

ASSESSING DISASTER MANAGEMENT EFFECTS ON RECOVERY OUTCOMES IN RURAL POST-
DISASTER JAPAN

By

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ABSTRACT

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As a country frequented by natural disasters, Japan has robust disaster management systems that can be employed quickly to mitigate human, environmental, and economic harm and losses. However, these systems tend to be most effective when handling small-scale localized disasters. In the face of the 2011 Great East Japan Earthquake which decimated the northeastern communities of the Tohoku region, Japan's disaster management system collapsed, unable to handle such large scale and widespread damage. In the ten years since the disaster many rural communities have contended with a variety of social and economic problems, often left unremedied despite on-going government intervention. In this context, this dissertation will explore the complex problems in Minamisanriku, Miyagi—a rural coastal community decimated by the 2011 Great East Japan Earthquake. By engaging and collaborating with organizations in this community, I assess the connections between disaster management and post-disaster recovery outcomes through various applications of social capital and power. I first investigate how historical legacies of national government policies influenced recovery outcomes in the Tohoku region and how have these processes influenced economic restructuring and social development in Minamisanriku during reconstruction. Next, I consider how governance structures within Miyagi prefecture influenced the social and economic development of Minamisanriku during reconstruction. Lastly, I look to how disaster management affects the ability of residents to handle locally-identified and in turn, how residents utilize their social capital to driver social and economic recovery. I assess several key ideas on the connections between forms and theories of social capital and how they affect long-term disaster recovery outcomes through the disaster management process. The dissertation is situated to improve our understanding of how social capital affects rural communities' ability to respond to these troubles and to craft context specific solutions to them. It also offers a variety of policy recommendations about how to improve community-centered recovery within disaster management frameworks.

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For my mother, Pamela Ward, and in memory of my father,
Donald Brown (1933-2022), for being supportive always.

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1. INTRODUCTION

INTRODUCTION

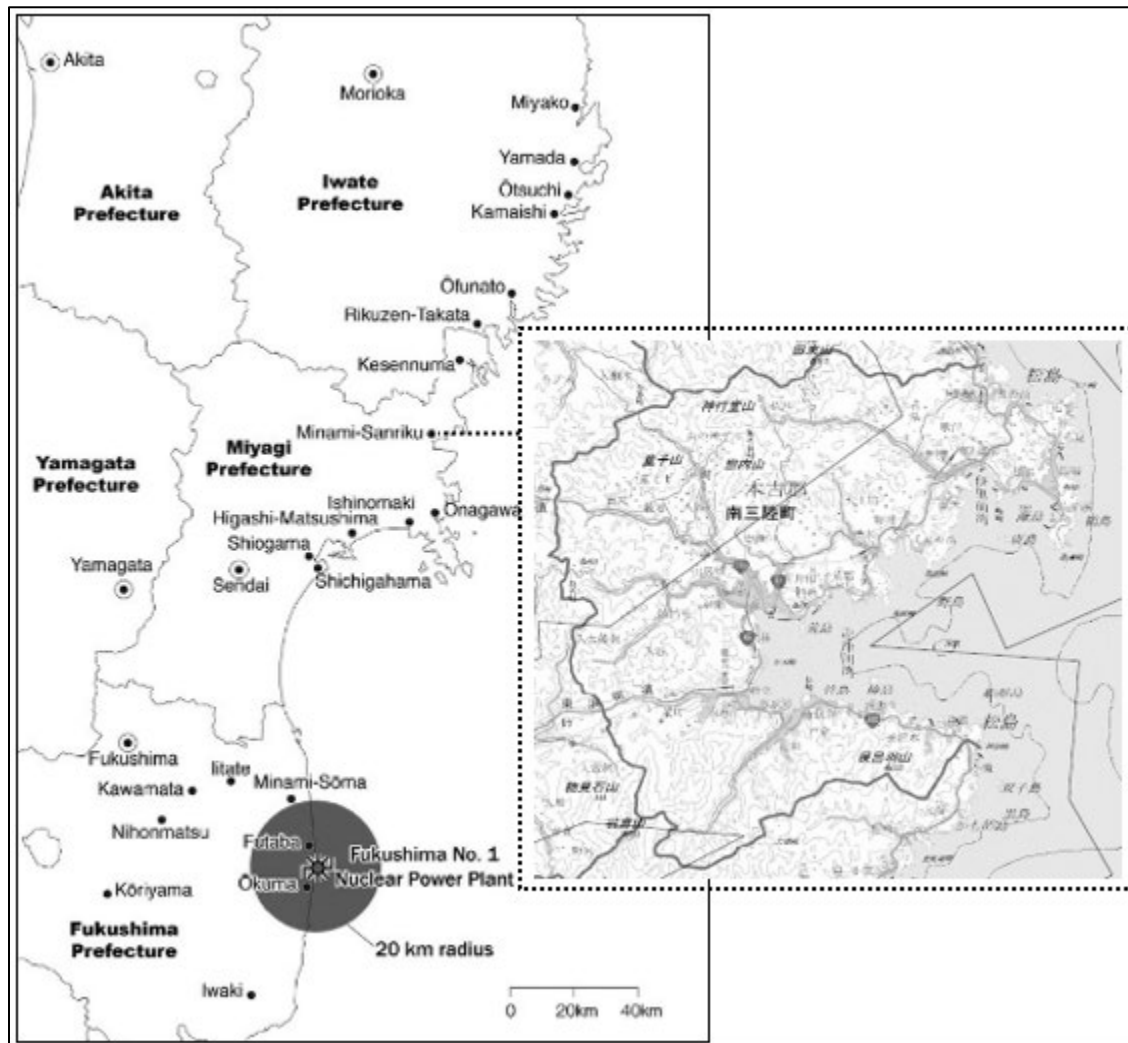


Figure 1.1. Regional map of Tohoku prefectures affected by the Great East Japan Earthquake. (Note: the town of Minamisanriku is pictured right. Adapted from Gill et al., 2015; p. xx).

In the past ten years, calls have continually expressed the need for community-based disaster management and development to support the reconstruction of communities affected by natural disasters (Aldrich, 2012a). This includes communities devastated by the 2011 Great East Japan Earthquake (GEJE) (Hokugo & Kaneko, 2018) (see Figure 1.1). These calls have originated from a lack of social recovery and support amongst pushes for hard infrastructure and urban development projects. Throughout the reconstruction of the Tohoku region participatory approaches have been underutilized and most decisions have over-relied on the guiding hand of technocrats and other specialized experts

(Fraser et al., 2021; Elliot, 2013). As a result, while the physical infrastructure of communities is slowly recovering, less progress has been made with social recovery despite on-going government intervention (Samuels, 2013; Aldrich, 2016; Gill, 2015; Santiago-Fandino et al., 2017). For the purpose of creating healthy and sustainable communities, especially in rural Tohoku, it is critical that the lived experiences, needs, and concerns of residents are incorporated into future disaster planning.

This dissertation was conceived as a direct result of working alongside, participating with, and witnessing the reconstruction efforts of the people of Minamisanriku in Miyagi prefecture over the past eight years (2014-2022). Over these eight years, I noticed that recovery has been uneven in the community, and at times has reinforced inequalities. Moreover, the story of Minamisanriku, and its residents is representative of larger problems facing rural communities across the world. As such, my continued work in the community came from both personal investment in supporting the lives of residents and wanting to contribute a better understanding of disaster management and recovery processes.

This dissertation presents the results of my investigations into reconstruction in Minamisanriku through a collection of chapters that highlight the effects of reconstruction on residents, and how disaster management has contributed to a variety of locally-identified social and economic ills in the community. I embed the lived experiences of residents into a larger discussion and historical legacy of how social recovery measures are currently under-developed in Japanese disaster management. As a result, this long-term study of Minamisanriku provides a window into the strengths and weaknesses of reconstruction and how other rural post-disaster communities might adapt these lessons to mitigate future threats.

During the past eight years I have worked with non-government organizations, non-profit organizations, government agencies, community organizations, businesses, cooperatives, individuals (i.e. mothers, elders, farmers, fishers, etc.), young leaders, volunteers, and more to investigate the impacts of the disaster in Minamisanriku. This work was developed in partnership with Place to Grow and Green Farmers Miyagi Ltd., and includes more than 200 interviews with residents, a collection of surveys, and the implementation of several community programs and workshops. This project also included the review

of local and government documents, meeting minutes, surveys, secondary interviews, print materials, and a variety of other reconstruction planning documents.

I became involved in Miyagi because of my volunteer work there beginning in 2014, where I noticed recovery remained noticeably slow in comparison to other regions. Miyagi accounted for nearly 327 km² of the 561km² of flooded land, or 60 percent of all damage reported among six prefectures and sixty-two municipalities. Thus, the communities in Miyagi were the most critically affected by the 2011 GEJE (Miyagi Prefecture's Restoration and Reconstruction Efforts, 2018). Nearly 30 percent of all the structures inundated during the disaster were in Miyagi, with most of the northern areas especially decimated due to the location of bays which amplified and funneled the tsunami inland (Koshimura et al., 2014). Similarly, the disaster presented unique problems to the region, especially as Tohoku has a long history of depopulation as well as exploitation and deprivation by the national government. As a result, the consequences of the tsunami changed the social and economic landscape of many coastal communities.

Of the areas I visited in 2014, coastal communities in Miyagi suffered extensively due to economic ills from the loss of farmland, viable fishing, processing facilities, loss of labor, and other built infrastructure. During my subsequent visits and work with non-profits and local organizations, the coupling of social problems like depopulation and aging with these economic issues continually appeared as residents and municipalities executed plans to simultaneously rebuild and cope with an already existing population crisis that is deepening throughout much of rural Japan (Littlejohn, 2017; Kaneko, 2012; Shaw, 2015).

Ten years later, these rural areas still contend with how the disaster exacerbates social and economic decline. Current rural concerns center around co-evolving issues with aging populations, flagging birth rates, and economic restructuring. Municipalities and the towns and villages that comprise them, now inch closer to disappearing in the next few decades. Of the areas damaged by the disaster, many continue to inch closer to the margins, including Minamisanriku, creating issues for resource access, and problems for the local government in trying to employ both revitalization and disaster measures concurrently.

In this context, I use the experiences of Minamisanriku residents to showcase the complex, intertwined post-disaster rural problems of the Tohoku region and perhaps of other communities around the world that suffer from disasters. Just like other coastal towns, Minamisanriku is at a crossroads between economic reconstruction and social decline. I assess the complex social problems connected to disaster management and recovery through the application of theories of social capital. Through a participatory based methodological approach, I investigate how disaster management affects and affected the ability of residents to handle local problems through four different studies from 2016 to 2020. Simultaneously I assess several key ideas on the connections between forms of and different manifestations of social capital and how they affect long-term disaster recovery outcomes through the reconstruction process. This includes investigating if and to what extent social capital acts as an asset to address rural problems.

SITE CONTEXT

Minamisanriku is a rural coastal community located in the northern part of Miyagi prefecture. The town is in some ways the stereotypical and picturesque ideal of Japan's green countryside. The town is nestled around Shizugawa bay and encompassed by the Kitakami mountains creating an expansive watershed which provides fertile land for agriculture and forestry, and a nutrient rich bay for advanced aquaculture. Resulting from a merger in 2005, the town is comprised of Shizugawa and Utatsu, previously two separate towns, and Iriya and Togura, previously two separate villages (see Figure 1.2). The names are still used to designate the main districts of Minamisanriku and will be utilized to describe those places throughout this dissertation.

On March 11th, 2011 Minamisanriku faced a tsunami that peaked at 60 feet, killing 620 residents, with an additional 211 still missing, out of a total population at that time of 17,666. The three coastal districts (the districts other than Iriya) were completely devastated with most homes and businesses lost. Across Minamisanriku, approximately 63 percent of all households were destroyed in the tsunami (3,321). Of homes that survived the tsunami, a majority were damaged by the earthquake that immediately preceded the tsunami. The day after the disaster 9,753 people were immediately homeless. Families were placed into 58 shelters and temporary housing complexes, 6 of which were located outside the town

(Minamisanriku Earthquake Reconstruction Plan, 2012).



Figure 1.2. Aerial image of Minamisanriku. (Note: The white areas of the map show the extent of tsunami intrusion whereas grey areas are roads and built areas. Source: Geospatial Information Authority of Japan, vector map, 2021. <https://maps.gsi.go.jp/vector/#11.334/38.676861/141.485826/&ls=photo2%7Cvlabel&disp=11&d=l>).

The tsunami was able to do catastrophic damage due to four main vulnerabilities. First, there was high susceptibility due to a long history of problematic regional development, which reduced the ability of the community to cope with the disaster. Second, the natural geography of Minamisanriku is more prone to devastating tsunamis. Stretching as far back as 869, most large recorded earthquakes were magnitude 8 or higher. Between 869 and 2011, approximately 49,561 people on the Sanriku Coast died in earthquake related disasters.¹ Despite frequent exposure and past peoples placing stone pillars to mark previous tsunami intrusion, most housing and businesses were built in low lying, flat coastal areas. Third, the built environment, such as safety measures like levees and seawalls, were based on an understanding of the Chilean Earthquake of 1960 which generated a very small tsunami in comparison to previous ones.

¹ The most devastating tsunami in Minamisanriku was generated from the 1896 Sanriku Oki Earthquake at 38.2 meters or 125 feet, which landed at night. The second most was the recent 2011 GEJE at 60 feet. In comparison, the 1960 Chilean Earthquake only generated a 6.1 meter tsunami or approximately 20 feet. Nationally, there were only 142 recorded casualties in comparison to the 1896 Sanriku Oki Earthquake at 21,959 and the 2011 GEJE at 18,452.

As such, the safety infrastructure as well as evacuation measures were not prepared for the 2011 disaster. Lastly, due to the recent merger as well as other characteristics—such as a high proportion of elderly and poor, the community had relatively high social vulnerabilities. Socially vulnerable groups are, “more likely to experience a range of negative impacts when disasters strike and less likely to experience positive outcomes in the aftermath” (Tierney, 2019, p. 125). Additionally, critical health services, such as the only hospital, were located on the coast.

These vulnerabilities created a perfect space for a black swan event like the 2011 disaster to decimate the community. Since 2011, the disaster has deepened pre-existing social and economic problems. As early as the 1950s two districts were already categorized as depopulated or *genkai shuraku* in the government’s village registry (both Iriya and Togura would eventually be merged with Shizugawa during this time to alleviate resource issues). The depopulation of Minamisanriku accelerated post-disaster, dropping from a population of 17,427 in 2010 to 12,353 by 2020. Similarly, the proportion of elderly (65 or older) increased from 24 to 38 percent between 2010 and 2020 (see Figure 1.3). These percentages are higher for Togura and Iriya who, between them, have only about 100 elementary school-aged children. Similarly, primary industries such as farming, fishing, and forestry have seen continued declines since 1995 (see Figures 1.4 and 1.5). While there has been major investment into fisheries, the number of self-employed fishers as of 2018 was 793 compared to 1,162 in 2008 (Fisheries Census, 2018; 2008).

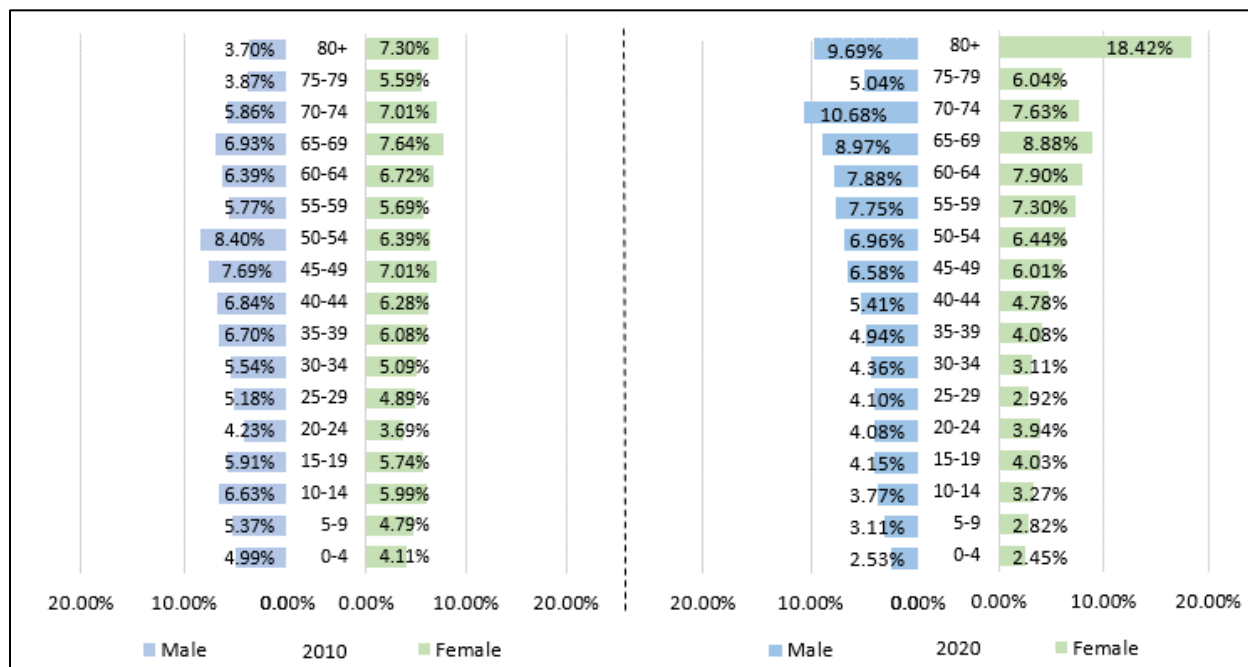


Figure 1.3. Comparison of Minamisanriku's 2010 and 2020 population statistics. (Source: Minamisanriku Town Statistics, 2021).

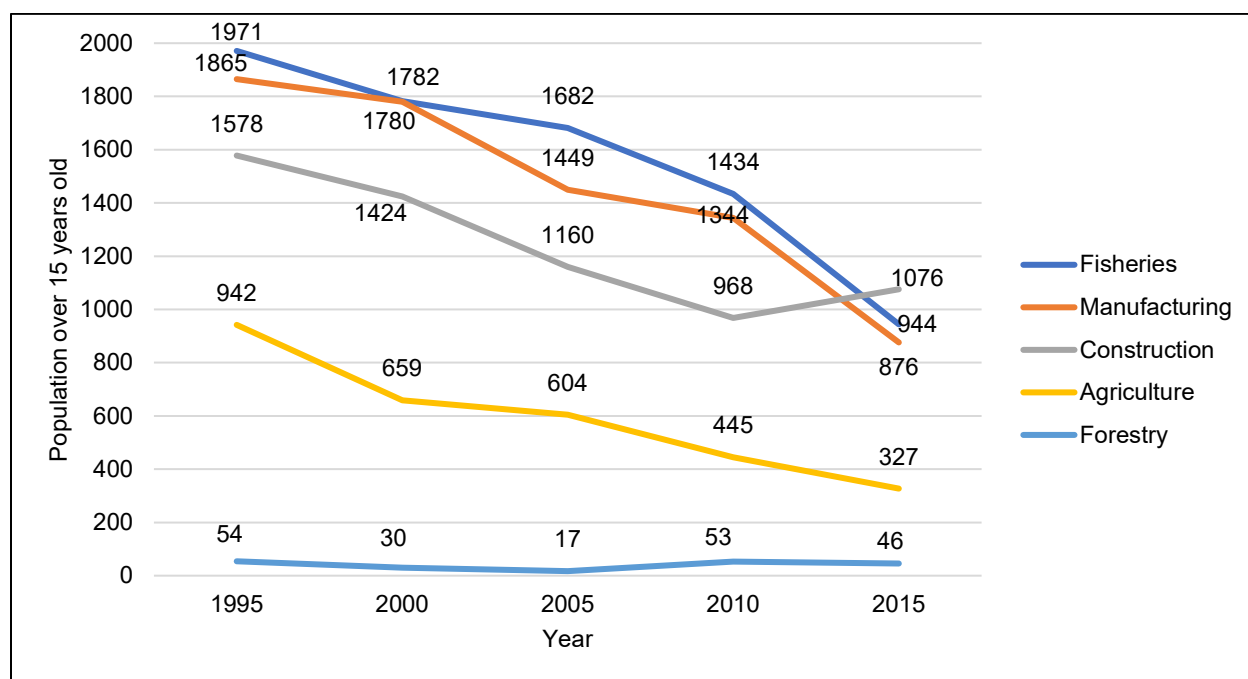


Figure 1.4. Comparison of Minamisanriku's primary and secondary industry's working population from 1995-2015. (Source: Minamisanriku Town Statistics, 2021).

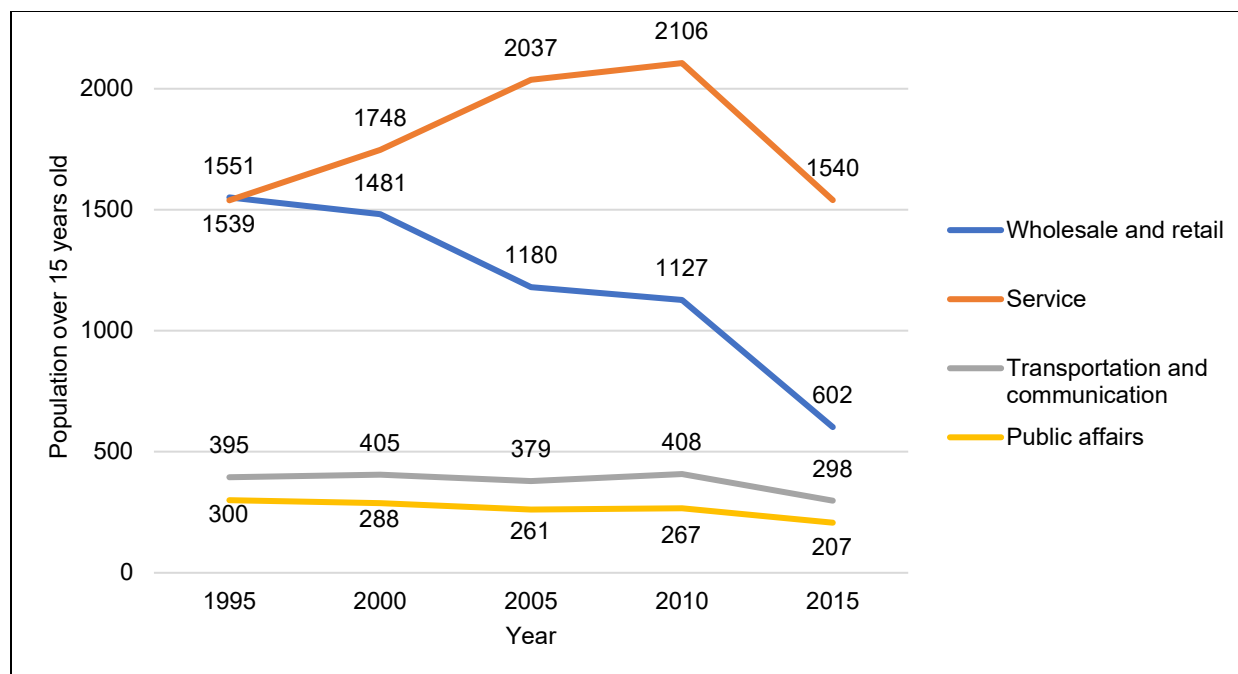


Figure 1.5. Comparison of Minamisanriku's top four tertiary industry's working population from 1995-2015. (Source: Minamisanriku Town Statistics, 2021).²

Entering the field

Arriving in Minamisanriku in 2014, much of my imagination about what happened in Japan was taken up by the disaster iconography that dotted the academic and media landscape. On the news, I often saw imagery of rebar, cars, and refrigerators all tangled into heaps of metal, cleaved blocks of foundations, ridges of seawalls capsized in the ocean or lonely sections of concrete train tracks weaving in and out of mountain passes. Most of the media landscape relied on “disaster pornography,” painting the region as being a depressing site of ruin, with residents often cobbling to maintain their livelihoods, access necessary resources, and secure permanent housing. Exposés on residents protesting nuclear siting, mothers concerned about health risks to their children, and fishers and farmers worried about their livelihoods were frequent specials on nightly television the first few years following the disaster in Japan and the United States. Most of the research published during the early years of reconstruction focused on discussing technocratic expert reports and bureaucratic decisions (Lochbaum, 2014), the lack of participation and inclusion of residents in decision-making (Kaneko, 2017), the minimizing of resident's

² The 2020 national census data aggregated in the most recent 2021 Minamisanriku Town Statistics report did not include working conditions data. This data will be announced by the national government in May, 2022.

concerns (Kimura, 2016; Elliot, 2013), possible societal transformations (Shaw, 2015), and the future impacts the disaster would have on Japanese society (Gill, 2015). Thus, coming into Minamisanriku, there was a variety of competing narratives about the condition of the community and the ongoing well-being of residents that impacted my initial perceptions of the reality there.

