Mar, 2013
Tokyo University	Tokyo	19 Mar, 2013
GRIPS; National Land Agency after Kobe	Tokyo	21 Mar, 2013
Tomodachi Initiative (US Embassy)	Tokyo	28 Mar, 2013
National Land and Transport Ministry	Tokyo	29 Mar, 2013
Rikuzentakata City DRR dept	Rikuzentakata	4 Apr, 2013
Kesennuma 14th Study Meeting on Seawall	Kesennuma	6 Apr, 2013
Former Kesennuma DRR Head	Kesennuma	8 Apr, 2013
Kesennuma Emergency Management	Kesennuma,	10 Apr, 2013
Kesennuma Emergency Management	Kesennuma	11 Apr, 2013
Reconstruction Ministry, field-based	Minamisanriku	14 Apr, 2013
Rikuzentakata City DRR dept	Rikuzentakata	15 Apr, 2013
Shanty	Kesennuma	15 Apr, 2013
Mayor, Head of DRR, HigashiMatsuShima City	Higashimatsushima	17 Apr, 2013
Touhoku University	Sendai	17 Apr, 2013
Yamato Logistics	Tokyo	18 Apr, 2013
GRIPS; National Land Agency after Kobe	Tokyo	18 Apr, 2013
Ichinoseki City Government	Ichinoseki	9 Jun, 2015
Former Kesennuma DRR Head	Kesennuma	13 Jun 2015
Miyagi Prefecture	Sendai	14 Jun 2015
Ishinomaki Disaster Mitigation	Ishinomaki	15 Jun 2015
MLIT Sendai Office	Sendai	15 Jun 2015

Fukushima Prefecture Police Department	Tokyo	16 Jun, 2015
National Disaster Management Agency	Tokyo	16 Jun, 2015