The catastrophic damage from the disaster was still visible during my visit in 2014. A large proportion of residents still lived in temporary housing and most of the coastal areas were devoid of buildings, except for one surviving banquet hall owned by the local hotel and the twisted steel structure of the former Disaster Prevention Center. During my initial visit, I did two weeks of volunteer work with Ortiz Global Academy for Aid (OGA for Aid), a non-profit originating from Aomori prefecture that arrived in the town within 2 days of the disaster. I spent my time working with their local partners by assisting with small local events in the Shizugawa district. I stayed with a local resident who was also heavily involved in directing volunteer efforts. I was able to walk most of the community and become familiar with the locations of temporary housing, and the locally run San-San Market where residents had turned portions of their temporary housing units into store fronts and little eateries for both residents and visitors to enjoy.

My time with OGA for Aid evolved between 2014 and 2017 as I continued to visit every year for 3 months each time to do volunteer work. Similarly, over this period I continued to develop my Japanese language skills in the field, both through volunteer activities, and through interviewing locals. In 2016, after acquiring more historical and cultural knowledge of the community I began doing small interview-based studies focused on town problems, resident needs, and general community well-being. I returned to the community annually through what may be considered stubbornness, but also due to a simple promise I had made to community members. Many residents had endured significant emotional labor between 2011 and 2013 as organizations ventured in and out of the community assisting with clean up and supply distribution. While there were corps of Japanese volunteers, the number of foreign volunteers was unprecedented. While not largely discussed, most resident became friends with volunteers, but most ties did not last after 2014 once organizations closed or moved on. As a result, new volunteers were met with skepticism about their work and their stay.

During the end of my first visit one farmer was certain that I would never return. It was something that struck me, as to some extent I could intimately sympathize with how residents felt abandoned or alone. As a child I experienced some of the worst wildfires in California history in 2003 and 2007, of which my hometown was the epicenter. I made a promise to that farmer to return, and I have kept that promise these past eight years. As a result, my work in Minamisanriku evolved over time from simply wanting to support the community's recovery to directly involving myself with groups and organizations to understand and meet the needs of residents. Thus, my work in Minamisanriku is not simply to investigate the disaster, how to improve disaster management for resident well-being, nor to foster theoretical discussions on the various concepts and frameworks explored in this dissertation. There is a deep personal connection I share with many of the residents of the community, without which this dissertation never would have existed.

Through having worked with the community for eight years, I endeavor to provide a detailed account and investigation into the effects of reconstruction on the community through a variety of perspectives. The work aims to be a warning to the future that rural disaster communities are vulnerable to ills of division, distrust, disinterest, poor morale, and high inequality due to poor governance decisions, and a general tokenization of resident concerns and participation.

RESEARCH QUESTIONS

In addition to the context provided above, studying the issues in Minamisanriku and evaluating the effects of disaster management and reconstruction on them has important practical and policy considerations beyond the theoretical discussion presented in the next section on my theoretical framework.

I directly address worsening societal issues that continue to occur in Japan and elsewhere around the world. Social and economic troubles in rural areas worsen as depopulation through out-migration, loss of industry, and aging accelerates. These issues under a disaster scenario hasten and contribute to the hollowing out of rural areas creating a variety of social and economic problems, such as labor shortages and shrinking of industries. As a result, this dissertation is situated to improve our response to these

issues by understanding how to assist rural community's ability to respond to these troubles in disaster settings. I particularly recognize the intersection of the broader demographic crisis in Tohoku and the post-disaster issues in Minamisanriku as having a combined effect on social recovery.

The potential policy and practical contributions of the dissertation are complex. The first is with consideration toward community building. Within the regional development model in Japan, there has been less consideration for facilitating each community's ability to rebuild in a way that is appropriate to their social, political, environmental, and cultural needs or that is cognizant of conflicts within communities that hinders recovery. In this way, the following four studies provide evidence for the notion of community building that Blackwell and Colmenar (2000) argues for as, "continuous, self-renewing efforts by residents and professionals to engage in collective action, aimed at problem solving and enrichment, that creates new or strengthened social networks, new capacities for group action and support, and new standards and expectations for the life of the community" (p. ii). The primary issue with current policy is that it has not facilitated the ability of residents nor local governments to solve newly intensified social problems as they arise. These policy and practical concerns are furthered by other issues in Japan about the complex processes of social recovery. As such, in terms of theoretical focus of this dissertation, the application of social capital will provide additional clarity on how it operates in and affects community recovery outcomes as part of the redevelopment process. As such, the research was designed to confirm or problematize assumptions of social capital in disaster situations. This focus directly addresses scholarly calls to pin down the processes by which social recovery can be influenced by social capital, social networks, communal ties, and organizations in Japan (Yamamura, 2014; Aldrich, 2012a; Tsutsumi, 2021)

Thus, this dissertation provides evidence of on-going disaster management policy consequences and suggests following a community building model that is more resident-centered, facilitates democratic community participation in redevelopment processes, directly addresses community inequalities, and that reflects better accountability between communities and those above them (Blackwell & Colmenar, 2000; 1999). In this way, the recovery trajectory of communities like Minamisanriku, may be sustained over time and have better outcomes in the long-term as they build more resilience.

Given the previous discussion on the status of Minamisanriku, the overarching focus of this dissertation is to answer why recovery in this community is disparate given the amount of government intervention in the last 10 years. To disaggregate influences that have negatively or positively affected the community, each subsequent chapter focuses on explaining and evaluating contributing factors. To do so, Chapters 2 and 3 examines this problem from a review of government policies and interventions, whereas Chapter 4 examines the effects of specific town planning and changes to resident representation through the disaster management process. Lastly, Chapter 5 examines the problem by exploring the connections between recovery and social capital through an investigation into social networks, communal ties, and organizational involvement. As such Chapters 2, 3, and 4 are written from a perspective of answering this more general *why* question, whereas Chapter 5 focuses more specifically evaluating the possible effects of social capital in the community.

As a result, I pose four research questions to break apart aspects of the problems in Minamisanriku. The first is centered on larger societal, economic, and political structures, such as historical government laws, policies, and regional development practices that affected the Tohoku region and Minamisanriku. The second question focuses on the mediatory structures and actors that affected Miyagi prefecture and Minamisanriku during the recovery and reconstruction process. The third and fourth questions, which comprise investigating directly the function, utility, and consequences of social capital, focuses on specific social phenomena occurring in Minamisanriku. These four questions flow from investigating reconstruction and disaster management issues in Minamisanriku at different scales of analysis with historical sensitivity and provides space to investigate a variety of perspectives.

1. How have historical legacies of government policies influenced recovery outcomes in the Tohoku region and how have these processes influenced economic restructuring and social development (i.e. social capital) in Minamisanriku during reconstruction? (Chapter 2)
2. How have governance structures within Miyagi prefecture influenced the social and economic development of Minamisanriku during reconstruction? (Chapter 3)

3. How does resident involvement and representation affect their utilization of social capital to handle locally identified problems such as, depopulation, out-migration, aging, and industrial stagnation?

(Chapter 4)

4. To what extent does social capital drive economic and social recovery, collaboration between groups, and decision-making within Minamisanriku? (Chapter 5)

THEORETICAL FRAMEWORK

I utilize social capital as a theoretical guide to investigate various premises about how communities like Minamisanriku recover from disaster, the challenges they encounter, and how they manage them. The dissertation uses a macro-micro perspective to social capital to investigate problems. Within social capital studies in Japan, there is a gap between large quantitative studies and qualitative case studies. This problem is referred to as the “macro-micro” problem of social capital by Tsutsumi (2015), wherein quantitative studies lack context to provide explanation to processes and qualitative studies lack scope. The macro-micro problem of social capital studies is a critical issue within Japan with both Japanese sociologists and human geographers concerned by the lack of mixed-method studies that integrate the benefits of quantitative and qualitative work (Tsutsumi, 2015). However, the macro-micro problem is not limited to quantitative-qualitative dichotomies, but also is representative of different levels of analysis and deductive and inductive approaches. This dissertation builds off of concerns by Tsutsumi (2015), by expanding their macro-micro problem by using a multi-faceted approach that includes different levels of analysis, different approaches, and mixed methods.

Conceptualization of social capital

Historically the concept of social capital used in Japan has varied slightly from how it is traditionally applied in the United States. In older Japanese social science literature, “social capital” sometimes meant social overhead capital (SOC), and not necessarily the modern conceptualization of social capital. This distinction is important as the effects of historical laws and policies focused on developing SOC in rural areas are still noticeable in current disaster management and revitalization policies. This distinction will be further discussed in Chapter 2, but for the purposes of this dissertation, social capital is referred to as the

networks of trusted relationships between individuals, groups, and organizations with shared norms, values, and understandings that provides support and resources to connected actors. This contemporary definition, to varying degrees, is what is currently used in Japanese social capital disaster studies.

Generally, social capital is conceptualized (with various emphasis) on organizational engagement (e.g. civil society), trust, social networks, collaboration between individuals, groups, and larger institutions, and forms of reciprocity. Social capital studies grew in the 1900s, with scholarship from Hanifan (1916), Jacobs (1961), and Loury (1977) often juxtaposed with more well-known work from Bourdieu (1986), Coleman (1988), and more recently Putnam (2000). While the concept of social capital has been expanded and further cultivated in the past century, the power of social relationships affecting individuals, communities, and larger societal systems and structures remains a central concern of social capital literature.

The power of social capital comes from the fact that it cannot be generated without some form of trust between individuals and between individuals and society (Paxton, 1999; Coleman 1988; Putnam 2000). Interactions between individuals is based on a shared understanding of societal and cultural expectations, and norms and values. These unwritten codes are drawn upon by individuals during any interaction and can be studied to understand their actions and motivations, how they conceptualize their interactions with others, and the consequences of the various systems they interact with. Thus, social capital can capture trust and power between individuals, groups, communities and society.

It is important to note that the level of trust that exists between individuals is predicated on different experiences and understandings. Especially in Japan, the trust and reciprocity between individuals is based on a foundational level of solidarity (*kyoujyo*) or mutual-aid (*gojyo*)³ whereas trust in society, such as institutions or government, is usually low (Elliot, 2013). As a result, people act in good faith because they are expected to, and because others are assumed to act in kind.

³ Mutual aid is the voluntary mutual support that comes from local people and other citizen volunteers. Since support tab

Thus, social capital can be used as a powerful tool to understand social environments and how trust is reproduced between individuals. Similarly, it can also be used to understand how or why trust is not reproduced. In cases where social capital is high, it is expected that the ideas of reciprocity and obligation embedded in the society are being met thereby maintaining relationships that will continue to benefit and support individuals (Ritchie and Gill, 2007). In cases where social capital is low, it is expected that some social disruption has or is occurring, that may be influenced by economic, social, political, or environmental conflicts, such as a disaster or political restructuring (James & Paton, 2007; Ritchie & Gill, 2007; Tierney, 2019).

The quality of social capital can be used to understand social responses to a variety of issues. How one measures social capital is predicated on social and cultural contexts, power dynamics, accessibility to social networks, and other intervening factors, such as which form(s) of social capital is under study. It is generally agreed upon that individuals' social networks and organizational involvement or engagement can be measured to indicate levels and quality of social capital (Aldrich, 2012a; Manzenreiter et al., 2020; Tsutsumi, 2015; Tierney, 2019; Santiago-Fandino et al., 2017). However, the presence of non-profits and other organizations, are also key variables that can be used as proxies to identify the effects of social capital in a community, and are used as such in this dissertation (Aldrich, 2012a).

Effects of social capital

For the purposes of this dissertation, there are four specific effects of social capital of interest that will appear frequently in subsequent chapters. As noted in the previous section, there are embedded processes of power that either further the improvement or deprivation of groups and individuals in society. As a result, the effects of social capital are always embedded in different intersections of power, culture, space, and time. Thus, by answering the research questions of this dissertation, I am inherently investigating the effects of social capital at these crossroads. As a result, I explore the manifestations and consequences of the effects noted below, with each chapter contributing insights on a specific or a set of specific consequences and how they appear in various systems of power. In this way, the dissertation explores these effects through a variety of systems, processes, and institutions with power over

Minamisanriku. Of the effects discussed below, the first is present in all chapters, whereas the second is predominately noted in Chapters 3, 4, and 5. The third is focused on in Chapters 3 and 5. The last effect of corrosive community is revisited later in Chapter 6 in response to the previous chapters.

First, where trust is present, social networks can improve the productivity of individuals and groups (Coleman, 1990; Flora et al., 1997; Paxton, 1999; Putnam, 2000). This means that social capital embedded in social networks, provides certain benefits to the community, such as the distribution of resources and information, and other forms of social support. For example, quality social networks provide social infrastructure by informing the community through a flow of information. This structure influences a community's ability to resolve problems and generate collective solutions through the utilization and actualization of the resources embedded in networks (Flora et al., 2004 & Flora et al., 2016).

Second, especially in Japan, social norms often place priority on collective interests. Within Japan norms take shape as mutual-aid and other forms of reciprocity. However, these norms can present complicated issues where they are strictly enforced (i.e. wherein forgoing one's self-interest is not a choice but rather mandatory). As a result, norms in Japan, especially in disaster settings, may present issues of strong in-group and out-group behaviors, and other exclusionary practices that isolate individuals and groups (Gill, 2015; Kimura, 2016; Sekine & Bonanno, 2016). As a special note, norms should be considered with care. Highlighted by Portes (2014) and others, high social capital can enforce problematic rules, policies, and norms that cause harm. Especially in comparatively more hierarchical societies like Japan, strong compliance with norms and rules is associated with positive ideas of respecting superiors, although it is important to note there is a long history of everyday forms of resistance to authority in Japan as well (Gill, 2015; Kimura, 2016).

Lastly, social capital is important to the functionality and efficiency of groups that serve a community. Essentially, trustworthy community organizations can mobilize the resources entrenched in social structures and networks to meet needs more efficiently when social capital is high (Schellong, 2008).

Through this process, an organization or group with extensive trustworthiness can accomplish much more than a comparable group with weak ties and structural holes. As a key part of the social infrastructure, during disasters, organizations support a community's ability to collaborate, cooperate to manage threats, facilitates a sense of shared responsibility and identity, and can foster more community attachment (e.g. sense of place) (Tierney, 2019; James & Paton 2007; Aldrich, 2012a; Ye & Aldrich, 2019).

Corrosive community and social capital

One of the important issues to understand in disaster setting when considering the above effects of social capital, is whether disruptions that appear contribute to the creation of maladaptive systems. When severe, disruptions can disintegrate the capacity of a community to rebound, a characteristic of what is called a corrosive community (Freudenburg, 1997; 2001). Corrosive communities directly intersect with the effects of social capital and are characterized by debilitating processes related to disaster trauma, perceptions of government failures, and conflicts (Green, 1991; Couch, 1996).

In disaster settings, a corrosive community is characterized by, "social disruption, lack of consensus about environmental damage, and general uncertainty...(and) is likely to emerge where social capital is diminished," (Ritchie & Gill, 2007, p. 116). Corrosive communities often appear post-disaster where there is catastrophic damage to social, economic, and political structures (James & Paton, 2007). Corrosive communities are difficult to treat, as disruptions to relationships directly influence social structures between individuals, groups, organizations, and institutions. It is not uncommon for disaster inflicted social disruptions to birth distrust of institutions handling recovery processes, since lines of communication may not be re-established (see Lochbaum, 2014; Elliot, 2013; Kimura, 2016).

This generates more uncertainty and can create animosity among groups. Similarly, "(w)hen social structures are altered, associations are likely to change as well; when interaction is diminished, opportunities for information flow, consensus building, and development of shared understanding(s) are limited," (Ritchie & Gill, 2007, p. 117). Thus, a corrosive community can permeate every level, from individuals and neighborhoods, to groups and local level governance.

Based on the preceding understanding of social capital, throughout this dissertation the consequences of social capital and its manifestations are utilized as a guide to evaluate the recovery process in Minamisanriku. Thus, my theoretical framework accepts three premises based on the preceding literature review. One, that social capital and its effects provide a foundation to measure how recovery is generated or mitigated. Second, that, “the overall well-being of a given community depends on the extent to which social capital exists in that community,” (Ritchie & Gill, 2007, p. 111). Lastly, that social capital permeates all levels of community and structures making it possible to evaluate problems at different scales.

METHODOLOGY

This dissertation adopts a community-based participatory research methodology (CBPR). CBPR was used to frame the research process, with a distinctive focus on fostering community participation through the maintenance of partnerships (e.g. community services organizations, and local associations). CBPR is primarily used in vulnerable, disenfranchised, or otherwise isolated communities who are over-studied or otherwise have negative experiences with traditional research (Minkler & Wallerstein, 2005). Also, a community-based approach met other important aims of the study, such as understanding, incorporating, and engaging the perspectives and perceptions of social actors (i.e. residents, cooperatives, and organization directors) across different social locations (i.e. gender, age, location, and class).

Between visits in 2014, 2016, 2017, 2018, and 2019-2020 there has been a rise in what might be considered “drive-by research” in the community, with many researchers (foreign and Japanese) stepping in and out of the community within a short span of time with very little accountability or responsibility to engage participants and the community critically. As a result, many in Minamisanriku have experienced researchers leaving the field with little knowledge as to how their stories and information is being used to benefit the community. CBPR is sensitive to these pitfalls characteristic of traditional research where outcomes fail to solve community disparities and where projects do not invest in treating local issues (Mertens, 2013; Yen, 2016).

Community-based participatory research focuses on fostering community participation through the

maintenance of partnerships, having partners and stakeholders be an active and integrated part of the research process, and producing work that can support context-specific solutions (Arias, 2015; Pham, 2016). Thus, CBPR is inherently founded on practices of co-creation and power-sharing. My community partners and I began working in 2016, and they remained my primary affiliates through 2021 and participated in the research design, proposal development, participant recruitment, problem solving, data collection, and creation of informational materials, such as infographics and other explanatory material of this study's results, given to participants and the town office.

Power-sharing between my partners and I was intentional and an active process through frequent meetings and deliberating sessions that were held as necessary. Deliberating sessions with resident stakeholders and participants who were active in designing the data collection instruments took four months to come to decisions on the structure and form of surveys, and how these would be paired with interviews. This structure typically makes CBPR projects particularly front-loaded in terms of work. However, the formation of the projects has always been cyclical and iterative. So, projects in 2019-2020 were informed by previous projects in 2016, 2017, and 2018. These previous projects provided us space to observe, reflect, act, evaluate, and modify our goals and scope into our latest 2019-2020 project (McNiff & Whitehead, 2011).

In this way, using CBPR created mutual trust and understanding between myself and my partners, residents who interacted with the community partners, and other residents and stakeholders in the community (Rosengren et al., 2014). Trust, transparency, and understanding was supported through frequent and regular meetings before, during, and after completing the study. Secondly, insights and ideas of community partners were treated as valuable valid knowledge. Thus, to foster genuine forms of engagement, I adhered to the main tenets of participatory research paradigms of which CBPR is a part of (see Table 1.1).

Table 1.1. Differences between traditional and participatory research paradigms

Traditional research paradigms	Participatory research paradigms
<ul style="list-style-type: none"> • Subjects only “learned about” • Research done “onto” subjects • Researcher is the “professional” • Subjects only included at the end of data collection • Research agenda only shaped by professionals or other forces • Research goal is to inform 	<ul style="list-style-type: none"> • Participants are “learned from and about” • Research done “with” participants • Researcher is only one of many actors with valuable knowledge (de-centralization of knowledge production) • Participants are encouraged and supported to influence the research through focus groups, forums, interviews, stakeholder surveys, or other workshopping • Research agenda is directly created from the concerns of the community • Research goal is to transform (institute new programs, policies, or otherwise effect change through development opportunities).
Source: Adapted from Danley & Ellison, 1999; Teater & Baldwin, 2012; Ivankova, 2015.	

As a result, CBPR legitimizes knowledges undervalued or ignored in traditional research approaches. Especially in Japan where non-expert knowledge is treated frequently as inferior, illegitimate, and belittled by policymakers, government officials and researchers, CBPR supports the pursuit of co-producing knowledge, equity, and justice in research by de-centralizing the hegemony of these expert knowledges (Ivankova, 2015; Kimura, 2016). This focus on shifting expert knowledges away from the center is also due to CBPR being guided by a critical theoretical stance, that is concerned with assumptions regarding power and inequality (Ivankova, 2015). Attention to power and inequality is central to CBPR practitioners because we are critiquing processes of production, reproduction, and change of societal structures, and how practices of power, exploitation, and agency appear in these processes.

The importance of working with community-based rather than community-placed organizations was also integral to the project. A pitfall of participatory research is entering into a relationship with groups who may not be from the community, or who are otherwise not recognized as part of the community fabric (Costanza-Chock, 2020). In this way, the project focused on collaborating with and building partnerships within the town rather than with outside groups who may jeopardize resident trust and belief in the overarching goals of the project (Costanza, 2020; Key et al., 2019). This was also to ensure that resident’s serving within organizations and other resident stakeholders felt represented in the process.

Working with community-based organizations and groups also helped support the longevity of the project. This was especially important in 2019-2020 when my partners rallied to complete the study despite all of the obstacles presented by the Covid-19 pandemic.

As such, beyond the efforts made to create projects that were resident-centered for the reasons above, working jointly helped identify which methods would be best received by residents, and what issues were most important. For example, a focus on depopulation and industry decline were specified by partners and residents, and therefore were included in the review of social and economic conditions in the community. Social capital became the theoretical vehicle by which to examine issues like these when reviewing reconstruction effects on recovery outcomes. Additionally, community programs to address resident needs were co-implemented with the research. While not featured in this dissertation, since 2014 our joint efforts have affected over 24,000 locals and volunteers, generated 1 million USD in funds for community workshops and programs, and has generated a variety of programs addressing resident concerns that are too long to list. As such, CBPR helped create a research design that centered using research as a space to serve the community immediately and create community buy-in. It also created a process for distributing local reports quickly, and implementing lessons learned into the next program cycle (i.e. such as where to locate new programs and identifying who was still isolated).

Secondarily, through the various projects we hoped to address the adverse experiences some residents had encountered. As such, my partners and I recognized that we could not address the extent of post-disaster neglect that lead to the creation of distrust, but that we could use this opportunity to provide an example of a “functional” engagement environment (see Holley, 2016). Through providing positive and inclusive spaces for engagement, our hopes were that residents could receive support to discuss relevant programs, policies, and practices to implement in the community beyond the life of the project.

DATA COLLECTION

Given the scope of the disaster, the different levels of sociological phenomenon under study, the nature of social capital and its effects, and the goals of my partners, a single-method approach would not be able

to capture and explore the complexity of community problems. As a result, I used a mixed method design. Additionally, given the variety of issues in the community and the skills and resources of my partners, we wanted to collect data that would allow us to better understand community experiences from a variety of perspectives. As a result, the following methods were chosen to simultaneously address the scope of the research questions, to provide better inferences, and examine an assortment of different perspectives.

Semi-structured interviews

Interviews were chosen as a data collection method that would allow us to examine the problems that residents face, as well as evaluate how residents use their resources, knowledge, and understandings of the community issues to handle problems they encounter. Simultaneously we wanted to understand community relationships based on how residents interact with others and perceive their relationships with others. We executed two sets of interviews, one from 2016-2018 (n=75) and one from 2019-2020 (n=70). In the former, interviews were utilized to understand the needs of residents, how they accessed resources or forms of support, and their general concerns about living in this community. In the latter, the interviews acted as a sub-sample of our mapping survey to understand how residents utilize their social networks and organizations they interact with. All interviewees, except for public figures, were given pseudonyms and all interviews were recorded. The interviews provided insight into all four research questions.

Social capital mapping surveys

In addition to interviews, we created a unique survey instrument to “map” resident social networks and their organizational involvement. Rather than disseminate a questionnaire based survey, we wanted to have a visual representation of how residents connected themselves with others and how they did or did not participate with organizations in the community to understand how and why some residents may have more positive recovery experiences. This provided us data on inter-district and interpersonal relations, and which organizations and people were trusted and held power in the community. In combination with the 2019-2020 interviews, we used the map to code for different types of social capital and to examine and measure the type, amount, and quality of social capital held by residents with consideration for age, gender, occupation, location, strong and weak ties, dynamics of trust and power, and organizational

engagement. Thus, the survey was made to answer the third and fourth research questions.

Participant observation

Participant observation on my part occurred throughout all of my visits to Minamisanriku. Information and insights gained from that participation is expressed throughout all portions of the dissertation. It was important for providing a window into daily decision-making, how residents handle and conceptualize problems, as well as how my partners coordinate with the community. Essentially, understanding how people live is fundamental to understanding community processes and how people address problems.

Other secondary data

Secondary data and analysis were used in conjunction with these primary methods through archival work and the use of secondary analysis of town reports, legal documents, reconstruction reports, and various meeting minutes from town council meetings and town promotional meetings. For the first, second, and third research questions, secondary data was used to support the historical analysis of national and local government disaster management effects on the region of Tohoku, Miyagi prefecture, and the town of Minamisanriku. For the third and fourth research questions, secondary data from my community partners, and a repository of organizational ties within Miyagi prefecture provided by faculty at Kyoto Tachibana University were used to better understand interpersonal and inter-organizational relationships.

DISSERTATION OUTLINE

Including this introductory chapter, there are five other chapters, four of which focus on one of the research questions each, and a concluding chapter. The dissertation is multi-faceted, and includes both inductive and deductive approaches, as well as multiple methods, that feature multiple levels of analysis. Each chapter is prefaced by a review of relevant policies, governance structures, or other contextual information critical to situating recovery outcomes. Chapters 2 and 3, provide the historical backbone of the dissertation. These chapters examine government decisions and policies surrounding disaster management, and regional development and revitalization efforts in Tohoku, Miyagi prefecture, and then finally in Minamisanriku. They also provide the political context of the dissertation and embed it in larger

discourses on the complexity of rural problems in Japan as well as long-term recovery outcomes.

In Chapter 2, I investigate the effects of social capital through using facets of sense of place (i.e. sense of attachment to spaces and places, identity, and shared responsibility) to understand how disaster management affected recovery outcomes. In Chapter 3, I investigate the effects of social capital through collaborative governance to evaluate prefectural social and economic development decisions. In Chapter 4, I examine the effects of the disaster management process on social capital's efficacy by evaluating town measures using participatory discourse analysis. Additionally, I analyze resident narratives to determine how resident representation and involvement in the reconstruction process changed over time. Thus in Chapters 2 through 4, the effects of social capital are understood through how they appear in resident's sense of place, identity, attachment to their community spaces, connection to the environment, connection to others, and collaboration with others. In Chapter 5, I examine social and organizational networks, inter-district relations, and other factors that influence the capacity of residents and the town to handle rural problems. Chapter 5 provides analysis on how social capital is utilized by residents and how it acts as an asset for driving social and economic recovery for residents.

Chapter 6 ties the insights from these chapters into a cohesive discussion that revisits the theoretical framework and provides recommendations on how this study can be used as a guideline when evaluating other post-disaster rural communities like it. Similarly, Chapter 6 provides policy recommendations given the outcomes of the study and the recovery outcomes of Minamisanriku, especially as to it pertains to community-based reconstruction policies and disaster management policies in Japan.

2. REGIONAL DEVELOPMENT, DISASTER MANAGEMENT, AND THE DISRUPTION OF SENSE OF PLACE

INTRODUCTION

This chapter focuses on understanding why recovery outcomes in Minamisanriku have been disparate through an investigation of national level disaster management and regional development policies effects on residents. The purpose is to define how historical legacies of government policies influence recovery outcomes in the Tohoku region and in Minamisanriku during reconstruction. This chapter demonstrates how contemporary thinking about the “State” in Minamisanriku is shaped by longstanding national ideology about the role of Tohoku in national development. As a result, this goal is not highly amenable to formal hypothesis testing, rather I use a qualitative inductive approach as a research strategy. This historical analysis is accompanied by resident interviews from 2016-2018 which highlight resident identified issues of reconstruction. The historical analysis is specifically used to situate the problems in Minamisanriku into a larger discourse on the legacy of historically problematic development in Japan.

Originally the interviews conducted between 2016 and 2018 were done to generate reports for Place to Grow on identifying resident issues during reconstruction. The original coding of these interviews identified issues with residents accessing resources, managing problems, how they accessed or received support, and general concerns about living in the community. When revisiting these interviews for the dissertation, I recognized that there was a larger narrative that connected to both disaster management and how residents, whose families have lived in the area for generations and who have a long-term perspective on issues, understood their experiences under reconstruction. Especially I noticed how their feelings of detachment was indicative of issues with social recovery, social capital, and in this case, their sense of place. Thus, I revisited these interviews, with the understanding of the deeper historical problems surrounding disaster management in Japan.

In this chapter, I present how resident experiences are indicative of challenges to social recovery, especially in terms of residents feeling disconnected from the town, physical environment and their fellow residents. I realized the issues with social recovery and the disruptions described by residents could be

understood as consequences of the loss of sense of place and social capital. Theoretically, the findings provided in this chapter are connected to how communities and individuals relate to the natural and built environment around them during disasters and how long lasting disruptions effect the ability of individuals to reintegrate with their reconstructed environments and spaces (Kroll-Smith & Couch, 1991; 1993). Thus, this chapter provides insight into how issues with social recovery, as seen through the effects of social capital, impact individuals' sense of place in disaster settings. In particular, the reconstruction and disaster management process disassociates residents from their places and spaces, and similarly rebuilds these places and spaces in ways not attenuated to residents understanding and use of them. The reconstruction process contributes to secondary disaster traumas, such as isolation, that effected sense of place, attachment, identity, and connectivity of people to their community and others.

Finally, in contrast to the subsequent chapters, this chapter is frontloaded with a synopsis of historical regional development and their present consequences on disaster management. As a result, I embed the current issues of Minamisanriku into a broader historical context of rural and disaster related decisions in Tohoku from the 1700s to present based on Kawanishi's (2016) work. I scrutinize these decisions to better understand their influence on the well-being of residents, especially in terms of their sense of identity and sense of place during reconstruction. Essentially, while the 2011 Great East Japan Earthquake (GEJE) instigated policy changes to disaster management, fundamentally I argue little has changed to foster community recovery, resilience, and engagement at the national and local level. This lack of change and effective transformation means that despite interventions the last 10 years, purported resilience benefits from amended disaster management policies failed to materialize for all residents.

EFFECTS OF REGIONAL DEVELOPMENT AND DISASTER MANAGEMENT IN TOHOKU

In the context of the GEJE, disaster literature tends to center on exploring post-disaster factors when evaluating resilience, recovery, and other development outcomes in communities. Often removed from these discourses is Tohoku being the “outland” of Japan (see Kawanishi, 2016). Not unlike other colonized and exploited people, Tohoku has a long history of deprivation entrenched in common rhetoric of the time—with Tohoku people being labeled “simple and honest, indolent, cunning, single-minded,

simple mannered, frivolous, simple but stupid, flippant, shallow, and barbaric,” (Kawanishi, 2016, p. 29). Within Japanese history Tohoku is situated as a peripheral area and this perspective contributes to the pre-disaster precarity of the north. These discourses re-emerged post-disaster delegitimizing community concerns and supported paternalistic approaches to national disaster management.

Regional development in Tohoku from the 1770s to the 2000s

As documented by Kawanishi (2016), the “barbarity” of Tohoku was a frequent opinion espoused by male government technocrats on their visits to the region between 1770 and 1910. Since the 1780’s accounts of Tohoku in the Japanese imagination have been mostly derogatory, with a focus on “subduing” the region for the benefit of the Capital. In the 1800’s under the Meiji government (1868-1912), officials were increasingly worried by their dependence on rice and labor from Tohoku, a region they regarded as “foreign” and full of “foreign peoples and languages,” (in reference to the indigenous Ainu peoples of northern Tohoku, who also lived in Hokkaido) (Kawanishi, 2016). As a result, within the government imaginary, Tohoku was a threat that held influence over the rest of Japan (see Table 2.1).

Table 2.1. Selected accounts of Tohoku by government officials in the 18th and 19th century

Prefectures	Excerpts	Primary sources
Yamagata	<ul style="list-style-type: none"> • Aside from the mountainous areas, the soil is very rich and there is no lack of agricultural products. • The land is rich and most suitable for rice planting, and many things have been exported. 	Kunaisho, ed. Tojunroku (Records of an imperial visit to the east), p. 25. In <i>Dajokanki chiho junko shiryo shusei</i> , vol 4. 1997, p. 185.
Miyagi	<ul style="list-style-type: none"> • Can be expected to become one of the richest areas in the future. • Crudely built houses and dirty ugly faces. 	Ibid, p. 208 Ibid, p. 122-123
Fukushima	<ul style="list-style-type: none"> • (The people) make their beds with horses and cows (and) live like animals. 	Ibid, p. 272
Iwate	<ul style="list-style-type: none"> • (The people) have ragged clothes, dirty faces, and show a preference for living in the dirt (making them) hard to distinguish from the people of Ezo (Ainu peoples). • The language and customs are almost that of a foreign region. • More wealthy people and impressive houses. (As compared to Sendai, Miyagi). 	Ibid, p. 351 Ibid, p. 140 Ibid, p. 385
Aomori	<ul style="list-style-type: none"> • Transport horses and farm houses look so different, and can be ranked as number one in our country. 	Ibid, p. 151
Source: Adapted from Kawanishi, 2016		

The juxtaposition of incivility and prosperity was frequent, and spurred officials to petition the government to invest in the area for resources. As such, Tohoku was a region targeted by the Meiji government not for the benefit of the people living there but to benefit the rest of Japan. This positioning of Tohoku as other, and simultaneously as a place with rich agricultural and labor resources showcases the complexity with which Tohoku has been treated historically.

The paternalistic framing used by the government and as featured in print, paved a discourse that the government could intervene on “behalf” of the Tohoku peoples only after having, “fully appreciate(d) the people’s suffering,” (Kawanishi, 2016, p. 34). Thus, the unequal development of Tohoku in the 19th and 20th centuries was something the government would capitalize on. From the 1880s a major goal of the government was to purge the region of its “backwardness” (e.g. people, culture, and languages). This was furthered from within the region through the Freedom and People’s Rights Movement which focused on uniting the six Tohoku prefectures through inclusion in the national assembly (Kawanishi, 2016). The dream to unify the region under the movement used troubling and contradictory rhetoric to galvanize the “civility” of the Tohoku people. While Tohoku never became independent, unifying movements and structural reforms continued to “civilize” Tohoku with their southern counterparts (Kawanishi, 2016).

Most important for the future discussion on disaster management, is how people accepted reforms and rhetoric of them being the periphery and as being part of a “lower existence”⁴ since future development in the region would give them hope and erase their “sense of inferiority” (Kawanishi, 2016). As a result, the development of Tohoku from the 1770s into the 1910s, changed from outside attacks by the government to internalized “acceptance” that the region could only move forward with “reform” (Kawanishi, 2016). It is important to note that during this development period the region suffered from the First Sino Japanese War (1894-95), the largest tsunami on record (Sanriku Oki 1886), a series of famines in the early 1900s, the Russo-Japanese War (1905), and later the Second Sino Japanese War (1937-45). Thus, the unified consciousness of Tohoku itself and among the Japanese people appeared during a period where the people of Tohoku were under duress (Kawanishi, 2016). In the interim of WWI and WWII

⁴ This was in reference to Africans or in these reports, Tohoku peoples as “worse than black people.”

Tohoku would continue to go through major upheavals, such as the loss of workers and young people to both the military and to bustling cities in the south through a process known as *dekasegi*⁵ (See Coulmas et al., 2008), deindustrialization, and in the post-war period, a long stint of neglect as the government built up and over-invested in urban areas (Coulmas et al., 2008).

Connections between regional development and disaster management

The regional development Tohoku experienced was either at the benefit of the country, or overall lacking due to differing government priorities (Kawanishi, 2016; Shiraishi & Matoba, 2019; Assmann, 2018).

Especially in the post-WWII period, interventions into the countryside to curb depopulation and deindustrialization negatively affected communities through the consolidation and minimization of public resources and staff via municipal mergers (Tsutsumi, 2021; Feldhoff, 2013; Shiraishi & Matoba, 2019).

The social development during this period cultivated social overhead capital, and the effects of this focus is still present in current Japanese revitalization and reconstruction policies (Tsutsumi, 2021).

Social overhead capital (SOC) within economics, is mainly social services or public services invested in for the public good, such as education, fire and police departments, or health services such as clinics and hospitals. As such, SOC isn't necessarily considered social capital, but does contribute to key social infrastructure. In disaster settings, public housing was also included in SOC planning. Housing is particularly important, as one of the most emphasized recovery programs were community rebuilding programs specifically focused on housing construction and relocation of residents. Social services are beneficial to the well-being of a community but does not necessarily generate other forms of social capital, especially as the relocation of residents breaks up social networks and social ties. Additionally, a SOC focus did not create disaster measures nor laws that invigorated or supported the extremely damaged autonomy of disaster regions. Instead, most economic and social development in the post-disaster period was arranged by the national and prefectural governments, and in the case of Miyagi

⁵ A seasonal outmigration process, usually by which farmers and other laborers go to nearby cities for additional work during the off-season. Eventually workers left to cities and did not return, and the outmigration process became permanent and no longer seasonal as more lucrative work was available elsewhere. This process contributed greatly to the depopulation of Tohoku in the 20th century. For example, between 1960 and 2020, the rural population plunged from approximately 35 million to 10 million people.

prefecture, influenced by mostly technocratic experts (Fraser et al., 2021; Cheek, 2020). While local governments crafted their own recovery promotion plans, reconstruction plans, and reconstruction grant projects, they were submitted to the Reconstruction Agency for review and approval ⁶ (see Santiago-Fandino et al., 2017). To be clear, in major disasters like the 2011 GEJE, some may view it as good that the national government has power to assist communities. However, interventions by national and prefectural governments can present other issues with power and representation at the local level that contributes to the paternalistic approach to the region as discussed in this Chapter.

As was mentioned earlier, the national government responded to disasters by amending previous laws and other policies that directly affect the autonomy and resources of municipalities. However, despite changes to policies since 1947, the national government still retains a vertical paternalistic approach that undercuts the ability of groups to engage in community reconstruction attenuated to their needs (Kaneko, 2012; 2013). Simultaneously, instead of Tohoku being “backward,” a new rhetoric was used to label citizens as unknowledgeable, fear-mongers, or in some cases labeled as having “radiation brain” in order to squash opposition (Kimura, 2016; Lochbaum, 2014; Cleveland et al., 2021). Thus, the discourses started 300 years ago have not disappeared but transformed in this disaster context.

Between 1947 and 2013, the government created a variety of laws and amendments. These changes improved the number of resources the government would provide during a disaster, increased the efficiency of agencies, and provided needed restructuring of emergency systems (Ota, 2019; Shiraishi & Matoba, 2019; Santiago-Fandino et al., 2017). Yet, despite language in recent amendments that decentralize government control over decisions, municipalities’ resilience and autonomy were largely undercut post-disaster (Shiraishi & Matoba, 2019; Ward, 2018; Littlejohn, 2017; Kaneko, 2017). Similarly, the lacking legal framework, lead to uncoordinated efforts between actors, seriously impeding recovery (Ota, 2019; Shiraishi & Matoba, 2019). Beyond Ota’s (2019) review of law changes and their connections to local resilience, it is important to note that positive changes were limited (see Figure 2.1). For example,

⁶ Again the focus of these plans often were heavily influenced by land management, allocation, and use laws, creating a large assortment of resident representation issues which will be discussed later in this section.

the 2013 Act on Reconstruction from Large-Scale Disasters created a defined legal system (i.e. reconstruction headquarters, acceptable national and prefectural government interventions, and social provisions). However, the Act did not include systems to, “ensure the participation and involvement of communities and residents in the development of reconstruction plans and other activities,” (Ota, 2019, p. 309). Thus, there was no legal provision to include resident’s views at this time (Shiraishi & Matoba, 2019; Kaneko, 2012, 2013, 2017). This problem was partially resolved through the implementation of the District Disaster Prevention Plan in 2013 which residents could petition to add to municipal reconstruction planning but only when the prevention council found it necessary. As a result, resident engagement and participation was not actively sought nor directly incorporated into disaster planning (Ota, 2019).

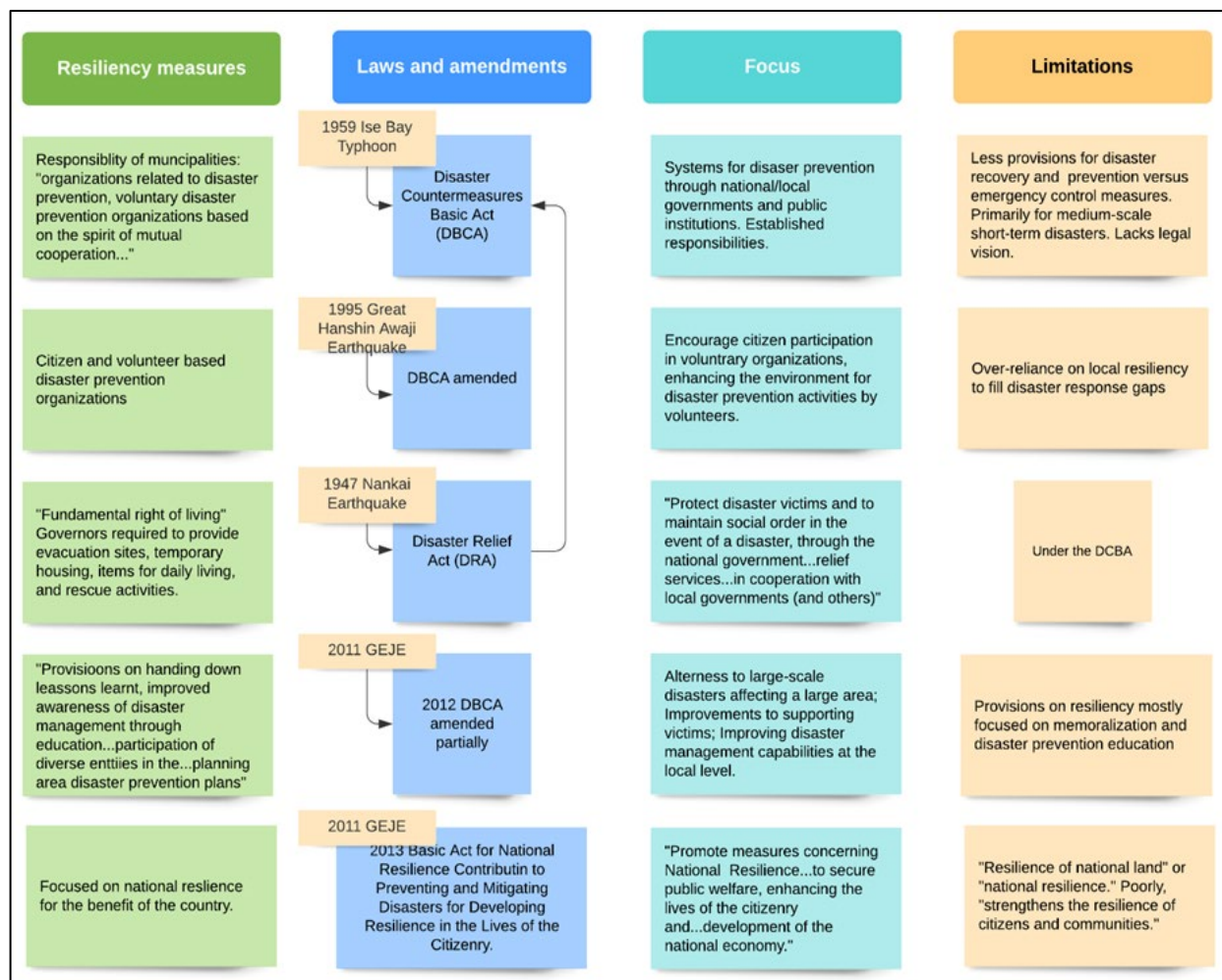


Figure 2.1. Disaster management laws’ resiliency measures, focus, and limitations. (Source: Adapted from Ota, 2019 in Shiraishi & Matoba, 2019, p. 297-306.)

THE CASE OF MINAMISANRIKU

During my trips to Minamisanriku, the above discourses appeared in various forms when residents expressed their concerns with the reconstruction process. While the historical interventions into Tohoku do not remain in the public consciousness they appear in other forms in the transformed political rhetoric and policies cited above. Residents made connections back to these management issues when questioning the disaster management decision making process, interventions by the nation government, and the general confusion of how resident opinions were included. Residents shared a general feeling that government interventions were disconnected from their daily lives, and that reconstruction of the community was too focused on creating a safe community rather than a livable one.

The following analysis of resident's reconstruction experiences happened during two separate trips. These visits focused on understanding specific obstacles and difficulties resident were experiencing to help identify where my partner organizations might provide more support. As such, these projects were originally conducted to create partnership reports on how residents were handling community problems and how organizations might reorient their resources to meet their needs. When reviewing the interviews over the course of the dissertation it became apparent that there was a greater theoretical narrative to explore on how reconstruction had affected resident recovery.

Thus, featured here are 60 semi-structured interviews which provide context to how residents had internalized the reconstruction process. Notably interviewees made connections between them, their environment and lived spaces, and the general well-being of the community (to varying degrees). As a result, the experiences of residents contribute to a larger discourse on challenges to sense of place and social recovery under Japan's current disaster management system during reconstruction.

Data collection and analysis

Between 2016 and 2018 two qualitative, interview-based studies were conducted, with 60 interviews completed in total (see Table 2.2 for interviewee characteristics). These interviews were supplemented with participant observation during service work, and site visits to ports, farms, schools, temporary

housing shelters, and other public spaces. Interviewees were asked a set of 11 questions which provided insight into obstacles and challenges they had faced post-disaster as well as any of their successes, accomplishments, or achievements (see appendix A for the interview guide). The 11 questions fell into three categories: asking about cooperation, support the interviewee had received or support they needed, and concerns they had about living in Minamisanriku.

Interviewees were recruited through both purposive and snowballing sampling procedures. After establishing relationships with organizations in the area in previous years, I branched out into groups of individuals connected to their community programs, and eventually into unaffiliated groups. The initial forms of contact provided rich and robust connections to individuals throughout the community, at different socio-economic tiers, and levels of re-integration. These pre-established connections were utilized to create a sample reflective of the working population in primary and secondary industries. All semi-structured interviews were from 30 to 180 minutes at a location of the respondents choosing.

Table 2.2. 2016-2018 Interviewee characteristics (n=60)

Characteristic	Total	Percent
<i>Gender</i>		
Woman	27	45
Man	33	55
<i>Age</i>		
20-24	3	5
25-29	3	5
30-39	12	20
40-49	22	37
50-59	8	13
60-older	12	20
<i>Occupation</i>		
Business owner	4	7
Office worker	10	16
Public servant	4	7
Educator	6	10
Farmer	15	25
Fisher	13	22
NPO staff	3	5
Hospitality	3	5
Town council member	2	3

At the beginning of data analysis, I re-read through the transcriptions from the 60 interviews and did line-by-line coding with reflection memos and indexed these according to the emergent themes from the interviews using MAXQDA qualitative software. These themes were compared with concepts from sense of place discussed in the next section to consolidate short list of categories. This aimed not only to identify specific text segments related to reconstruction experiences, but also to develop sub-themes. Following indexing, I grouped initial codes into smaller distinct themes and areas of convergence.

I originally grouped interview memos by positive and negative experiences. I carried over this coding scheme and re-oriented them as positive and negative indicators of sense of place (see Figures 2.2 and 2.3). When organizing the sub-themes, I utilized sense of place to identify descriptive language connecting resident reconstruction experiences to their perceptions of their connection to the community, to the nation-state, and to the environment. The following analysis bridges consequences of sense of place and social capital during disasters with the previous history of disaster management and development, to present how reconstruction affected residents. These challenges emerge as competing narratives, of disrespect, uncertainty, lack of support, disconnection, and reconstruction disagreements in juxtaposition to positive indicators such as personal pride, personal achievement, and perseverance.

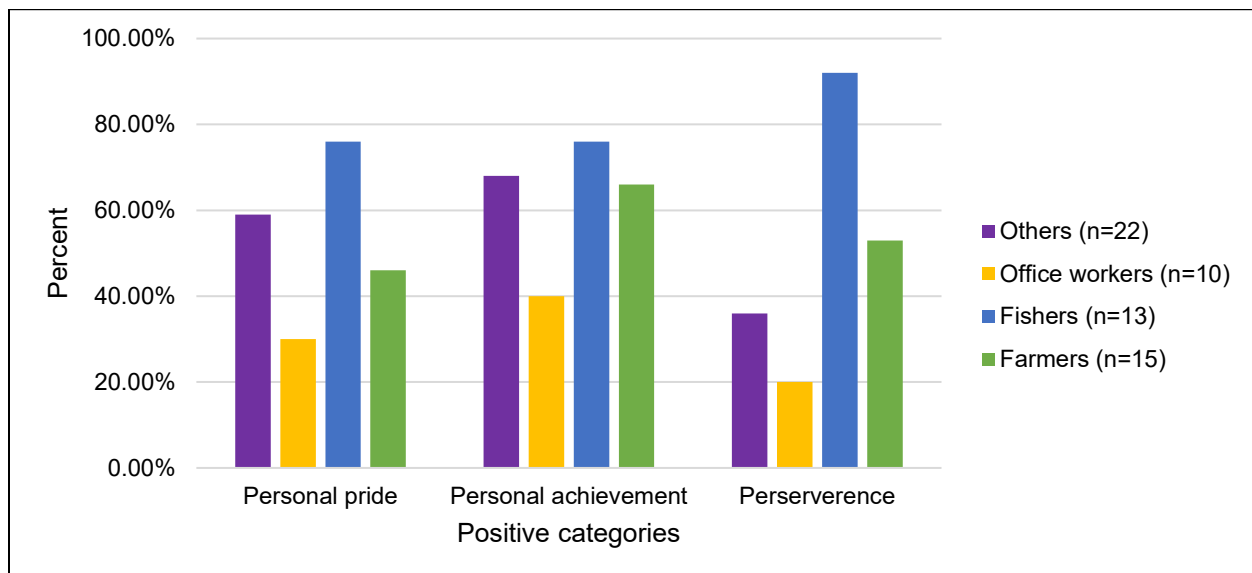


Figure 2.2. Categorization of positive interviewee responses (n=60). (Note: this shows the percent of participants in each group who mentioned these categories. For example, 59% of “others” (n=22) noted personal pride).

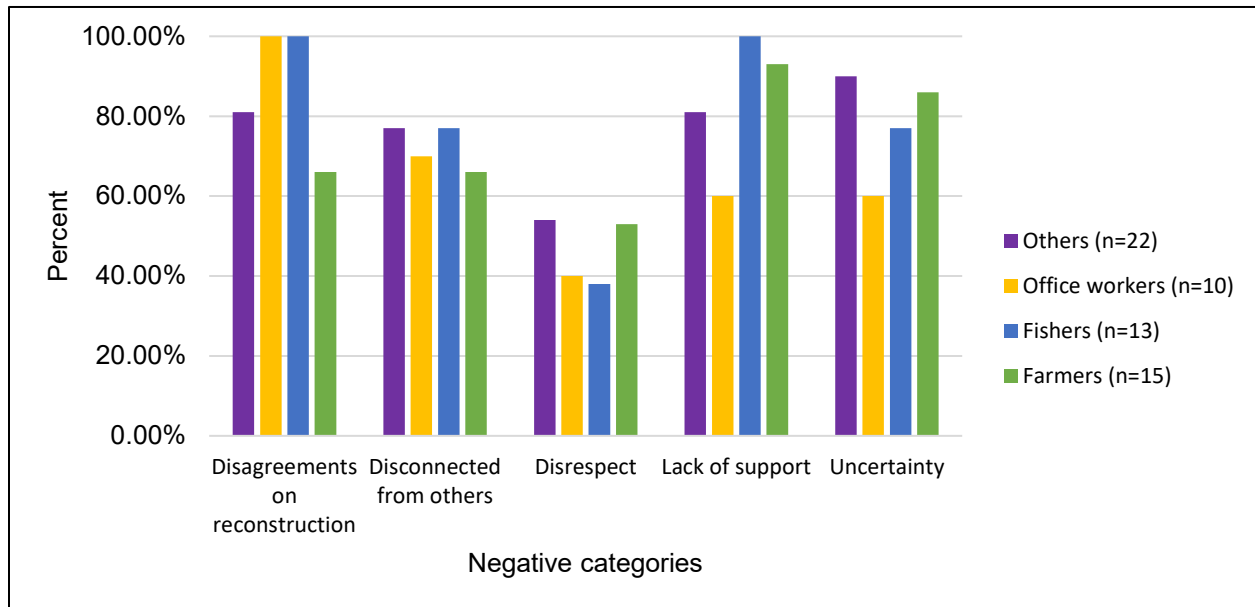


Figure 2.3. Categorization of negative interviewee responses (n=60). (Note: this shows the percent of participants in each group who mentioned these categories. For example, 81% of “others” (n=22) noted disagreements).

Connections to sense of place

Sociological research on disasters connects the environmental damage from these events to how people, organizations, and communications conceptualize and traverse them (Fritz, 1961; Kreps, 1985; Quarantelli, 1985; Oliver-Smith & Hoffman, 1999). Thus, disasters intersect environmental vulnerabilities with social ones. As Kreps and Drabek (1996) emphasize, disasters, “involve conjunctions of historical conditions and social definitions of physical harm and social disruption,” (p. 133). Thus, outcomes from disasters are based on prior levels of precarity, pre-existing social infrastructure, and the capacity of organizations and individuals to respond to physical damage (Kreps, 1989; Oliver-Smith, 1996).

Within the literature, the socio-cultural environment (people) and physical/built environment (place) are the two areas most often put at risk during disaster. As a result, sociological ways of navigating disaster are inherently about the disruptions to these areas and how disruptions are resolved. Or as how Kroll-Smith and Couch (1993) conceptualize, “(c)ommunities exist in exchange relationships with their built, modified, and biophysical environments. From this perspective, theories of disaster are always about the disruptions between people and habitats,” (p. 50). As a result, the way people navigate these issues and mediate social and physical environment issues can be observed through cultural discourses of people’s

social relationships and place attachment. Structural changes can also be observed through how social networks, shared norms and values, and relationships transform post-disaster (Kroll-Smith & Couch 1985). As a result, structural changes instigated by disasters often disrupt the social infrastructure that provides individuals and groups shared understandings of their social, economic, political, cultural, and environmental spaces. Thus, within these disruptions, victims of disaster can be both socially and physically adrift. These disruptions lead to crises in both individuals' and a community's sense of place and identity and contribute to uncertainty and a loss of control. In this way, the effects of social capital are especially present in how residents engage with their physical and social environments.

In the face of disasters, survivors often frame their relationships and experiences through contrasting language with the disaster acting as a marker. In Minamisanriku, a similar dichotomy appeared, with “before the tsunami/disaster” or “after the disaster/tsunami receded” being used. Within these discussions disassociation from their current “places” appeared commonly. Boano and Zetter (2008) conceptualize this experience as “placelessness,” or the loss of sense of place, security, and familiar environments. A lack of sense of place manifests a variety of traumas and challenges to community recovery. First, as was showcased through the previous discussion on disaster management, survivors can live in reconstructed communities that do not reflect their values. Similarly, this creates a sense of isolation, anxiety, and detachment, especially in Japan where temporary housing was constructed in ways that exacerbated isolation, causing lonely deaths (*kodokushi*) and other mental health issues (see. Bris & Bandito, 2019; Morishima et al., 2020; Sakisaka et al., 2017). Essentially, non-participatory recovery processes have the power to violate survivors in their own intimate spaces. Thus, disaster generated disruptions are also observable in the on-going process of recovery interventions and interactions between individuals, groups, organizations, and institutions.

In disaster settings, social networks provide key resources through social infrastructure such as by dispersing information throughout a community. When these ties, both to people and the environment, are disrupted, previous connections can be broken, limiting opportunities for informational flows that contribute to consensus building and the development of shared understandings. As a result, within the

legal framework of Japanese disaster management, we can observe these disruptions and severing of ties through the government's power to unilaterally decide land rights, conduct land adjustments, and demark specifications of safety measures that disenfranchise people from their private, shared, and community spaces. These can appear as physical manifestations (e.g. seawall), or the unilateral moving of one whole community to a separate location. While these issues are usually framed as a lack of compensation, they also represent a loss of control and a restriction on people's daily lives. In this way, disaster survivors usually do not get distributive justice (i.e. compensation) nor procedural justice (i.e. representation). This lack of consideration for people's own problems, ideas, and needs is furthered by the "tradition" of Tohoku being a place to be developed from outside, by more equipped or knowledgeable actors, such as the national government. As Kaneko (2017) states,

"In the course of large-scale public construction projects for infrastructure...such as great seawalls, land-fillings, and relocations...(issues) emerged in regard to the restriction to the most fundamental property rights of disaster-affected people, such as land ownership, leaseholds, commercial goodwill, and fishery rights, which have been handed down for generations as indispensable bases of living in the rural economy," (p. 16).

These examples of space disruption by the reconstruction process affects space maintenance too. When considering the importance of sense of place, effects of changing protected intimate spaces into public domain makes spaces lose their symbolic value of safety (Carroll et al., 2009; Tapsell & Tunstall, 2008). Thus, the changes to the physical environment, access and ownership of it, threatens not only people's rights, but their identity as well (Miller & Rivera, 2010). Similarly, these processes threaten rebuilding, maintaining, and expanding social infrastructure. In this way, the reconstruction process disenfranchises individuals while also disconnecting them from their own ways of knowing and understanding their social and built environments.

FINDINGS

Disconnection, isolated, and uncertain

One of the most memorable interviews I had in Minamisanriku was with an older woman, Mrs. Ogawa. I had spent the entire day weeding the field below her house for a local farmer when she called me over to have lunch with her and her husband. I came to find out that the land I was weeding was previously

owned by her family, and that she herself worked the land until it was no longer possible with her husband becoming ill. Mrs. Ogawa, like many in the area, were born and raised in Minamisanriku, and have a close connection with the land. She had asked a total stranger into her home because I was caring for the land that her family had kept (and now leased). She had seen me farming in the area previously and decided to invite me in to ask why I was farming “of all things.” I would find out over hot coffee, on a 100-degree day, that she hadn’t seen someone as young as me, nor a foreigner for that matter, farming in the area. As she put it,

“We stopped rice transplanting 20 years ago (she gestures to the aerial photos hanging from the picture rail in the living room) but...things have really changed, to see you working here! (she laughs). Last year they finished remediating the lower fields (in 2016), but I rarely see anyone managing them besides you coming to cut the weeds...isn’t that strange? I wish there was more care for the area, besides the field, now all I can see is the seawall....My husband’s childhood friend used to live next door, but they’ve left, we had water up to here (she points to the middle of the wall), but luckily we didn’t lose the house. Everyone else down the street left (down the street are still the foundations of her neighbor’s homes overcome by weeds)...it would be nice if people like you moved here.”

Mrs. Ogawa’s home is full of aerial imagery of Utatsu, like many of the elderly people I speak with, their homes act as miniature museums—a private viewing into a Minamisanriku from the 1950s. It was not uncommon for interviewees and others I spoke to, to quickly map out what was where, who was where, and what happened where before and after the disaster from photos they had accumulated. However, these comparisons often brought with them a sense of strangeness or alienation from the town they grew up in. Mrs. Mito framed the experience this way,

“...I feel nothing is where it is supposed to be?...Kaika used to be down the street...places have moved...I used to go to Mr. Takahashi’s restaurant with my father, but they rebuilt in Shizugawa so I don’t go as often...there is all this space but nothing to fill it...I don’t know what we would put here, but when I look at this part of town, it...feels empty (in regards to Shizugawa).”

Almost like a collective oral narrative, Mrs. Hisako’s and Mito’s feelings of isolation were echoed in Ms. Endo’s story. Ms. Endo reached out to me via email when she learned from another resident in the community that I was interested in assisting the unification of the town. Over a 3-hour long conversation, she elaborated on how public housing isolated and disconnected people.

“For those of us living in public housing, most of us don’t have surviving family members...Some people only leave their house to go to Ujie (grocery store) if they’re retired. I work part-time, so I still go out, but most of my friends don’t live here anymore. Most people live alone without any

support...some have become strange, you know. I don't know where they will go or do, but I worry...they're alone."

Similarly, many of the interviewees discussed how they had to move into a different neighborhood when they couldn't rebuild their homes where they were originally. In the few years following the disaster, residents who had been awarded relief funds believed they could rebuild their homes near the coast but found out that they would not be eligible for compensation if they attempted to rebuild in the same area (where a 2-meter tsunami was possible). As a result, this led to an internal diaspora with people moving to inland neighborhoods in Shizugawa and Utatsu. Similarly, restrictions on where one could live and move to left many upset that they couldn't live with their neighbors. Others lamented that living in public housing was too isolating and most were unsure how they would support the rest of their lives in the town.

As Mrs. Suzuki highlighted,

"I tried to rebuild by the Fukkouichi (a large structure at the Shizugawa port used for large events), but since my house was lower than others I had to move (she waves her hands around here. I don't want to live here, but it was too expensive to get a plot in the Omori area....some of my neighbors moved down to Sendai...it seems like we are all moving to Tome (inland nearby city)...I think housing is still a problem...people can't live where they want to or....how, I think, how they would like."

Similarly, in the early years of reconstruction, it was not uncommon for residents to attempt to participate in meetings and other conferences hosted by the local government to discuss major decisions on safety measures. However, the meetings were not open discussions where residents could voice their concerns or lodge their own ideas on suitable measures. Headed by public officials, experts, and other specialists, such as civil engineers, residents found themselves being largely told which safety measures would be followed. As a result, many in the community gave up on having spaces being rebuilt as they saw fit. As Mr. Suzuki noted,

"At earlier meetings I got a sense that after asking us between a seawall or relocation that...despite turnout at meetings that it didn't matter if we came or not. I think that despite most of us (waves his hand to other fishers) wanting relocation, we have this seawall...One thing that was common at meetings was no one listening, people would bring up problems or fears they had...they (felt) weren't considered. I spent time trying to understand all the rules, talking with others, and realized that it would be a waste of effort trying to have the port rebuilt the way we wanted...so we have our union instead now through the cooperative. Not everyone had that opportunity...we (fishers) used the bay as we liked, and there is more cooperation now, but there is also, hm (he pauses for a while), some jealousy I think based on who is well-off now."

Disrespected and unsupported

I have also spent extensive time working alongside elderly farmers in the community as well as newcomers. Both farmers and fishers have faced the brunt of economic restructuring and reconstruction decisions on their livelihoods. Fishers have had seawalls built across their property, in some cases even cutting them off from private ports off their doorstep. For farmers, a sense of carelessness, especially in terms of representation appears often when asking about the challenges and obstacles they have faced post disaster.

After a long week of 7am to 7pm farming, I and Mr. Norio were cleaning up with the rest of the workers when a member from the local Japan Agriculture (JA)⁷ office stopped by to hand off the recent newsletter that they featured their cooperative in. The following discussion, as noted in my fieldnotes, revolved around problems with getting support from the JA and the town office.

“You know what it is? They’re lazy. They come here and take photos, and—and put us in the newsletter, treat us like friends. What they do is pack us all (other farmers) in a bus like we’re friends, but those guys? They’re my rivals. No one goes to these meetings and thinks we’re together, solving problems, right?...Pay my debt first, or get me more equipment (Mr. Norio tosses his used cigarette on the ground, pauses, and then turns back to me), We’re not friends, I have things to worry about. Those meetings just make them (JA) look good, but if I say screw off that screws me over. You have to be nice to get stuff, but you barely get anything. We’re in this (he shakes the newsletter) because it makes them look good—I made, we make quota (he gestures to the both of us). If I don’t make quota they’d be here to be sure I make it next time, not to help me...I need a new tractor, I need workers, I need to make loan payments.”

Among other important factors to some farmers, which I cannot confirm, is a pervasive belief that post-disaster loans to farmers were fudged by the JA to provide farmers larger loans than their current income could qualify them for. As a result, some farmers feel trapped to continue farming given the debt they have. Another framed their experiences with the JA and the government as insincere. Mr. Sato, an older

⁷ The JA is a powerful farming lobby in Japan, which oversees, and supports its farmer and landowner members on the distribution, packing, selling, and storing of agricultural products. They also provide financial services, such as banking and loans. Instituted by the national government, it is the largest agricultural regulatory body. Often JA workers are outsiders to the communities they work in and may have no farming experience themselves. Thus, JA staff who monitor agriculture production or scold farmers on production, quality of produce, or other things are often seen as barriers to farmers livelihoods that farmers are forced to deal with if they want to sell and market their produce. Similarly, without notice, farmers are often visited by soil scientists from the JA who come to their fields to take samples.

farmer, described his experiences with trying to get a loan to rebuild his greenhouses and lost equipment and routinely, his lost crops due to the frequent heavy rains as,

“We had to apply for loans through JA, and even with the loan, I didn’t get enough to rebuild properly. The loan interest is relatively high, so if I lose anything to the weather I have to ask for an extension, or if they will compensate me for some portion of the lost harvest. Most of the time I can’t get compensation, but if I do, I sometimes can’t make the loan payment. We need better support for the bad weather. I can’t...we don’t produce much, but if I don’t produce I can’t get assistance...they control how I live, but don’t care how I live.”

The sentiment of “they control how I live, but don’t care how I live” accurately frames the odd contradictions of reconstruction planning. As Mr. Yasue a public servant noted,

“We do a lot of assessments at the temporary housing complexes. I am in charge of providing exercises, enrichment, and other activities for our more elderly residents...When I help them fill out paperwork, we talk about how they are doing, but I can’t help them...I just do paperwork and report things...but I sometimes feel, feel that we aren’t doing enough...I make lists of needed improvements or services to give to my superior but only one was eventually discussed...that was two years ago...I don’t know how to face people.”

Others noted the exclusionary practices and behaviors that were reinforced post-disaster and the difficulties with being accepted into new groups. Especially noteworthy is the difficulty of women to be included in decision-making or treated as important members in discussions. As Mrs. Yuka notes:

“Until I had my daughter people wouldn’t talk to me...it was hard to participate when they (government) mostly expect us to work with children. I can participate in school events, like PTA...the PTA is asked for input on decisions, but there is only a few representatives...and they are older women who have more influence than (she pauses) me...young mothers like me, we go to the meetings—we, well, we don’t speak at meetings...no one asks, how are you and means it, I feel...I like WE’s events (a women’s NGO focused on mutual-support and economic empowerment) much better.”

Disagreements on reconstruction

Disagreements with reconstruction were pervasive amongst interviewees. Beyond the concerns listed above, residents noted the exclusivity of meetings and discussions, especially when it came to curating resident concerns on town planning in a meaningful way. Secondly, interviewees reported a general sense that when consulted for their input they didn’t know if their input was properly reviewed when reviewing decisions. Of most concern was how rebuilding houses and other infrastructure wasn’t how people expected or wanted. Others focused on how they felt reconstruction was biased. As Mr. Hashimoto notes:

"I had planned to rebuild in Togura, but there is nothing there. I, (he laughs) why should people go anyways? I had to move my business to Shizugawa because there weren't any plans to build a business district like in Shizugawa...after the disaster I attended meetings on where they had planned to place the business district, but then I realized they really were only planning on...well, I believe, supporting Shizugawa businesses. It wasn't really a choice...my business is doing well, but I feel guilty sometimes for leaving Togura...we always worry what will happen (there)...but the only thing the government cared about is the port."

Others connected the problems of building of public and safety infrastructure with the other negative aspects from the previous sections as to how reconstruction decisions alienate people from the environment. As Mr. Miura recalled:

"It's painful...all I can do is watch. My father and grandfather both did fishing all their lives. Our house is right on this inlet so we could access our boats easily, but now (he gestures to the seawall), we have to move everything to the main port since they restricted access...I wake up every morning but the sea can't greet me...we already moved most people out of the area (where the tsunami intruded) so I don't understand the seawall...the wall is an awful reminder (he didn't elaborate further)."

Some other interviewees were more explicit in their views of reconstruction, especially with how they were tired of going to meetings or as they framed "lectures" on how to live safely, but not actually live fulfilled.

As Mr. Fujisawa expressed,

"Every promotional meeting, I went to, every town hall, it was the same people, same speakers, same information...During the public review period, I would speak at meetings, and what...what is the purpose of having these if (government official) is just doing whatever they want? We aren't children, I understand the problems, I lost my house, most homes (in reference to others). I don't need a lecture on how it is difficult to make a town plan, I know...I it's hard to live like this! (in reference to the temporary housing)...we had so much hardship, I lost good friends to (he makes a motion to his upper body), no one wants to talk about that? The despair is sometimes so deep, but all I hear is how difficult something is to do, difficult hm, but they have homes, family—there is this gap between me and others...their lives are the same, mine is so different. How are people supposed to survive like this?"

Perseverance, pride, and achievement

However, beyond these negative responses, many interviewees did have positive responses to my questions about their accomplishments or anything they had overcome during reconstruction. Most noted their perseverance, or sometimes stubbornness, to stay in Minamisanriku despite all of the difficulties they had experienced. Others noted that their successes were a personal achievement or something that they accomplished despite difficulties and hardship. Returning to Mr. Norio,

"I am in the top 10 producers of (redacted) in Miyagi. I started farming after the disaster, and I've already made it this far just using my hands and working hard. My workers and I have been

successful because we work hard, even when we lose fields (to typhoons), or money is short, we always get through to the next year. I can't stop even if I wanted to, I have money to repay, but I also want to show them I can do this...someone from the city can do this."

Others took pride in their ability to adapt to the changes from the disaster, especially for fishers who have connected strongly to Fisherman Japan post-disaster. They view their continued work as part of the group effort within fisheries to keep the profession going for future generations. As Mr. Takagi explained,

"Under Fisherman Japan we all work together to inspire new fishers and hold events to teach younger newcomers. We have new fishers coming here, and some family members who left, have come back to support their family traditions. I think all our work shows that we can keep the industry alive even with all the challenges and changes. We focus on supporting new fishers, creating products, revitalizing the industry, and show that this work is good to do. I do PR for the organization and host tours and other activities. I am proud of the people I work with, and I feel hopeful for the future of fisheries."

Other groups, especially educators, see new opportunities for engaging students with the local culture and supporting educational activities for them that focus on the three primary industries in Minamisanriku, forestry, agriculture, and aquaculture. Others note that the plans for more experiential learning will hopefully attach the younger generation to the town and improve social development and are proud of how far their programs have come. As Mr. Yamauchi explains,

"I help support cross-cultural exchange opportunities and also have a small program for English learning for elementary and junior high students (MSR Junior Academy)...Whenever we host a school here, especially from Tokyo, I think it shows that we are investing in the younger generation. For example, the kids looked very happy and excited to learn English from you...They also learn a lot when other students visit, I think it is important to their learning to have these different experiences...It is a very precious memory to us having activities like this.... I expect you to proceed with your study so that you can easily propose how to improve the reconstruction of our community. I think the work we do will eventually contribute to improving the social structure and communication between people."

Challenges to sense of place and social recovery

Within the interviews both negative and positive indicators of sense of place were discussed, but especially in terms of social relationships, people's relationships to the built environment around them, and to the reconstruction process. Especially observable in the interviews above is a schism between how local residents understand their spaces, versus how outside and national government actors and agencies view these same spaces (and reconstruct them). This lack of shared understandings and values make it difficult for residents to reintegrate into their communities. As a result, while some may argue that

the interventions of the national government were well intentioned, they still prolonged trauma for many in Minamisanriku and also produced a host of secondary problems.

These positive and negative experiences contribute to significant challenges to the sense of place and the social recovery of individuals and groups. They also pose difficulties in supporting the creation of sense of attachment amongst residents. In this case, the reconstruction process is an intermediating factor in the recovery process that either alienates residents or in some cases pushes people to pursue other opportunities that enrich the community and support the development of social ties disrupted by the disaster and disaster management structures. As a result, when evaluating the social recovery of the community, challenges to sense of place and other social disruptions majorly contribute to how people situate themselves in the recovery trajectory. Some feel hopeful, others feel that they are still very isolated from others and that reconstruction measures were insufficient at best or negligent at worst. Considering resident's experiences, beyond the positive and negative indicators of sense of place, there are clear groupings between reinforcing and detracting social and economic mechanisms that influence people's recovery (see Table 2.3).

Table 2.3. Factors contributing to different recovery outcomes in Minamisanriku during reconstruction

Reinforcing factors	Detracting factors
Positive social relations	Negative social relations
Collaboration with others	Competition with others
Hope for the future	Perceived discrimination or inequality (e.g. bias)
Personal responsibility toward others	Loss of relationships, people, networks
Personal obligation toward others	Differing perspectives on recovery
	Differing perspectives on space
	Differing perspectives on the future
	Unequal economic recovery
	Unequal living conditions
	Poor communication

The detracting factors are especially concerning as they contribute to the characteristics of a corrosive community. From the interviews it is noticeable that there is limited social interaction between certain residents and groups, especially those in public housing, and at the time, temporary housing. Moreover, these limited and sometimes strained interactions contribute to the loss of connection between groups and more conflict, especially when considering resident's different perspectives and perceptions of

recovery and space. While there were cases of positive reinforcing factors, these were primarily personal obligations and responsibilities individuals took on. Even those with strong collaborations, or who have embedded themselves into new supportive networks, still had reservations when discussing both national and local government failures. With the presence of social disruption, lack of consensus about reconstruction, and general uncertainty about the future, the animosity toward local level and national level governance presents a strain on creating a unified vision in the community. As a result, the different levels of sense of place, identity, and attachment experienced by residents, may contribute to a prolonged recovery where some remain isolated and others are able to re-integrate into new social and economic systems.

CONCLUSION

In the context of the GEJE, the outcomes of reconstruction and recovery are often removed from the historical problems of paternalistic governance and development in Japan. In this way, disaster literature regarding the GEJE sometimes weighs short-term factors more heavily than long-term influences when exploring, explaining, and evaluating changes to recovery and development. As a result, the historical legacy of regional development and disaster management is often removed when analyzing resident experiences. Similarly, disparate outcomes post-disaster are connected to legacies of paternalism that have limited the autonomy of local governments and the agency of residents. Taken together, the historical analysis and the interview results highlight the layered and complex relationship that individuals have with social and physical spaces. It is critical to keep this in mind especially when residents' familiar landscapes are not only reshaped by disaster but also by human interventions.

Similarly, when answering how historical legacies of government policies influence recovery outcomes in the Tohoku region and how these processes influence economic restructuring and social recovery in Minamisanriku, I have highlighted three important things. First, reconstruction problems and governance issues are especially complex to analyze, as local governments' recovery plans were overseen, revised, and approved by the Reconstruction Agency before funding or resources would be shared with groups. Second, local governments are constrained in their ability to present resident-centered reconstruction due

to historic unequal development that undercut their capacities and resources. Third, local governments had competing responsibilities to their constituents and the goals of the national government. As was shown in the interviews, these issues are apparent in Minamisanriku as interviewees noted that meetings and other town halls to determine appropriate safety measures (e.g. seawalls and relocation), were headed by the same experts and speakers in the early years of construction, thereby only acting to inform residents of decisions already made in their best (some felt, unconsidered) interests.

Furthermore, the positive (i.e. pride, perseverance, and achievement) and negative (i.e. isolation, disrespect, lack of support, disconnection, and disagreement) narratives expressed by interviewees often reflected their own difficulties in feeling connected with their reconstructed spaces and at times with the people around them. The creation of a shared town identity and a shared understanding of the type of community residents wanted to live in were muddled by reconstruction and development processes that did not recognize how locals are intimately connected to their personal and shared spaces in the community. This lack of recognition and, by some regards, willful ignorance by government actors to genuinely include residents, is part of a longer history of the national government's treatment of Tohoku and needs to be analyzed with attention to that historical context. As a result, despite new laws and amendments, very little has changed in terms of how the national government interacts with local governments and local residents.

Based on the findings of the interviews, there are still significant issues with social recovery as it relates to social relationships as well as sense of place, identity, and attachment for residents. Due to the disconnection residents feel, positive social recovery has been limited. Especially as recovering social infrastructure and social networks face other challenges, such as disagreements between individuals and groups created through perceived and real biases during the reconstruction process. In this way, people's ties to others and their environment have been significantly harmed, limiting opportunities for informational flows that contribute to consensus building and the development of shared understandings.

Overall, this chapter endeavored to connect a long history of problematic development in the Tohoku

region to modern day disaster management outcomes to showcase how disaster problems were capitulated through the reconstruction process. Similarly, a review of this history was connected to the social and physical disruptions in Minamisanriku, as showcased through problems with sense of place, social recovery, and issues with shared understandings in the community. This chapter highlighted the unequal recovery trajectory of many in the community, as well as disparate views on how spaces should have been rebuilt. In this way, structural factors hold more power over the respective recovery experiences of people, despite personal actions and decisions by others to improve their own situation. Given the individual differences in recovery based on economic status, living conditions, social networks, and engagement the governance systems in Minamisanriku will be further investigated in Chapter 3, with a particular focus on how prefectural governance structures influenced the social and economic landscape of the community.

3. RECONSTRUCTION PLANNING AND THE DISRUPTION OF COMMUNITY TIES

INTRODUCTION

In this Chapter, I delve into specific interventions by the prefectural government pertaining to Miyagi's fisheries and other industries through the creation of Special Zones for Reconstruction (SZRs). SZRs represented a set of corporate deregulations allowing intrusion into disaster-hit local industries, especially farming and fishing. SZRs have had a strong impact on Minamisanriku, especially in relation to land and fishing rights, land adjustments, and the area's historical legacy of aquaculture. I examine the situation with fisheries to inform a theoretical narrative of political-economic conflicts between state actors and state actors and the public. I use 75 interviews from 2016-2018, including 60 resident interviews and 15 organizational interviews, to analyze how political-economic conflicts effected individuals and groups. I evaluated interviewee responses using collaborative governance, a key component that effects the consequences of social capital. From interviews, organizations and cooperatives express that political-economic divisions at the prefectural and local level limited opportunities for collaboration with government groups, made some residents suspicious of political decision making, and alienated different stakeholders, which pushed some of them to become more connected with community organizations.

This chapter highlights the ability of organizations to mobilize the resources entrenched in different stakeholder social networks to meet the needs of residents that would otherwise be inhibited by political-economic conflicts. Simultaneously, as a key part of the social infrastructure, organizations' ability to support the community's ability to collaborate, cooperate to manage threats, and facilitate a sense of shared responsibility and identity was extremely important when more formal governance processes disenfranchised residents. In many cases, organizations provided intermediary spaces and resources for residents. In this way, this Chapter highlights how intermediating political-economic issues with SZRs (i.e. resource scarcity) exacerbated local problems by facilitating the exclusion of some residents, causing confusion about reconstruction planning, and pushed some residents to pursue new forms of engagement with organizations to address their needs.

RECONSTRUCTION PLANNING

The Act on Special Zones for Reconstruction in Response to the Great East Japan Earthquake (GEJE) was a part of a package of laws and amendments instituted by the national government. This Act was part of revisions to the 1961 Basic Law on Disaster Response. It and other deregulatory Acts, as Kaneko (2017) summarizes, “never touch on (the) fundamental question of recovery, while the newly introduced Law on Recovery in Great Disasters in 2013 merely dealt with the deregulation of procedures for expediting reconstruction of the infrastructure and towns,” (p. 14).

As Kaneko (2017) mentions, various amendments to Japan’s disaster management laws, measures, regulations, and policies were lackluster in encouraging recovery. This perspective is echoed by Ikeda (2000) who reviewed the legal pitfalls and lack of post-disaster recovery laws, especially the 1961 Basic Law on Disaster Response. Essentially there are disagreements, both by experts and the Japanese public, as to the extent that the government is responsible for supporting the people and livelihoods affected by disaster. Disaster management structures put weight on municipalities who lack resources and lack autonomy to support the resilience of their communities. In such cases, it is ethically dubious to assume municipalities would have the specialized systems, structures, measures, and resources to handle a major large-scale disaster. In this way, local governments had the burden of being resilient and establishing resilience despite not having the tools, resources, or manpower to do. In such cases, some would argue that the central administration (national government) and prefectural governments should mobilize efforts that benefit community well-being and resilience. However, this stance ignores the central administration’s role in disrupting municipality’s autonomy and creating systems where they are reliant on support and approval from the national government. Thus, the forms of governance in Japan, primarily through laws and regulations, limit the representativeness of governance systems, and simultaneously, only presume to fulfill resiliency.

For example, the critical event that accelerated decentralization efforts was the 1995 Kobe Earthquake when more than 1 million people served as disaster volunteers (Fukao, 2019). Becoming known as the year of volunteerism (or volunteer *gannen*), civil society was catapulted forward with new reforms on non-

profits and volunteer organizations. This period saw a rise in studying the roles of mutual-help organizations, volunteerism, NPOs, NGOs, and other civil groups in providing disaster relief and recovery where centralized governance had failed to assist (Shiraishi and Matoba, 2019; Fukao, 2019). However, despite revisions to disaster management policies recognizing the usefulness of decentralized responses to disasters, this did not facilitate a meaningful transfer of power. Transfer of power to municipalities from the national and prefectural governments in the early 2000s did not contribute to increased resilience as decentralization coincided with a variety of municipal mergers, further exacerbating resource issues (Ota, 2019; Fukao, 2019). Similarly, during the 2011 GEJE municipal plans had to be approved through national and prefectural government bodies and agencies. So, despite decentralization, power dynamics have changed little to support the agency and autonomy of municipalities (Shiraishi and Matoba, 2019).

With this in mind, the following discussions bridge how political-economic conflicts affected participation and engagement of individuals and groups in the community, due to decisions of state actors who supported larger corporate interests over those of local communities, like Minamisanriku.

Challenges to resident participation and engagement

When evaluating interventions by the Miyagi prefectural government (and its goals) it is important to understand how resident-centered reconstruction processes were minimized. Of the municipalities affected across Iwate, Miyagi, and Fukushima, few utilized the Basic Autonomy Ordinance or Town Planning Ordinances (through the District Disaster Prevention Plan) to foster the participation of residents in town planning. Additionally, most municipalities, “either have no history of deciding on statutory town planning because there was no area targeted for town planning, or have followed the minimum legal procedure...(most municipalities) have had little experience in setting regulations...(or) carrying out a project....actively together with citizens,” (Ubaura, 2017, p. 4).

Reasons for this lack of experience is partially due to the lack of agency and autonomy of municipalities to act on their behalf, limiting their ability to build up skills, capacity, and knowledge (Fukao, 2019; Ota, 2019). Similarly, the paternalistic hand of the national government is also filtered through prefectural

governments. In the case of Miyagi, the governor, by many accounts, including other government agencies and stakeholders, usurped power from other agencies and regulatory bodies that specifically protect the interests of individuals, cooperatives, and small businesses (Sekine & Bonanno, 2016). However, this is an intentional decision on the part of the governor, as other prefectures, namely Iwate, was much more focused on assisting municipalities recover in the way they thought was best.

Other issues relate to having poor representation and token participation due to socio-cultural norms about power and who makes decisions (or who is allowed to make decisions) (Ubaura, 2017). Like other prefectures, Miyagi had issues in ensuring planning considered a variety of perspectives from different social groups, ages, and genders. Primarily, planning was dominated or in some cases dependent on the committee, monopolized by either men, technocrats, heads of industrial associations, or members of the national and prefectural governments (Fraser et al., 2021; Ubaura, 2017). The Miyagi Governor did very little to integrate resident opinions into planning and made snap decisions in 2011 that would go on to isolate coastal communities, including Minamisanriku, in lieu of securing outside economic investments.

The threat of Special Zones for Reconstruction

Special Zones for Reconstruction came about through the Special Act on Reconstruction in 2011 (Reconstruction Agency, 2012). This Act and its counterparts, “promoted a set of pro-corporate deregulations that established tax abatements and incentives, state subsidies, and convenient credit to promote corporate investment targeting reconstruction,” (Sekine & Bonanno, 2016, p. 79). The 2011 GEJE created the perfect space for corporate interests to push for the significant opening of rural farming and fishing rights to businesses. Similar to the regional development problems of 300 years ago that framed Tohoku’s “problems” as only being fixable by national intervention and reforms, corporations had similar stances post-disaster, hoping to help themselves to the resources of Tohoku with less intention to improve the lives of the people there. Arguments used by corporations contended that their plans could, “represent the needed solutions to the economic decline experienced by farming regions in the wake of market deregulation and reduced state monitoring,” (Sekine & Bonanno, 2016, p. 80).

As a result, SZRs represented corporate hopes to control the reconstruction process by allowing private companies to be major stakeholders in dictating, funding, and guiding the reconstruction process. In this way, the decentralization goals of the national government shifted more power to some corporate actors than it did municipalities. In this way, the problems of governance and collaboration between levels of government during the GEJE represent a greater narrative on how political-economic conflicts benefited state actors and negatively affected collaborative governance opportunities.

As an early advocate, the Governor of Miyagi Prefecture (and member of the Reconstruction Design Council), emphatically pushed his colleagues to support the deregulation of fishing rights, and as Sekine and Bonanno (2016) note, the Agricultural Land Act⁸ as well (p. 81). In late 2011, Murai moved into an agreement with the central bureaucracy and the Democratic Party of Japan (DPJ) to impose SZRs in Miyagi. Local industries and other enterprises saw using SZRs to target disaster-hit industries as problematic as they would not be able to compete with national enterprises (Tsunashima, 2014). The reaction to the Governor's decision was catapulted by vocal, large, and immediate opposition by fishers and their neighbors along the Sanriku Coast, generating collaboration amongst disaster communities. Even in communities that weren't listed under a SZR, like Minamisanriku, the potential threat to livelihoods was taken very seriously. Minamisanriku's southern neighbor, Ishinomaki City, was the target of Murai's efforts. In the case of Ishinomaki, Murai specifically introduced legislation that let, "corporations compete with local cooperatives for the distribution of fishing rights" and that would essentially end the democratic legacy of fishery cooperatives (Sekine & Bonanno, 2016, p. 88).

In May 2011, Murai publicly announced his plan to develop SZRs as part of the reconstruction of fisheries without consultation with the Prefectural Area Fishery Adjustment Committee⁹. While the National

⁸ The ALA was modified in 2009 to "encourage more non-farming entities to start, or cooperate in, farming operations by relaxing regulations on farmland sales and leasing. In April 2014, Japan's Ministry of Agriculture, Forestry, and Fisheries began the Farmland Intermediary Administration Organization, an intermediate or "middle-man" program, to promote leasing of farmland to help encourage more farm consolidation" (Clever et al., 2014, p. 2).

⁹ This committee has provisions to protect local interests and local stakeholders.

Reconstruction Design Council¹⁰ had strongly encouraged the central government otherwise, special zone legislation was passed and SZR programs, like those Murai proposed, were established without sufficient provisions to protect local interests. It is important to repeat that these programs were implemented when it would be most difficult for rural communities to oppose outside companies.

Beyond issues with fishing rights, Murai's proposal was extremely biased towards reaching economic goals first. With the enactment of SZRs and the bias towards large-scale economic development emerging, opposition from local fishers, fishing cooperatives, and their fellow community members grew. With frustrations mounting, Murai put a moratorium on SZRs until 2013, however this was a ploy to wait out opposition until he could set up his own oyster business in Ishinomaki (Sekine & Bonanno, 2016).

THE CASE OF MINAMISANRIKU

During my time working with fishers in Minamisanriku, the actions of Murai put fishers and cooperatives on edge. However, despite the looming threat, fishers in Minamisanriku were not able to come to a unified agreement on forming a fishing union. As a result, fishers fractured into different groups, primarily the cooperative and oyster union in Togura, separate groups in Shizugawa, and Utatsu fishers under disaster recovery grants and support through Fisherman Japan. Similarly, these groups received different levels of economic support post-disaster as they did not all qualify for disaster recovery grants. From interviews, Utatsu fishers felt particularly left behind in the reconstruction process, as Shizugawa had received special treatment, priority funding, and priority reconstruction in comparison to others.

This context is important when we consider that local conflict can undermine individuals' and groups' ability to challenge larger powers. Especially considering the importance of collaborative governance when overcoming disasters as large and destructive as the GEJE, anything that disrupts the possibility of cooperative and collaborative efforts to address the needs of disaster victims can directly change recovery trajectories. As will be discussed in the next sub-section, this is theoretically relevant when

¹⁰ It is important to note that even though the council noted the negative effects of SZRs, such as the future potential to create conflict and confusion over resource management usually handled by other government agencies and units of cooperatives, the council decided to ignore these. (Hamada 2013a, 2013b in Sekine and Bonanno, 2016 p. 162).

considering how governance is framed in both disaster management and social capital literature as a linchpin to effective and positive social outcomes.

The sentiment about how reconstruction was conducted in Minamisanriku was an area of great contention amongst residents and the people I interviewed. In this case, conflicts between groups and the local and prefectural government were observable through town relations and how interviewees described other individuals and groups' actions. Thus, the difficulties in Minamisanriku are reflected in how each district has been treated during the reconstruction process. These difficulties are visible in the political and inter-district conflicts that continually effect town relations.

While in the field, I recorded that post-disaster disagreements between political and economic actors were primarily due to reconstruction planning and views of negligence. Similarly, there were disagreements between the town office and businesses, which lead to a lawsuit over transportation and tourism that was still on-going as of 2021. Other notable post-disaster conflicts include disagreements between the tourism association and some businesses, which isolated key stakeholders. These disagreements spouted from power struggles between powerful business owners and the tourism association and town office's decisions on economic development. Similarly, competition between fishers in Togura, Utatsu, and Shizugawa have evolved since the disaster due to inequitable access to grants and subsidies (see Sekine & Bonanno, 2016). Similar issues for fishers, included the absence of marine processing plants for Togura, port development in Togura and Utatsu, and other resource issues for smaller producers. Other new contentious issues revolved around limited transportation and mobility for residents and the lack of resources located near their neighborhoods.

Other conflicts exist within the community between local organizations and the town office when trying to drum-up interest in events, community programs, and other activities to support residents. It is especially difficult to have the town office support resident meetings that do not go beyond discussing prospective solutions. Otherwise there remains discontent between groups and the town office due to the local government not properly addressing seawall questions, concerns, and confusion, as well as the legacy of

poor resident involvement on committees or other decision boards that affect their districts (Ward, 2018; Littlejohn, 2017; Cheek, 2020; Fraser et al., 2021). In this way, there are both internal conflicts and conflicts between the community and government structures to consider.

As a result, governance structures from the national to local level can severely inhibit the recovery of the community, through social discord and conflict, economic planning issues, and the general lack of transparency when it comes to decision-making. In the following analysis, the interviews provide insight into issues with local and prefectural government systems in Japan and highlight how governance can directly affect social recovery, community resilience, as well as the generation of social recovery.

Connections to disaster governance and collaboration

In the most basic sense governments operate to organize and facilitate collective decisions and is key to management and development structures (Rosa et al. 2014). Within disasters, governance focuses on, “interventions aiming at changes in environment-related incentives, knowledge, institutions, decision making, and behaviors,” (Lemos & Agrawal, 2006, p. 298). However, governance within Japan does not equitably handle disaster risks. Despite cross connections between national, prefectural, and local governments, collaborations amongst civil society actors, and with others, such as through public-private partnerships, governance in Japan is still hierarchical. Most Japanese governance systems are predisposed to maintaining power for extra-local state actors. In this way, governance acts to limit autonomy and shift power away from municipalities.

For example, there is a long history of “town planning” (*toshi-keikaku*) or planning processes whereby the overseeing body is a national agency for an area, but those tasked with executing plans are local agencies and governments (Akimoto, 2018). In this way the most important decision-making powers are held by central government actors, whereas local agencies are merely instruments to carry out goals. Although the power of planning processes were transferred to prefectural governments in 1968, and then mainly to municipalities in 2000, the division of power, roles, and responsibilities between the three levels of government resulted in governance that was neither efficient nor organized (Akimoto, 2018). Care had

not been taken to ensure that municipalities could afford planning processes and by extension major disaster reconstruction. Thus, local actors are constrained by power structures that shuffle responsibility but do not provide measures to give local actors the tools to maintain autonomy.

Japanese governance follows a vertical governance structure while attempting to also implement confusing horizontal measures that inadequately support local governance. These vertical and horizontal forms can be conceptualized as, “horizontal governance relationships involve actor networks that operate mainly within a local geographic context, e.g., a community, flood plain, or watershed, whereas vertical relationships are those that involve ties among local and supralocal entities, e.g., states, provinces, regions, and national-level and international and global actors,” (Tierney, 2012, p. 4). As a result, regardless of the form of governance, collaboration is necessary to fulfill goals and implement measures efficiently. Within disaster studies, collaborative governance is “the processes and structures of public policy decision making and management that engage people constructively across the boundaries of public agencies, levels of government, and/or the public, private and civic spheres in order to carry out a public purpose that could not otherwise be accomplished” (Emerson et al., 2012, p. 2 in Tierney, 2012).

In order to have effective collaborative governance social structures need to be well developed and support the communication of a variety of opinions and knowledges. Thus, when considering collaborative governance, key aspects of social capital emerge. The claimed relationships between governance and social capital highlight that high social capital could bridge trust with those in authority (Górriz-Mifsud et al., 2016; Bull & Jones, 2006; Aldrich & Ono, 2016), and might create communities more resistant to social, political, and economic failures (Bowles & Gintis, 2002), and that with higher social capital there are more positive perceptions of local governance and actors (Abby et al., 2016). Górriz-Mifsud et al., (2016) also elaborates on the necessity of social capital factors for governance, “governance deals with societal challenges entailing institutional changes by increasing agents’ coordination, collaboration and participation in multiple facets (multi-actor, multi-sector, and multi-level), which constitute core social capital elements,” (p. 26). In this way, social capital as seen in well-developed social networks and social structures could help support governance that is inclusionary.

Alternatively, low social capital and poor social systems may produce fractured social networks, wherein only a select proportion of perspectives and knowledges are included in governance decision-making processes (Górriz-Mifsud et al., 2016; Bull & Jones, 2006).

Ideally, governance processes operate to fulfill obligations to victims and to meet the goals of recovery and to reduce post-disaster risks. However, the potential overutilization of central government actors within vertical systems means that disaster management mainly operates on a set of norms different from local communities. Simultaneously, central government actors and local actors, such as organizations, may define issues differently and therefore pursue different solutions. Differing norms and perceptions of problems impedes actors' ability to work collaboratively, especially when social structures cannot adequately mediate disagreements and disaggregate information.

This understanding of collaborative governance and the various actions of the prefectural government are used to investigate how governance structures influenced the social and economic development of Minamisanriku when there were ongoing political-economic conflicts. Of note, the 15 interviews with non-profits, local organizations, and cooperatives highlight difficulties in receiving support despite government goals to support local recovery and resilience. Secondly, the 60 interviews revisited in this chapter juxtapose governance issues with community resource needs during reconstruction.

Data collection and analysis

This chapter uses 60 interviews from two qualitative studies between 2016 and 2018, and also includes 15 organizational interviews with local non-profits, community organizations, and cooperatives. The 2016-2018 semi-structured interviews were from 30 to 180 minutes, and the 15 organizational interviews were from 30 to 60 minutes, at a location of the respondents choosing. The 15 organizational interviewees were chosen over the course of my service work in the community. These individuals represent major organizations that provide a variety of opportunities and development activities for adults and children. Especially for the non-profits and community organizations (e.g. NGOs), there is a lot of focus placed on economic empowerment, social and educational development, and the training of younger leaders. From

my work with these organizations I was permitted to interview their directors and in other cases key staff members. As a result, while these organization representatives and staff represent a purposive sample, they are representative of the organizational work and engagement happening in the community.

In the course of this dissertation I revisited these 85 interviews, and did line-by-line coding with reflection memos and indexed these according to the emergent themes from the interviews. These emergent themes were compared with concepts from the collaborative governance literature from the previous section. This aimed not only to identify specific text segments related to reconstruction experiences, but also to develop themes focused on consequences of cross-collaboration in Minamisanriku. In my original coding scheme from 2016-2018, I had already grouped interview memos by positive and negative experiences. For this chapter, I replaced this coding scheme, instead focusing on descriptive language and experiences that either represented positive or negative experiences with or perceptions of governance structures. From there, coding memos were indexed based on whether the interactions with governance structures affected community ties or cross-collaboration.

The governance focus provides insight into how resident's perceived governance structures and decisions making, both in relation to the prefectural and local government. For organizations, questions specifically focused on their relationship with the local government and how they perceive government support. Additionally, organizations were asked to provide a review of support they had received if any, and the problems and challenges they have in servicing the community. As some of these organizations rely on government grants and subsidies, some names and identifying information has been removed.

FINDINGS

Along with insights from fishers and cooperatives, the interviews with community organizations and non-profits helped to disentangle the structural issues within governance decisions and how these affect their support, and the programs and activities they are able to do. Their responses highlight how issues with collaborative governance can disrupt community ties and make it difficult to access resources. Under the following sections, featured excerpts from the 2016-2018 interviews are included. In the first sub-section,

issues within fisheries are featured first, then organizations, and then resident interviews.

Disruption of community ties

In interviews with cooperatives, conflicts between local and regional actors with fishers, on one hand, and fishers from Togura, Utatsu, and Shizugawa, on the other hand, harmed community bonds, district ties, and social relations by creating community stress around resource accessibility. In my interviews with individuals like, Mr. Murata, prefectural actions rippled throughout the community. He explained how Murai's actions in Ishinomaki had direct consequences on the relations of fishers in Minamisanriku. In his view, with Minamisanriku having a much smaller fleet size, smaller ports, and lower productivity, the introduction of large corporate enterprises into the region would jeopardize their livelihoods. He noted this as his primary reason for supporting new cooperatives in the wake of Murai's decision and especially that of Togura and other organizations like Fisherman Japan.

His colleague, Mr. Hiroki, added how Murai's handling of fishery reconstruction (i.e. ports, marine processing plants, large vessels, and fishery businesses) made it difficult for other fishing communities to gain financial assistance, creating a piecemeal system in which fishermen or their cooperative would have to apply for grants. Thus, the resources across cooperatives and fishing communities were unequal. In Minamisanriku's case, there were large differences in how fishery restoration grants and funding was distributed. As Mr. Murata notes, "whereas all fishermen in the Utatsu district were supported by disaster recovery grants, only some in the Shizugawa district were supported, while others formed a cooperative. In the smallest fishing district, Togura, all 96 fishermen formed a single cooperative which they describe as their 'Gambaru Fishery Reconstruction Support Project.'"

Within fishing circles, issues with support from the local government and prefecture have not subsided. One of the fishers from the Togura cooperative framed this issue in a similar way, by emphasizing that in order to get support for their support project they had to fundraise for all of the certification fees for getting their sustainability certificate. As Mr. Hiroki summarizes,

"Every few years we have to focus on fundraising to maintain our ASC certification, our cooperative helps us in advertising and getting our campaign out to multiple people, but we have

a lot of support outside town. Having the ASC certificate means we get more money for our oysters, but we do have to maintain our credentials. Other fisher groups haven't been able to get ACS certification because they can't all come to an agreement or because...there are larger interest (groups)...who have a lot of say at meetings...it can cause problems because of competition."

Others closer to the matter, like Mr. Aoi noted that due to the lack of diversity at town meetings, there was significant conflicts between groups in town and with those involved with community reconstruction, such as Reconstruction Agency administrators, local officials, and other stakeholders.

"Because seawall construction and other building projects were mostly discussed by civil engineers, most of us were shut out of meetings....shut out...you would go to a meeting with the design council with ideas and they had already decided on plans, and how they would be implemented. So different groups decided to either give up or do their own projects...we did not reach a consensus...the other problem you asked (about the distribution of funds), is difficult to say. There was agreement on rebuilding the fisheries, ports, but how that would go...less. Utatsu's fishers are very lively (he laughs), most of them see their work as part of continuing fisheries...like Togura...somewhere Shizugawa got lost in the middle...with voices (opinions)."

One of the other emergent narratives from organizations I directly worked with or with organizations that collaborated with us at some level, was some difficulty in engaging with the community, regardless of if the population was fishers. For example, some noted that in order to have programs or interventions cut across social groups in the community, organizations needed to be cognizant of how there are large socio-economic and generational gaps between age groups. These issues, as Mrs. Morishima placed it, include,

"The bigger issue...is that the younger people who are in Minamisanriku, the majority of them, they're from the rich families. Thence, they're there because they have a reason to be there. Anyone from a poorer family or from someone who didn't have much or who lost too much in the tsunami has already left because there is no opportunity for them in Minamisanriku. Finally, the generation that is from Minamisanriku...if you talk to the grandparents, anyone over 50 or 40 even, they will remember a time when it was Utatsu and Shizugawa and Togura, and you know everything was split...So they still identify as, 'I'm from Shizugawa,' and their loyalties are very strong. But the 20-30, and I think about the 40 is the line, they say, 'oh Minamisanriku' and they mean everybody...but the other (problem)...a lot of things with the political is that people say, more money was spent on Shizugawa's redevelopment than Utatsu's,"

Regardless of the reason, lack of transparent or inclusive decision-making within governance systems, caused confusion amongst residents and also led to conflicts between groups who shared similar interests but diverged on how to incorporate these interests equitably into reconstruction process given that some actors were given more credence than others (perceived or otherwise).

Lack of collaboration

Within discussions about problems with governance both positive and negative narratives about support and collaboration emerged. Support seemed to be based on whether organizational or resident interests and priorities matched the government reconstruction agenda. As such more socially oriented interventions sometimes fell through. As Mr. Ishida, an early volunteer at OGA for Aid summarized,

“After the disaster there was of course chaos, and I don’t think that at that time with what was left of the government, they didn’t have systems in place...but in terms of implementing there was the whole GFA and I feel there was some collaboration at that point but much later. What I’m trying to say, I’m not sure how much outreach these projects had to the local government, if it was less or none, I have a feeling it is because, I guess is that, they are slow and are unresponsive and they don’t necessarily get on board and support... because the town doesn’t sponsor us we have sponsors outside the town [private companies] to do the workshops, I think if there was some local government support for I suppose, I would think they could at least be supportive of bringing outside people to the community... I would be happy to hear it if there was some program that supports that kind of effort [community reuniting]. I don’t know if they, like the reconstruction board, put the same kind of value on community reuniting, the non-construction related things, I get the feeling they are mostly focused on construction unfortunately.”

Katie, one of the few foreign volunteers located in Minamisanriku from 2014 to 2016, noted that priorities for assisting organizations that help children were scattered because of how social work was perceived.

“The town office likes to support everyone, at least verbally...I think it is because of a lack of resources. However, I have volunteered with different organizations, and worked as a JET teaching assistant at the elementary schools, but there is not a lot of help for the kids within or outside of school if they are struggling. I joined OGA for Aid because they provide fun interactive activities for kids who are missing one or both parents, or who act out in school. The teachers also don’t have much power to do things, some children just stop attending school. I really love the kids I work with, we make little personal journals together, and do other engaging activities that aren’t usually offered...I think a lot of the trauma of children is unaddressed, and the organizations that help in that regard, because the work is messy, do not get as much support.”

Other organizations noted that there is a difference between being well supported by the government and collaborating with them compared to if a group is well embedded in the community, as Ms. Aki notes,

“So, we don’t have much, well we haven’t had much support from the government, the local government. But instead, the reason we are still in Minamisanriku is that, is that we have more connections with the local people as opposed to the government. So the government, at the time of the disaster they were focusing on things like, [pauses] like rebuilding the industries, and they’re focusing on the harder hit area.... So, from the beginning, the government wasn’t much involved.”

Presence of collaboration

Despite issues with support and collaboration experiences by some residents, groups, and organizations, most groups focused on economic outreach or development, or other forms of empowerment generally had very good experiences through their collaborations with the Tourism Association, but not necessarily the town office.

Mr. Ueno who is part of Pallet, Ltd., and a well-recognized community figure, has worked extensively in the town providing a variety of resources to residents, especially those attempting to get ideas off the ground for new businesses and programs, as well as social events. However, he also notes, as others have, that the relationship with the town office is odd or hard to navigate.

“Most of our support comes from the Tourism Association, they help us sponsor events, advertise events, and set-up tents, tables, and other things for our activities. I think we are treated differently since we aren’t a non-profit. We don’t go to them for feedback and they don’t control the events we do, rather they lend a hand in ensuring the events run smoothly. They help us coordinate, and they also advertise our events in advance....from my understanding the tourism association and town office collaborate on these sorts of projects but mostly the tourism association handles them...from my experience working with them, the tourism association holds a lot of decision-making power in comparison to the town office ...it is a bit strange because residents think the town office is the one who tells the tourism association what to do, but they have more equal power because of the economic development the association does....I think it can be confusing.”

Mr. Takagi with Fisherman Japan frames the collaboration as a product of successfully reaching out to the community and tapping into one of their key interests—preserving fisheries.

“I think because we have been so successful, we naturally have received support from residents and the town office. We also collaborate with other organizations and companies in Minamisanriku...We fundraise and also receive subsidies as well, we also receive funding through our online store...Since we work across different industries we collaborate with each other which helps support our vision for increasing the number of fishers in the next 5 years.”

Others in the community who work directly with the tourism association note that even if there isn’t direct substantive support or collaboration with the government, organizations have cultivated their own networks and relied on each other to accomplish goals and support each other’s vision. As Mr. Noe, highlights,

“We collaborate through talking about where we would like to hold the event, in case we need reservations in advance, for example at the Fukkouchi...or if we decide to use the venue space at Heisei no Mori or Hikoro no Sato. I’ve also helped with promotion for new businesses in town

or...for Mr. Sasaki's new winery. We more often collaborate on other projects the town office advertises, like at pop-up events held by smaller groups by Mr. Haneda or Mr. Ueno, or those by ESSCA or WE...Those are more internal collaborations that we've built."

All supported organizations mostly fall into revitalizing the economy, or a particular demographic of workers in the community to help revitalize people and the economy. There is a large amount of town support for new businesses, entrepreneurial work, cross-industry collaborations, coordinated events with other industry-based organizations, such as at the industrial fair, and for groups who have very good public relations. All of the above organizations do a lot of work to be integrated in the community. Their support from residents is due to their own efforts to support the community and provide opportunities for economic improvements rather than due to interventions by national, prefectural, or local government actors. Mr. Ueno is a slightly different case, but as an influential individual, he is featured in and supports a lot of business programming, and special interviews as well which brings in celebrities in some cases, or other high-brow individuals that could get Minamisanriku featured on the Miyagi prefectural news.

There are different challenges to governance and collaboration in regards to social recovery. On the one hand, all three levels of government have competing interests, or at least that is how these interests are categorized and perceived by residents. These schisms are much larger when considering disagreements on safety measures than in other areas. For example, residents were fine with relocating if it meant there would be no seawall. However, despite relocation a large seawall was still built. Similarly, there are also differing and shared interests within separate groups, such as fishers. On the other hand, most organizations have been able to embed themselves as resources to residents, especially if they offer some form of economic development or meet an absent social need. This is aided by some level of support from the Tourism Association, whereas more substantive forms of support from the town office seem thin due to a lack of resources, information, and a general capacity to support a variety of initiatives. The differing ways in which organizations and residents navigate government systems, presents pitfalls where social conflict and disruptions may emerge. Simultaneously, the murkiness of governance also provides incentives for organizations to step in and act as an intermediary source of information and support. In this way, organizations are key to the recovery of the community, but could be enhanced

further with more support, and for support of more diversified groups and interests to reach other more isolated or less addressed issues in the community.

This is especially the case when considering how social recovery, at least on the part of government actors, is passed over more often for physical reconstruction (and that residents and organizations recognize this problem). Similarly, the constrained relationship between the local government and prefectural and national actors diminishes their ability to properly address resident concerns through their own means. This is greatly apparent when organization directors discussed how prior to 2015 the local government was absorbed in the physical construction of safety measures, a focus placed on them by national and prefectural directives. Similarly, because the local government was dependent on information from the national government, this limits their ability to be informed decision makers, but these issues were not shared with residents. As a result, while residents do place blame on central government actors for being out of touch, the brunt of complaints are borne by the local government.

CONCLUSION

When considering the internal conflicts within Japanese governance structures during reconstruction, the constrained relationships between different levels of government actors significantly reduces the ability of local governments to meet the needs of residents. While governance systems act to ensure the functioning of critical societal processes and structures, post-disaster decisions made by the central administration as well as the Governor of Miyagi, placed additional communal stress on different groups in Minamisanriku, but especially fishers. Communal stresses emerged through conflicts over the distribution of resources, especially recovery grants and aid to local organizations. Issues with resource allocation to fishers generated schisms between fishers across the three coastal districts but also forced fishers to find their own sources of funding, such as disaster recovery grants in Utatsu, and the formation of a cooperative and union in Togura. These accomplishments by fishers can be attributed to their own abilities to coordinate in their smaller networks and integrating into active organizations.

Similarly, the responses from residents in this chapter highlight that the political-economic conflicts

present in Minamisanriku were born from not only a lack of the prefectural government believing municipalities could actively contribute to their own recovery, but that any efforts by local governments to exercise their autonomy was a threat to the larger economic goals of the prefecture.

Organizations, regardless of whether they had monetary support from the local government, heavily engaged themselves in the community and acted as bridge for residents to meet some of their needs. Additionally, many organizations did note a difference in support based on whether they were socially or economically oriented. Directors noted that local government actors had limited resources that they could allocate freely. In this way, governance structures and their negative effects on social and economic development in Minamisanriku can be traced through both the action and inaction of the actors at the local, prefectural, and national level.

Especially when considering how governance and development affect the effectiveness of social infrastructure supporting social recovery, it is visible that social recovery has been carried by key organizations and key groups of influential locals. Considering the enormous effects of power in the community, social networks and resources utilized by organizations did provide critical aid when other sources were unavailable. However, organizations, despite their close connections to residents, do not necessarily exhibit close collaborative ties with the local government rather they have developed strong inter-dependence on organizations within and outside the community to maintain their budgets, programming, and other measures to meet their goals. In this way, the relations between organizations and local resident actors represent how these groups utilize their connections to meet needs unmet by governance structures, systems, and processes. However, they were unable to change or engage these governance systems to meet their needs during the early years of reconstruction.

As a result, while social capital provides the residents, organization directors, and other interviewees featured in this Chapter a means to develop their own paths toward social recovery, this recovery is not uniform, nor does it reach all members of the community. Thus, the ability of social capital in this case, to create more inclusive forms of governance is not present. Similarly, despite the interconnectedness of

some groups, suggesting well maintained social capital, the supposed benefits that should appear within governance is also not present. For example, this developed social capital has not bridged trust with those in authority and neither has it contributed to more positive perceptions of local governance and actors. Rather, it has created organizations and other resident instigated groups, such as cooperatives and unions, to bridge the political-economic failures seen in Minamisanriku during reconstruction.

As a result, while this Chapter highlights the importance of organizations, it also shows the destructive power of inefficient, divisive, and inequitable governance. Especially in regards to creating confusion amongst residents on decision-making, but also in terms of perpetuating resource scarcity for fishers and organizations. In this way, disaster governance in Japan, and in how it effects development in Minamisanriku, fails to inclusively and actively coordinate, collaborate, and foster participation of actors across multiple sectors to handle societal challenges created by the disaster.

4. DIVERGENT TOWN PARTICIPATION, REPRESENTATION, AND NARRATIVES

INTRODUCTION

Unlike Chapters 2 and 3 which were more exploratory and featured a more inductive approach to understanding social capital and its effects, the broad theoretical goal of Chapters 4 and 5 was to test assumptions of social capital within the disaster literature and to investigate if and how social capital acts as a resource to residents in various contexts. Also, this second portion of the dissertation focuses more on directly identifying how social recovery can be improved for residents, especially in terms of representation, engagement, and participation. The previous studies were originally intended to provide more information to my partners on problems residents were encountering and their needs, which were then reassessed in the creation of this dissertation. However, for Chapter 4 and Chapter 5, the outcomes of previous work were used to craft more explanatory research projects on social capital and community outcomes. As such, the theoretical focus in these chapters is more centered.

In this Chapter, I specifically delve into the structure, focus, and effects of various local reconstruction governing bodies in Minamisanriku. I used understandings of social capital within governance contexts to analyze the participatory and representation measures of local councils during reconstruction planning. Secondly, representative measures were also examined through town publications (i.e. resident narratives) which comprised resident concerns and views of the town. The analysis of materials was based on understandings of participatory discourses in governance and the embedded social capital benefits in having well developed participatory discourses during planning phases. Thus, the analysis presented in this chapter consists of three discrete steps: examining local councils using a participatory discourse analytical frame, using the identified participatory and representation measures to understand which problems resident narratives are likely to focus on, and further content analysis on resident narratives to construct and identify possible power differences in town narratives and representation over time. Through this research focus, our working-group (my partners and I), utilized a participatory discourse analytical frame to investigate how local governance specifically affects the ability of residents to respond to problems through the reconstruction process, especially as it relates to social and economic public concerns.

To accomplish this, we compiled information on and then held deliberative discussions on governance structures, membership, decision-processes, and resident inclusion with the project's working group. This was done by collating documents from the Minamisanriku Town Office website. In total we reviewed more than 50 documents related to reconstruction (town) planning, council initiatives, public commentary, and strategic planning meetings. We assessed whether present participatory and representation measures from councils led to positive outcomes, namely better communication between the public and political elites, planning serving resident interests, and effectively addressing uncertainties, risks, and ambiguities post-disaster. Secondly, we pulled resident narratives from town publications to compare public concerns reflected in planning to those expressed directly by residents. Similarly, the narratives were used to identify not only resident representation levels during the planning process but what resident proposed solutions were as well. We specifically focused on the public concerns recorded by residents (i.e. unemployment, depopulation, out-migration, aging, and industrial stagnation) and how local governance contributes to residents handling them, as represented in their narratives.

Overall, this Chapter provides clarity on the effects of social capital through governance systems, and especially on its influence of a community's ability to collectively resolve social and economic problems. The findings suggest that governance systems pursuing participatory discourses should be attentive to how goals will evolve over time and will need to be re-assessed based on resident perspectives and social and economic living conditions. Our findings also suggest that participatory discourses are necessary throughout planning processes, rather than to collect opinions, ideas, and knowledge only at the start. In this way, this Chapter also provides three main policy recommendations on generating participatory discourses through the application of direct participatory and representation measures.

TOWN PLANNING, GOVERNANCE, AND REPRESENTATION

A significant body of empirical work has demonstrated the positive and negative roles that social capital plays in the functioning of civil society. Especially within governance discussions, the function of governments and other bodies to manage and mitigate risks post-disaster is predicated on their access to accurate information, actor networks and expertise, and resources to properly deliberate possible

solutions and implement them (Tierney, 2019). Additionally, in cases where the problems being managed are extremely complex, such as those from the Great East Japan Earthquake (GEJE), more developed multifaceted systems are required to not only form a strong basis for disaster response and reconstruction but to also implement measures that will be acceptable to the community (Aldrich, 2012a). When it comes to post-disaster planning, such as town planning, there are many uncertainties and ambiguities around present and future risks caused or exacerbated by disasters.

As such, Tierney (2019), Aldrich (2012), and Rosa et al. (2014) suggest that when managing complex risks that the public wants addressed, great care should be exercised to directly and indirectly engage affected parts of the community. This is especially important when getting unengaged residents to participate or be reflected in chosen solutions. When direct and indirect participatory activities are successful, internal cohesion—the aligning of perspectives, beliefs, and values—and the development of healthy network ties (i.e. social capital) promotes local participation (James & Paton, 2017). Similarly, if efforts by governance systems focus on the development of multifaceted participation and multiple lines of engagement, this supports the communication of and disbursement of a variety of opinions and knowledge throughout a community. However, when these systems are absent other groups, like local organizations, may have to fill these gaps to provide resources, services, and other needs to residents.

One of the suggested ways to implement and maintain positive governance is to conduct participatory discourses such that opposed arguments, or conflicting beliefs and values, can be addressed and discussed (Rosa et al., 2014). Similarly, participatory discourse can be used as a meaningful analytical frame to examine the effects of participation and representation measures on decision-making and recovery outcomes. Participatory discourse is the most complex type of deliberative discourse and is the most difficult to employ due to including agencies, experts, and stakeholders (industry, directly affected groups, and the general public), at the decision-making table (Rosa et al., 2014). However, participatory discourses are particularly powerful when there are multiple competing needs, concerns, and risks that are necessary to address. These discourses bridge the knowledge of experts and the knowledge of locals to create plans that are technologically advanced, but community-focused. Within participatory

discourses, extensive and well developed social networks are required to facilitate equitable exchanges between political elites and actors, specialists (e.g. civil engineers), and the public. As a result, successful participatory exercises naturally include a variety of stakeholders at the table, but mainly look to locals for direction, purpose, and the focus of future planning. Similarly, successful discourses do not merely have the public in these spaces to be informed by political and other actors on decisions, rather the public is respected and treated equitably to other stakeholders at the table. In these spaces, social capital and participatory discourses are mutually dependent. Without developed ties with local actors, participatory discourses cannot function or be useful. Similarly, social capital has value within different social and political structures and contexts, in that stakeholder connections promote cross-participation and alignment of values, while connections between locals and government-level stakeholders assist with successfully advising public officials on public concerns (Musso & Weare, 2017; Aldrich & Ono, 2016).

Similar to the claims above, indicators of participatory governance include changes in civil virtues in a community (see Boix & Posner, 1998). One of the consequences of social capital, is that it may contribute to group-work that gets people to co-operate, but on the other hand, it can enforce compliance to bad social norms and rules. This consequence applies to governance and the enforcement of laws that influence acceptable behaviors, values, and “virtues.” In the case of governance in Japan, and due to the general adherence to more hierarchical systems of authority, governance is more likely to produce civil virtues that benefit the group over the needs of the individual. Thus, in the case of participatory discourses in governance, social capital is claimed to further shift goals away from individual needs or political interests to community needs. This reinforces specific sets of civil virtues that not only produce community-centered goals, but also contributes to local and political elites mindfully incorporating these goals into planning to manage needs, concerns, and risks. As Boix and Posner (1998) frame it,

“(social capital) promotes good governance by shifting community tastes from particularistic interests (how can I get richer?) to more community-oriented concerns (how can our neighborhood be improved?). By enhancing citizens’ preferences for collective benefits – developing the ‘I’ into the ‘we’ in Putnam’s terms— social capital encourages the articulation of demands on government which are to everyone’s benefit rather than helping some members of society at the expense of others,” (p. 691).

Moreover, in disasters, participatory discourses and participatory disaster management improves disaster resilience (Tierney, 2019; Aldrich, 2012a). Especially within traditional vertical governance structures and relationships, stakeholder and resident engagement tends to be secondary to disaster responses. In this way, when considering the goals of the local government and their activities to engage residents, actions that achieve improved stakeholder collaboration and a higher capacity to respond and recover from the disaster (e.g. foster resilience) would be considered as meeting discourse requirements.

Given changes in Japanese disaster management that expresses local resilience as important and similarly expresses that residents should be engaged in planning processes, it is important to assess not only the extent to which participatory and representation measures were implemented post-disaster, but to also assess if the claimed benefits of these measures appear in the community and amongst actors. Thus, understanding when participatory discourses are needed, and recognizing that having participatory and representation measures may not guarantee positive effects, we focused on determining both the extent to which measures were incorporated into planning, and traced their associated participatory and representation measures effects on the community.

In our following analysis of town planning and resident representation we focused on determining the extent of participatory discourses through activities, collaboration, and discussions in local governance structures that represent resident concerns. Secondly, this analysis of town planning focuses on the extent to which councils and other committees provided opportunities for resolving conflicting expectations, values, and community visions as suggested by Rosa et al., (2014). Similarly, we considered the presence, capacity, and development of networks between political elites and the public in crafting town planning attentive to resident interests, concerns, and needs to manage risks from the disaster as suggested by Boix and Posner (1998). By utilizing a participatory discourse analytical frame, this Chapter directly explains why local government outreach was received poorly by portions of the community. This Chapter also suggests policy changes to how governance systems and political actors account for participatory discourses and the creation of ties between public and political actors. Overall the analysis of local governance and resident narratives highlight key representation issues, under-

developed local ties, and particular biases in the planning process which continue to ripple throughout the community through unmanaged social and economic problems.

THE CASE OF MINAMISANRIKU

Based on my partners' previous experience working with residents in the community and our interviews between 2016 and 2018 we knew that for a portion of the community, trying to engage in governance was often prohibitive unless the individual went through an organization or they participated in an organization that addressed their concerns. Similarly, we were aware of flagging resident morale when it came to accessing information and understanding decisions from all levels of government. However, while our previous work gave us insight on resident problems with reconstruction, it did not necessarily give us discrete reasons as to why local government outreach to residents was poor. As a result, combing through the local governance structure and systems within a frame of participatory discourse would provide us with an accepted type of deliberative discourse to analyze exactly how the local government affected community outcomes as well as representative and participatory spaces for residents. Similarly, it provided a guide for looking at how successful participatory measures should appear and what outcomes they should produce in addressing public concerns. Beyond the utility of participatory discourse, the other main reason for using this analytical frame, is due to the position of national and prefectural policies and laws that insist there should be resident engagement when crafting town plans at the local level, such as reconstruction and redevelopment plans. While our previous work showcased that there are indeed cascading issues with national and prefectural interventions, our interviewees mainly showed us symptoms of a larger underlying local problem. I and the working group recognized that the local government is under multiple different stresses, beyond pressures from high-level bureaucrats and agencies. However, given that there are political expectations to have residents included in decision-making, the local government has an expectation to have a shared responsibility with other levels of government to adequately incorporate residents in planning for their own well-being, as well as for other groups, organizations, and the future of the town.

Data collection and analysis

For our analysis of local governance I compiled documents from the town office, including 4 different reconstruction plans, 14 Promotional Council Meeting Minutes and meeting materials, 5 Earthquake Disaster Reconstruction Townspeople Conference Reports, 7 Great East Japan Earthquake Minamisanriku Earthquake Disaster Reconstruction Plan Meeting Minutes and meeting materials, and 7 Minamisanriku Comprehensive Planning Council Minutes and related materials. I also pulled relevant documents related to participatory actions by the local government, including the townspeople conference reports noted above, three different intention surveys (two from 2011, and one from 2015), and group hearing summaries from the comprehensive planning council. In total we analyzed more than 50 documents, including any that had information on public commentary.

For our analytical frame we noted sections of documents that matched a discourse requirement (see Table 4.1) and then evaluated it based on its efficacy (i.e. achieved participation and representation). This rubric was used to assess each council's representation and each prospective participatory measure to determine the efficacy of participatory discourses in Minamisanriku. It also allowed us to compare public concerns and strategic plans created by the public to the final plans submitted by the local government.

Table 4.1. Requirements for participation and representation within a participatory discursive frame

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| <ul style="list-style-type: none">① There must be diverse stakeholders, council members, and organizations on planning councils.② There must be measures to ensure that competing arguments, beliefs, values, and perspectives can be genuinely discussed by all stakeholders (e.g. external experts, general public, directly affected groups, and industry).③ There must be measures to ensure that conflicting expectations and town visions can be genuinely discussed.④ There must be diverse opportunities for residents to participate in the crafting of solutions, such as open advisory groups, consensus conferences, or other measures to resolve conflicts about prospective solutions.⑤ There must be mechanisms to inform the public of information speedily.⑥ There must be equitable mechanisms to resolve barriers to reaching consensus. |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Adapted from Rosa et al., 2014, p. 145-148.

For our analysis of resident narratives, these were also pulled from the town office. We specifically chose written narratives published by the town and not outsiders, such as regional news outlets, to ensure we were reviewing narratives explicitly produced by the town office that are meant to reflect public thought,

interest, and concern. The narratives were pulled from the town office website and included real vignettes of residents from the Minamisanriku Magazine (Series 1-32) between 2012 and 2020. Narratives were approximately 2-3 paragraphs in length and included any accompanying imagery (see Table 4.2. for the number of pulled narratives by year). Copies of the narratives were provided to all members of the working group and were analyzed based on if they represented public concern, and diverse residents, groups, and organizations. We deliberated after conducting our own individual evaluations. Evaluative questions included but were not limited to:

1. How does the newsletter that the narrative is in portray the current status of the town?
2. What is the theme of the narrative? Who is featured? Where are they from?
3. Does the narrative incorporate a variety of different residents?
4. Does the narrative represent public concern? How is the concern framed? Does the concern match an economic and social concern present in reconstruction planning?

Table 4.2. List of narratives by year (n=84)

Year	Narratives
2012	19
2013	11
2014	10
2015	11
2016	5
2017	10
2018	8
2019	8
2020	2
Note: earlier years featured many more resident stories than later years where at most 2 stories were featured at a time/per publication cycle.	

Our evaluation of narratives was accompanied by content analysis I conducted to find general trends across years, including which residents were featured to account for representation, and the different types of concerns addressed (i.e. primarily industry and environment related). Resident representation was reflected in which district they were from and the number of incidences in the narratives that a district was mentioned. Similarly, the concerns counted in the narratives were compared to the concerns listed in public contributions on planning, however identified concerns were limited to the environment/nature (e.g. ocean, forests, and mountains), industry (e.g. fishing, farming, and forestry), and disaster risks.

FINDINGS

The following findings section is structured to provide our analysis and synopsis of local governance first, which descriptively outlines the make-up and representation of councils, how they functioned, and any participatory measures that were included. To reiterate, this includes an evaluation on whether present participatory and representation measures led to positive outcomes, namely better communication between the public and political elites, planning serving resident interest, and effectively addressing uncertainties, risks, and ambiguities post-disaster. At the end of this first sub-section is our evaluation of the local governance planning system based on our analytical guide. The evaluation presented here was agreed upon by all members of the group. We concluded that participatory discourse was limited due to the structure of participatory measures and a lack of diverse stakeholders and networks, which lead to vulnerable members of the public being excluded. The second main sub-section of findings focuses on the outcomes of our narrative analysis and content analysis, and is comprised of three main findings, divergent representation, divergent and convergent concerns, and competing narratives on future town planning. Our final finding in this section on competing narratives was developed in consideration with the findings of our discourse analysis.

Local governance: limited participatory discourses

Shortly after the disaster, the Minamisanriku Earthquake Reconstruction Countermeasures Headquarters (hereafter referred to as “headquarters”) was set up to handle restoration, reconstruction, and development (see Figure 4.1). The goal of the headquarters was to create a Minamisanriku Earthquake Reconstruction Plan (Minamisanriku Earthquake Reconstruction Plan, 2011a; 2013a). The members of the headquarters met under Great East Japan Earthquake Minamisanriku Earthquake Reconstruction Plan Meetings (hereafter referred to “RRP meetings”) between 2011 and 2013 7 times (Great East Japan Earthquake Minamisanriku Earthquake Reconstruction Plan Meeting, 2011c; 2011d; 2011e; 2011f; 2012a; 2012b; 2013a). These RRP meetings were attended by the headquarters members, as well as the Minamisanriku Earthquake Reconstruction Planning Council (made up of 9 groups, including professors, experts, research institutes, the Ministry of Land, Infrastructure, Transport, and Tourism, the Tohoku Regional Development Bureau, and civil engineers), and the Secretariat/Executive office (6 members).

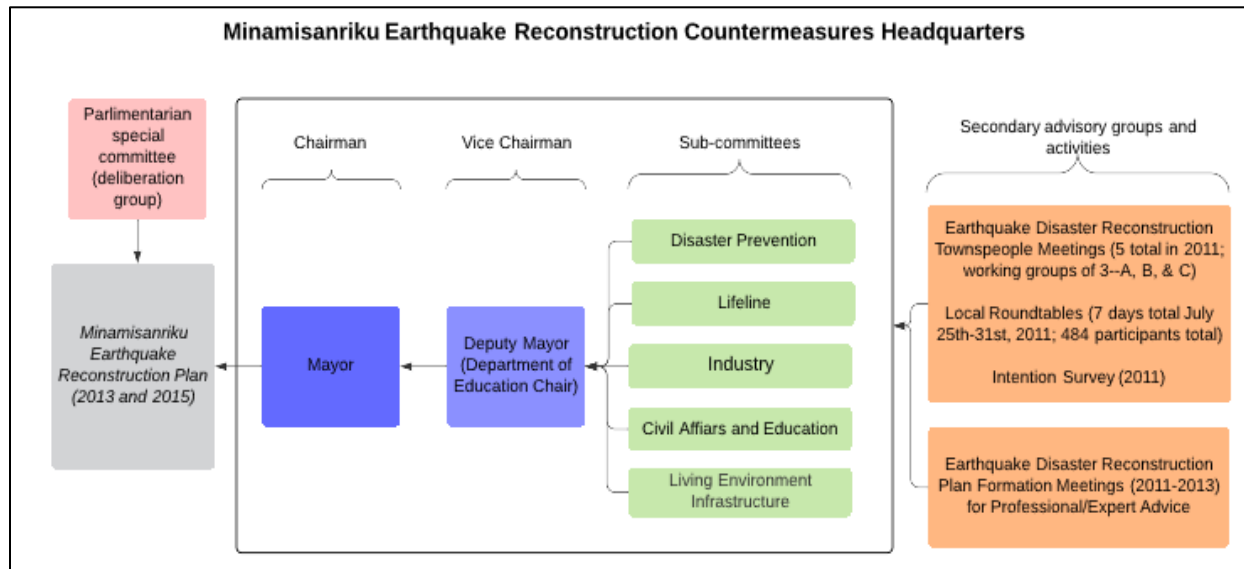


Figure 4.1. The members, organizations, and advisory groups of the Minamisanriku Earthquake Reconstruction Countermeasures Headquarters. (Adapted from Reconstruction headquarters system, 2011g).

Through these RRP meetings and work by the headquarters, they developed the first Minamisanriku Earthquake Reconstruction Plan in 2013. It consisted of 3 phases (see Table 4.3), focused on different aspects of the recovery process. While forming the plan, we found that they included short-term participatory measures, these included holding 5 Earthquake Disaster Reconstruction Townspeople Meetings, of which the first 3 were open and the final two were more closed for the Chairman and committee members (24 total) to organize a concise set of ideas proposed by residents to be incorporated into a proposal that was submitted September 7, 2011 to the headquarters.

Table 4.3. Phases of Minamisanriku Reconstruction Plan (2011-2013), (2012-2017), and (2014-2020)

<u>Restoration Period</u>	<u>Reconstruction Period</u>	<u>Development Period</u>
<i>"Galvanize community development"</i>	<i>"Full scale reconstruction/town development"</i>	<i>"Sustainable town development"</i>
<ul style="list-style-type: none"> -Emergency restoration and creation of temporary housing -Resumption of industry -Restoration of basic facilities -Create diverse employment through reconstruction projects 	<ul style="list-style-type: none"> -Industry creation for employment -Full scale reconstruction of livelihoods -Rebuilding of housing and revitalizing local community 	<ul style="list-style-type: none"> -Focus on the three primary industries and the creation of blue and green tourism (environment related industry) -Promote collaborative town development

Source: Minamisanriku Earthquake Reconstruction Plan, 2013a.

At these three meetings participants were put into three groups (A, B, and C) to brainstorm and develop a proposal on their specific ideas and solutions. The meetings also included a standing board of experts to provide in-person feedback. However, these meetings were mainly attended by middle-aged men (Townspeople Conference, 2011h; 2011i; 2011j; 2011k; 2011l). Feedback from experts was supportive, but many resident proposals were distilled into simpler plans. From our analysis, major ideas transferred into the reconstruction plan, such as needing temporary housing, or needing a new expressway. Between the proposal created and the plans proposed by residents, we found that there were reductions in scope and scale. Similarly, we were concerned by the lack of diversity at these Townspeople Conferences as women and younger members of the community were mostly absent. The final proposal of recommendations from the Townspeople Conference included 5 main items as well as 4 recommendations for realizing them (see Table 4.4).

Table 4.4. Outcomes of the Townspeople Conferences and proposed development items

-----Measures Wanted by Townspeople-----	
① Business cooperation	⑤ Special laws or zones
② Road creation (i.e. expressway connection)	⑥ Industry support
③ Education development	⑦ Disaster memorialization
④ Organization of volunteers (and donations)	⑧ Health, medical, and welfare
-----Summarization of Townspeople Measures by Chairman and Council Staff-----	
① Development of a main road, such as an expressway.	
② Reconstruction of livelihoods based on a sustainable and recycling model by creating wooden housing from local sources.	
③ Regeneration of bonds and local communities through welfare development and rehabilitation of social ties.	
④ Improve the educational learning environment by making the town into a “nature school” where children and visitors can experience weekend farming, fishing tours, farmhouse inns, ect that highlight the “unique hospitality” of Minamisanriku.	
⑤ Memorialize the disaster and lessons learned.	
-----Realization Measures Recommended by Chairman and Council Staff-----	
① Create an autonomous self-government reconstruction council.	
② Speeding up of reconstruction measures by creating a prioritization structure (deregulation of land use, tax exemption measures for disaster victims, subsidies for wooden housing, and expansion of subsidies for residential construction using natural energy/sustainable energy).	
③ Create a variety of “reconstruction support” mechanisms.	
④ Enactment of a “Tsunami Ordinance” to convey lessons learned.	
Note: the measures suggested by townspeople were accompanied by extensive mapping identifying actors, resources, and processes. An example is provided in the Appendix B.	

Beyond the 3 townspeople meetings, there was a series of local round tables held over seven days between July 25th and July 31st, 2011 across 23 locations, with a total of 484 participants (Minamisanriku Town, “Townspeople Roundtables,” 2011m). The roundtables provided the most direct resident engagement as there was a diversity of venues and times. The amount of attendance at roundtables varied widely, some with as little as 4 people, and others with more than 30. As a result, some roundtable sessions were more useful than others. The other main issue with the public roundtables was that after this instance they were not implemented again to develop ideas directly from the public on the final reconstruction plan. These roundtables were reviewed in the RRP’s August meeting where they also reviewed preliminary results from their first Intention Survey (Intention Survey, 2011n). This preliminary survey focused on specific reconstruction items related to housing, employment, and a final set of items on what things residents wanted to be included in reconstruction. A second survey in December considered future relocation and housing (Intention Survey, 2011b). These somewhat direct public participatory measures (townspeople meetings and round tables) and indirect measures (survey) to collect ideas were incorporated into the first 2013 Minamisanriku Earthquake Reconstruction Plan.

After this period, the opportunities for resident engagement depended on council structures. Following the conclusion of the RRP meetings, two new subsidiary councils formed, the Promotion Council (2013-2015), and the Minamisanriku Comprehensive Planning Council (2014-2015). The Promotion Council focused on further refining proposed projects and plans to handle social and economic problems post-disaster, however their discourse measures were limited. Similar to the Townspeople Conference structure, they had break-out groups, but participants only included district representatives, commerce and industry organizations, educational organizations, and the social welfare council (Promotion Council Meeting, 2013c; 2013d; 2013e; 2013f; 2014a; 2014b; 2014c; 2014d; 2014e; 2014f; 2014g; 2014h; 2014i; 2014j). The Promotion Council was a more developed form of the Townspeople Conference with similar goals of discussing problems to aggregate solutions and innovative projects, but on a smaller scale. The main difference was that plans within the Promotion Council had more development time compared to the Townspeople Conferences and had limited public participation.

The work by the Promotion Council would go on to assist in revising the 2015 Minamisanriku Earthquake Reconstruction Plan and the Reconstruction Promotion Plan (#67) that went before the Prime Minister for approval on January 19th, 2017. This council was overlapped by the Planning Council (see Figure 4.2), which was focused on developing a new Comprehensive Plan (2016-2025). This plan was a guideline that defined the goals of Minamisanriku and the measures to realize them, taking into account current needs of the townspeople (Second Comprehensive Plan, 2016; Implementation Plan, 2015b).

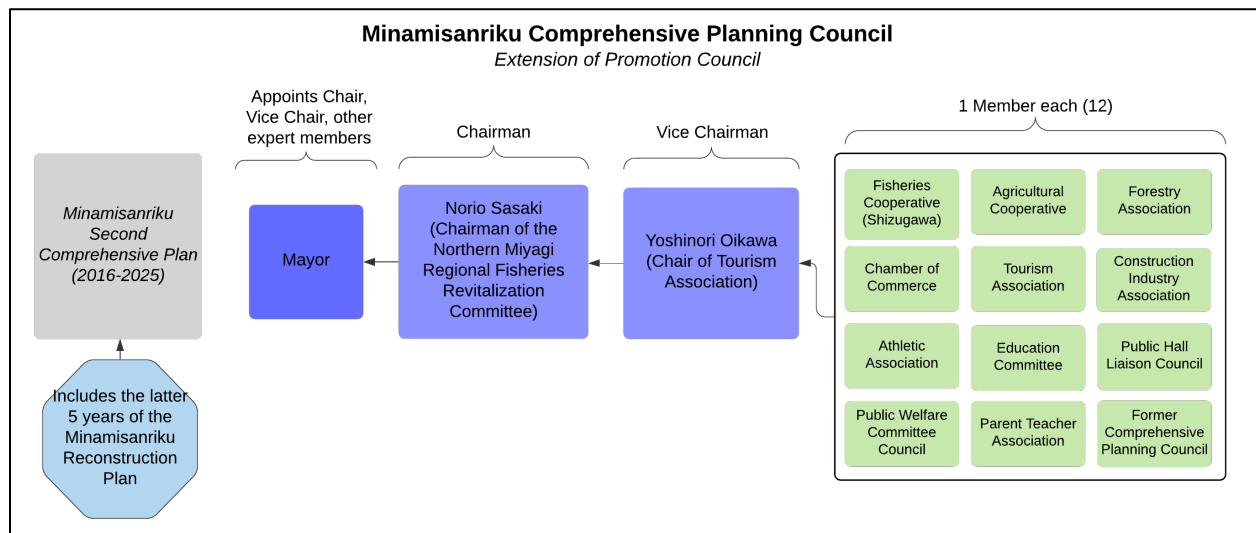


Figure 4.2. The members and organizations within the Minamisanriku Comprehensive Planning Council (Adapted from Comprehensive Planning Council Minutes, 2014k; Comprehensive Planning Council Membership, 2014l).

Unlike the Promotion Council, the Planning Council included two main measures for collection of resident opinions, although not participatory outside the members of the council. These included group hearings among the 12 organizations advising the council conducted between March 6th and March 27th, 2015 and August 20th and August 27th, 2015 as well as 30 interviews of school-children. The 12 participating groups do represent a variety of residents but further information on how group hearings were conducted was not available. Otherwise the council distributed another Intention Survey in September (2015a), only given to 30-39 year-olds. Of the 2,433 surveys distributed only 711 were returned. The responses from this group of people were used to amend the proposal. Lastly, they held a public commentary period which had zero submissions at the end of November in 2015.

In sum, the main concerns recorded in the proposal included town development, addressing depopulation and economic decline, land use, and new policies for future town development. Between the previous intention surveys in 2011 and the one in 2015, resident concerns expanded into 15 different areas. Upon analyzing the town planning in Minamisanriku from various councils and committees between 2011 and 2015, our working group determined that the planning councils did not achieve participatory discourse and that most of the participatory measures were indirect (e.g. surveys and public commentary forms submitted by mail or electronically). Secondly, on representation, most councils mainly included high level stakeholders and not the general public, and industry interests were over-represented.

Our working group found that the number of participatory measures was lacking after 2011, and that the group hearings under the Planning Council did not provide sufficient direct engagement with residents (see Table 4.5 for full analysis). After the original 3 Townspeople Conferences and the round tables, no similar opportunities for public engagement were provided by the local government. Additionally, while these measures allowed residents to discuss amongst themselves, there was no direct discourse between residents and council members after a plan was formed, meaning there was no space for residents to critique the plan meaningfully to reach consensus. Similarly, there was no indication if the members of the group hearings provided engagement opportunities to their constituents. Second, we found that despite the different levels of government and variety of stakeholders included in meetings and on councils, most of the represented groups were primarily those active in industry. On this point, contributions from local non-profit organizations was difficult to find, even though they were listed as an advisory body in the headquarters structure. Third, both the sustainability and industry team-member found that the Planning Council structure and membership did not retain good representation of the Togura and Utatsu districts, and those from Iriya seemed to be absent except from green tourism development plans targeted for the district. Across the planning councils and deliberative governance meetings, industry interests were central, but especially those from Shizugawa. Fourth, based on the documents, meeting minutes, and meeting materials available, after 2015 further direct and indirect discourses on future town development were limited to a final Intention Survey in September of 2015 and other public commentary periods after 2015. Lastly, besides housing, welfare, and employment

development, the majority of the reconstruction plan proposed and implemented leaned on the development of eco-tourism, environment related businesses and entrepreneurial opportunities, and projects to increase the charm and living conditions of the town to reduce effects of depopulation and aging. On this point, the proposed plan seemed to address some public concerns but did not include a variety of solutions suggested by residents.

Table 4.5. Group consensus of participatory discourse in Minamisanriku

<u>Requirement</u>	<u>Working-group member consensus (5)</u>				
	PI	Industry	NPO	Education	Sustainability
① Diverse stakeholders, council members, and organizations on planning councils.	Limited	Limited	Limited	Limited	Limited
② Measures ensured that competing arguments, beliefs, values, and perspectives can be genuinely discussed by all stakeholders.	Limited	Limited	Limited	Limited	Limited
③ Measures ensured that conflicting expectations and town visions can be genuinely discussed.	No	No	No	No	No
④ Diverse opportunities for residents to participate in the crafting of solutions, such as open advisory groups, consensus conferences, or other measures to resolve conflicts about prospective solutions.	Limited	Limited	Limited	Limited	Limited
⑤ Mechanisms to inform the public of information speedily.	Yes	Yes	Yes	Yes	Yes
⑥ Equitable mechanisms to resolve barriers to reaching consensus.	No/ Limited	No/ Limited	No/ Limited	No/ Limited	No/ Limited
Adapted from Rosa et al. 2014 pp. 145-148					

Narratives: Divergent representation

For resident narratives, there was bias in the types of narratives published by the town office beyond the content of the narratives. Noticeably, Shizugawa residents and related discussions dominated.

Alarming, there were no narratives of Iriya residents in 2012, and their inclusion was especially lacking in the early and highly active years of reconstruction (2012-2014). Similarly, narratives of Togura residents were sparse, and in some years were completely absent from circulation (see Figure 4.3). Out of the total number of district incidences (378) between 2012 to 2020, Shizugawa accounts for 44 percent, whereas Iriya and Togura had the same number of incidences accounting for 14 percent each.

Utatsu accounted for 28 percent of the total incidences. The proportion of incidences compared to relative district population size over time is visualized in Table 4.6. For the proportion of district population size compared to the percent of district incidences, those in deep red indicate over-representation by 10 percent or more, whereas the deep yellow indicates under-representation by 10 percent or more. Other lighter shades of red and yellow indicate smaller over- and under-representation gaps between the percent of incidents and the district population.

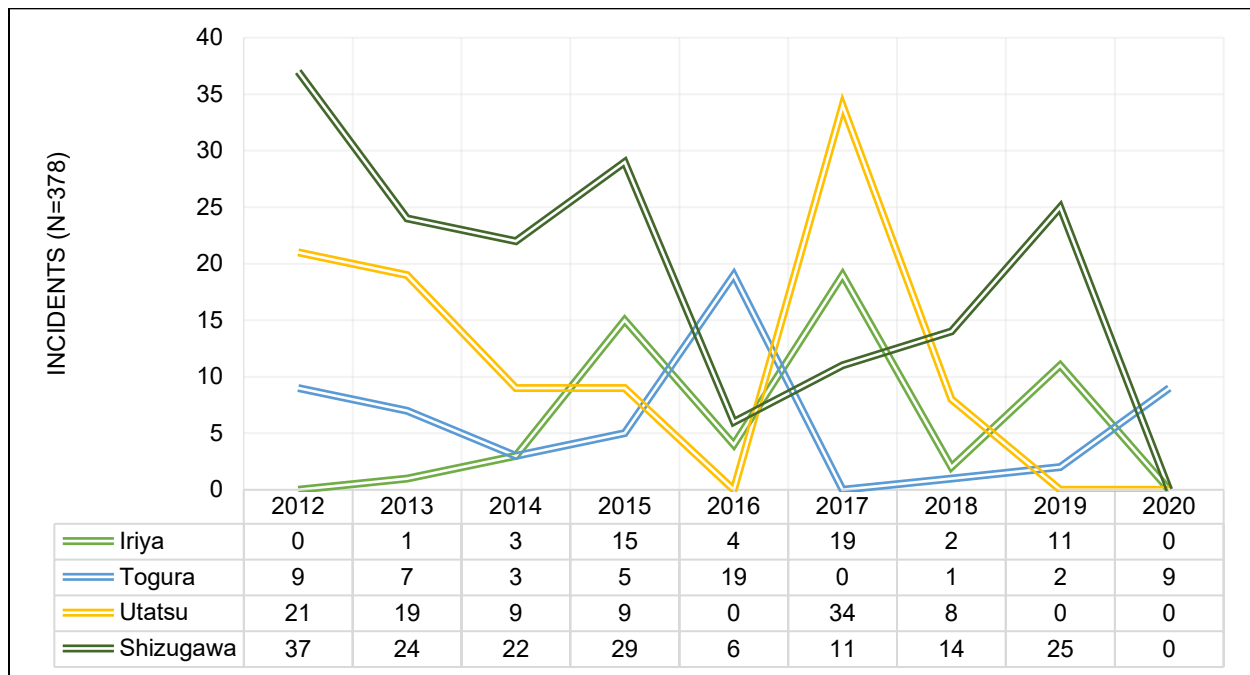


Figure 4.3. District narrative representation from 2012-2020.

Table 4.6. Proportion of district population size compared to the percent of district incidences

Year	Percent of incidents (% of total population)			
	Shizugawa	Utatsu	Iriya	Togura
2012	55 (44)	31 (31)	0 (12)	14 (13)
2013	47 (42)	37 (32)	2 (13)	14 (13)
2014	60 (41)	24 (33)	8 (14)	8 (12)
2015	50 (40)	16 (33)	26 (15)	8 (12)
2016	21 (41)	0 (33)	13 (15)	66 (11)
2017	17 (41)	53 (33)	30 (15)	0 (11)
2018	56 (41)	32 (33)	8 (15)	4 (11)
2019	66 (41)	0 (33)	29 (15)	5 (11)
2020	0 (41)	0 (33)	0 (15)	100 (11)
Note: 2020 is an outlier due to the beginning of the Covid-19 pandemic in Japan.				

A major issue with the representation of narratives is that these are circulated throughout the community, meaning that the information that residents read and are exposed to is related to Shizugawa mostly. Similarly, earlier publications provided more space for multiple stories in one series, but later years, especially from 2018 onwards, only provided space for two. There is thus not only less space for diverse representation of residents, but competition for which resident narrative is featured is much higher. It is important to note that which narratives are published are at the discretion of the town office, so the bias in resident representation is not a reflection of resident perceptions of individual or district self-importance, but which groups the town office gives a platform to. As a result, it seems that the Shizugawa bias present in the reconstruction planning has spread into other parts of community-life.

Narratives: Divergent and convergent concerns

As for the content of the resident narratives, nature discourses dominated, especially those related to the ocean, mountains, forests, and land. More than any other area, nature and environmental concerns maintained dominance from 2012-2020 (see Figure 4.4). These concerns were followed by disaster effects on fishing, farming, and forestry respectively. While nature concerns were expressed at similar rates across residents, fishing concerns mainly connected to residents from Shizugawa, Utatsu, and

Togura, whereas farming and forestry concerns mainly connected to Iriya and Utatsu. Forestry, while a primary industry in Minamisanriku, is mostly absent from resident narratives and discourse. The environmental dominance of narratives does corroborate the hegemony of environmental concerns in the Minamisanriku reconstruction plan, especially for green and blue industries. There is thus convergence on environmental concerns in the community, but industry concerns largely diverges across districts. Similarly, because concerns are not discussed equitably or presented equitably, there was noticeable favoring of fishing discourses from Shizugawa in comparison to the other fishing districts.

The framing of these concerns was always connected to maintaining the industry in question or for maintaining and managing the particular environmental concern. Resident discourses framed problems with the environment and industry as solvable, and often provided either possible solutions or what they were personally currently doing to address the issue. As a result, the overall theme of narratives over time remained optimistic and focused on improving these areas of concern. Simultaneously the way these narratives were framed also pushed forth an overall “charming” view of Minamisanriku, something that was listed as a main measure to contribute to lessening depopulation effects in the Minamisanriku reconstruction plan. The working group agreed that the inward and outward facing presentation of information from the narratives were useful to both residents and of interest to outsiders who may read them. However, the utility of inward and outward facing narratives varied across years, as some series had narratives presented in both Japanese and English, others in Japanese, English, and Chinese. However, the majority were in Japanese. The working-group also noted that concerns in earlier years were much more disaster related, and that over time the titles and themes of narratives became much more industry and tourism focused. This was especially noticeable as the number of published narratives shrank, and of the narratives featured, industry and tourism concerns held precedence over others. Similarly, at times, we found that narratives presented more as “advertisements” for the community.

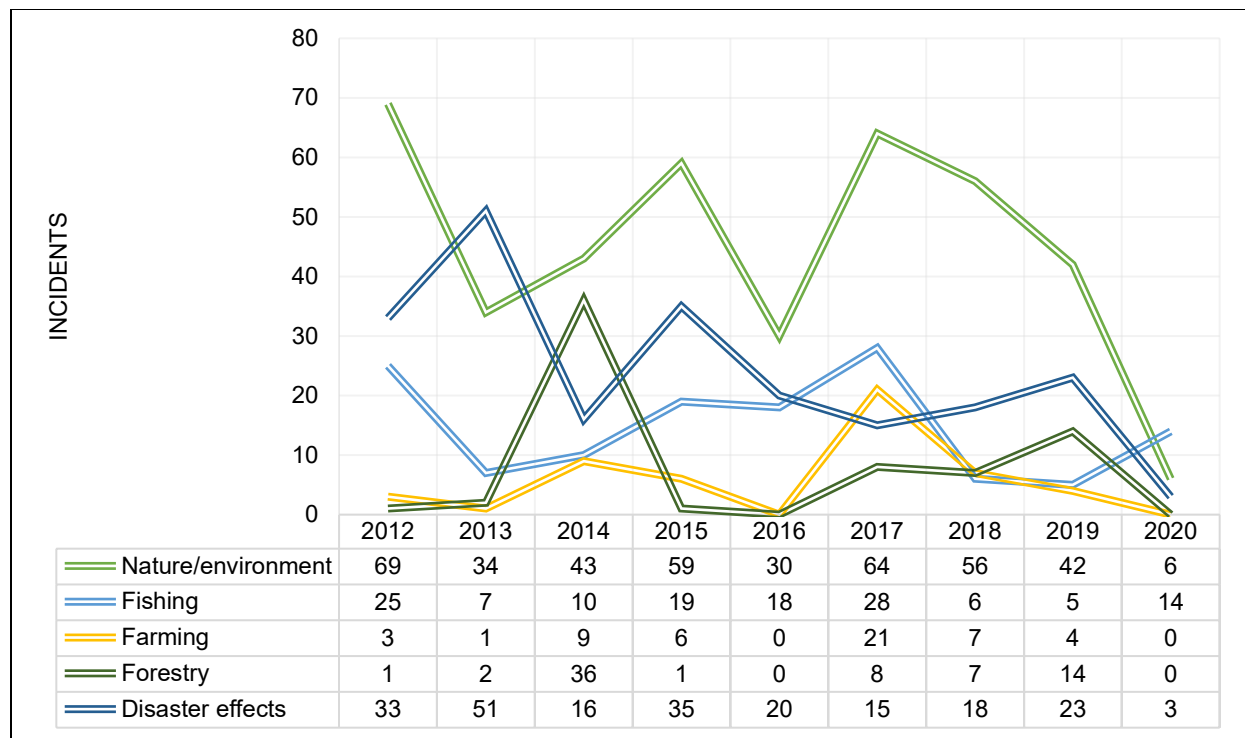


Figure 4.4. Primary resident narrative concerns from 2012-2020.

Local governance and narratives: Competing narratives for future town planning

Taking our participatory discourse analysis and analysis of narratives as a whole, there was some overlap between the environmental concerns listed in the reconstruction plan, and those present within resident narratives. While there was some convergence on items related to the environment, other areas of concern were far less present or lacking. The theme that mostly comes across from resident narratives over the years is improving the “charm” of the town by emphasizing “nature” in Minamisanriku. As such, the resident narratives seem to mainly focus on one part of the measures listed from Table 4.4. Otherwise other public concerns from 2015 are overshadowed by this theme. As a result, there appears to be a level of competition between the narrative theme constructed by the town office, and the actual content of the narratives. Such that other narratives, not related to the town office’s focus, are given less space in publications or are absent. Similarly, it is important to note that the town office is the essential gate-keeper of published resident narratives. Thus, while the image presented of the town and the resident narratives align on some of the environmental visions of Minamisanriku’s town planning, there are still representation and bias concerns. When comparing our analysis of local governance and the narratives

the working-group agreed that some resident concerns completely disappeared in discourses, but were present in other spaces, such as resident proposals, and in public commentary post-2015. Thus, while the concerns presented in narratives do represent environmental concerns of the featured residents, the extent to which other conflicting narratives were removed from community discourse is murky. This is especially the case, when comparing concerns from 2015 and present, where items related to bias, representation, and disparities between districts are still listed in public commentary and also embodied in which narratives are published. As a result, there may be a gap between resident and town office visions of town development.

CONCLUSION

When considering local government influences on representation and participation, the absence or presence of participatory discourses are a critical measure to consider especially when evaluating how residents perceive and interact with political actors. Moreover, as seen in our analysis, when participatory measures are limited or absent except for in the early stages of town planning, problems may emerge with residents feeling that their interests diverge from proposed planning. Given the complex problems created by the GEJE careful consideration and direct and indirect engagement with residents to ensure satisfactory recovery measures is necessary. The Minamisanriku case presents how issues can appear when representation on councils and in other deliberative spaces risks favoring one or more specific groups or concerns. Some council's membership, as well as the political connections and networks to other sub-advisory groups did not include public participation. Most of the developed social networks and ties to local actors and the public mainly worked to collect opinions, knowledge, and information but did not provide space for the public to resolve any conflicts in the planning process and reach consensus. Public officials and other political elites in the local government retained important decision-making power in-house with the use of other politically connected organizations. As these organizations acted as an intermediary, direct resident feedback was limited to indirect discourses. This gap between consulting the public and actively including them in a participatory discourse, presents a veneer or "window-dressing" that makes the planning process appear more actively participatory and inclusive.

Secondly, while networks between political actors were well developed, local ties were less developed. The public roundtables and conferences would have been positive measures to re-introduce in the long-term besides just planning councils. Thus, the efficacy of participatory discourse and social capital to act as tools to present agreed upon public concerns to public officials and to have those concerns addressed equitably was reduced. The Minamisanriku reconstruction plan does include the main concerns of residents, but the way to address these concerns, and the solutions for them offered by residents at meetings, differed in the final proposal. Moreover, the residents whose ideas were included in planning mainly favored middle-aged men, as more vulnerable members of the community, including women, young people, and elders were absent from public deliberative spaces more often. Additionally, due to the lackluster implementation of direct participatory measures throughout the planning process (not just prior to 2015), biases emerged not only in council membership, but in district representation as well. As a result, some district specific concerns are much better represented than others, as seen in resident narratives. Similarly, the disparities between district representation and town planning has not been resolved since residents noted this problem in 2015. Rather, social and economic problems outside Shizugawa continue to be made invisible due to the platforming of Shizugawa voices by the town office. Thus, due to biases in reconstruction planning, this has also trickled into other spaces in the community presenting complications elsewhere. As a result, resident concerns and conflicting concerns are not equitably represented.

Lastly, when considering the efficacy of participatory discourses to produce positive governance outcomes as noted by Rosa et al., (2014) and Boix and Posner (1998), there are significant problems with social capital or social networks having the capacity to properly convey and give impact to public concerns. Throughout our analysis on present participatory measures, there was little direct interaction between the public and political elites outside the townspeople conferences and some council meetings. Similarly, the claimed benefits of participatory discourses facilitating equitable exchange between political elites and the public are less apparent. This is mainly due to the fact that there were few or little measures ensuring that competing arguments, beliefs, values, and perspectives could be genuinely discussed by all stakeholders throughout the planning process in the early years of reconstruction. Similarly, because

there was no deliberative space to discuss the formulated reconstruction plan there was no way to ensure conflicting expectations and town visions could be genuinely discussed by the public.

While there is some discussion of power differences, there is an assumption that political elites and those in the political domain will acquiesce to public needs if they interact with residents directly or indirectly enough. There is however, always the possibility that governance structures have bad actors who seem to act in good faith, by having some participatory activities, but do not follow through by reflecting on these participatory activities and allowing active deliberation by the public. Similarly, political elites also have to consider the elites above themselves, which complicates political elite-public relations. Secondly, due to the role of social norms, these power differences may remain uncontested even if they may contribute to unwanted outcomes. As a result, the power vacuum between governance structures and the public is too understated in participatory discourses. Similarly, while participatory discourses are even more important to have in disaster situations, the case of Minamisanriku showcases that vulnerabilities produced by the disaster also contribute to the isolation or exclusion of some groups in the community. Similarly, the physical and emotional labor of the public is also understated in the connections between participatory discourse and social capital. Essentially, the public is expected to show-up and participate in the defined spaces the government provides, rather than these spaces being dictated by the public. Thus, the power of social capital in governance and in participatory discourses may be over-stated given the number of barriers and conflicts within vertical governance structures.

5. THE CONSOLIDATION AND DIFFUSION OF SOCIAL CAPITAL AND POWER

INTRODUCTION

In this Chapter I measure resident social capital, in its various forms, to investigate levels of social capital in the community and how residents use (or do not use) their social capital. I analyze community social capital to determine how it acts as a resource to residents, particularly the claimed positive effects of it in disaster settings. This includes, the claimed ability of social capital to contribute to increased collaboration amongst individuals and groups, to manage adverse disaster effects (e.g. social and economic ills), to disperse information and resources across community members, and facilitate inclusive decision-making.

This portion of the dissertation uses data from projects conducted in 2019-2020. Rather than investigating governance structures to explain resident participation and managing of social and economic problems, this Chapter looks at resident themselves in terms of the amount, quality, and diversity of social capital they possess, and how they utilize it. This included surveying residents using two mapping exercises and then interviewing a sub-sample of participants. Through this process, I draw connections between and identify differences between social capital utility for influential and uninfluential members of the community. This project provided direct insight on the status of residents in Minamisanriku for my community partners and allowed space to test assumptions about social capital. Theoretically, as the understandings of long-term social capital effects is less developed, focusing on if and to what extent social capital's positive effects are present long-term is critically important in clarifying social capital's utility. From a policy perspective, given the growing importance of social capital in disaster management, clarifying the utility of it is important for developing successful measures. The utility of social capital in disaster studies is covered in the following section, along with the forms of social capital under study.

SOCIAL CAPITAL AND POWER

Social capital disaster studies have documented four major consequences of interest to this dissertation. These include social capital's utility in managing adverse disaster effects (e.g. social and economic ills), fostering collaboration between individuals and groups, disbursing information and resources across the community, and its role in decision-making.

First, within approaches to disaster recovery in Japan, social measures are generally discounted in favor of economic indicators. This gap is not necessarily because policymakers ignore the benefits of social measures, but because disaster recovery is mostly focused on creating economic growth in Japan. However, with the rise of social capital studies in the 1990s it was found to be a major explanatory variable when identifying differences in disaster recovery trajectories and for managing adverse disaster effects. For example, Shimada (2015) evaluated the connection between economic growth and social capital using time-series-cross-section data from 47 prefectures over 30 years spanning between 1981 and 2012. Using proxies for social capital, Shimada found that social capital encourages individuals to return to their homes and to stay, in addition to stabilizing the economy and increasing job growth. Others note that business start-ups are more common in communities with rich social capital (Todo et al., 2013).

Secondly, social capital in Japan has been documented to foster more collaboration between individuals and groups, contributing to a community's ability to respond to disasters. In a string of different studies in Japan, Aldrich (2010, 2011, 2012), repeatedly found that social capital is important for faster recovery, but that also as a measure, social capital is better at capturing why communities recover faster when controlling for conventional economic indicators after the 1923 Tokyo Earthquake (2012b). These claims are echoed by Yamamura (2010), who investigated the role that social capital plays in reducing the damage associated with natural disasters by exploring the preventive role of social capital. Their study concluded that the existence of rich social capital mitigates damage and found that the risks associated with disasters make individuals act more collectively, accelerating recovery (Yamamura, 2010).

Similarly, Shaw (2014) notes that rich social capital can enhance the performance of social actors. They explored bridging social capital within and outside damaged areas, bonding social capital amongst neighbors, and trust between residents and government (i.e. linking social capital). They found that individuals participating with non-profits foster closer connections, which contributes to bridging social capital (Shaw, 2014). Furthermore, Inaba (2011) investigated social capital in terms of cooperation and trust, contending that social capital supports victims during and after occurrences of disasters, especially in cases where the government fails to implement adequate measures. In such cases, the third

consequence of social capital emerges, as Schellong (2008) argues, social capital integrates resources entrenched in social structures and networks that a community can mobilize to access critical resources.

In comparison to the generally positive facets of social capital listed above, there is less agreement on social capital's effects on decision-making. In contrast, Gill (2014) argues that most studies proving a positive relationship between social capital and disaster recovery do not recognize that social capital may also exclude community members. In this way, Gill has a very similar stance to Portes (2014), Waldinger (1995), and Bourdieu (1986) in that social capital is not an equal resource. Gill (2014) points to Japanese bureaucratic culture as creating negative effects, due to its overly rigid insistence on fair shares and equality, rather than equity. Gill's argument is supported by Sasaki, Aida, and Miura (2020) who argue that social capital can characterize too strong cohesion. For instance, after the Great East Japan Earthquake (GEJE), women were obligated to get up at 5:00 am and cook at shelters otherwise they would not be allowed in (Sasaki, Aida & Miura, 2020). Social capital which embraces gender roles and reinforcing gender stereotypes may not lead to positive recovery outcomes for all individuals and in fact may remove them, especially women, from decision-making spaces (Kimura, 2016).

Forms of social capital

In order to understand how these effects of social capital are experienced by individuals and groups, there are three types of social capital—bonding, bridging, and linking—under investigation.

In short, bonding social capital is characterized as close family relationships and other close friendships (Briggs, 2003). In addition, bonding capital also includes connections between similar people, like in age, gender, language, location, occupation, or ethnicity (James & Paton, 2016). Bonding social capital primarily provides people immediate emotional and financial assistance. Bridging social capital is characterized as relationships between people and social groups who are dissimilar, like in age, ethnicity, and class (Szreter & Woolcock, 2004; Hawkins & Maurer, 2010). These relationships typically provide access to different resources, such as information or jobs, that an individual may not have access to in their close-knit kin-groups. Linking social capital refers to relationships with individuals who hold power or

authority, usually within an institution (Putnam et al., 2004; Woolcock, 2001). Individuals with access to linking capital are more likely to have the capacity to engage power structures and other forms of decision-making (Aldrich & Ono, 2016; Tierney, 2019; Aldrich, 2012a).

Given the scope of this dissertation and the long-term study of Minamisanriku, strong emphasis is placed on linking social capital as this type is claimed to be critical to long-term positive recovery. The importance of linking capital in Japan is primarily supported by Aldrich's work. For example, individuals with direct influence on decision-making, like town politicians or other high-status individuals, are a good predictor of recovery outcomes (Aldrich & Ono, 2016). Additionally, those with access to linking capital are more likely to participate or attempt participating in town hall meetings, neighborhood associations, and other resident organization groups (Tierney, 2019; Aldrich, 2012; James & Paton, 2016). As a result, whether linking social capital is facilitated by social ties, relations with government, politicians, or other participatory systems it is argued to be the most important form of social capital for long-term recovery (Aldrich, 2012b; Aldrich & Ono, 2016; James & Paton, 2016).

Secondarily, bonding and bridging capital is also considered. Bonding capital has limited application in long-term recovery and is thought to be useful in the short term or the immediate aftermath to gain needed resources (Hurlbert et al., 2001). Bonding relationships primarily provide emotional and financial support to people immediately following a disaster. Whereas, bridging and linking capital are necessary for long-term needs and healthy community redevelopment (Hawkins & Maurer, 2010).

The utility of social capital may emerge as significant in Minamisanriku given that the investigation into reconstruction planning documented in this dissertation thus far has shown to be a contentious issue across groups and pointed to as a primary source of differences by residents. This project provides space to further determine the connections between reconstruction and social recovery. Furthermore, this portion of the project helps to determine the extent to which reconstruction consequences influence resident and district relationships as well as the quality of social capital that residents possess.

As such this Chapter focuses on the effects of the GEJE by measuring resident social capital to illustrate and frame a discourse on the effects of disaster management and policy on recovery patterns with consideration for age, gender, location, relationships, strong and weak ties. Secondly, three types of social capital, bonding, bridging, and linking, are used to investigate the relationship between these variables and recovery. This analysis is complemented by interviews, such that individuals could share their views on their decision-making, satisfaction, and influence in the reconstruction process.

Lastly, this Chapter corroborates and challenges findings from social capital disaster studies as to how social capital can drive positive recovery trajectories. Especially, the findings support some aspects of the collaborative capacity of social capital in small groups (Inaba, 2011; Shaw, 2014) and recognizes how norms restrict the use of social capital (Gill, 2014; Sasaki et al., 2020; Kaneko, 2017). Secondly, the findings challenge the extent to which social capital can manage adverse disaster effects due to issues with inequality and power disparities between individuals and groups (Shaw, 2014; Aldrich, 2012a; Yamamura, 2010; Shimada, 2017). Overall the findings provide a more nuanced view of the utility of social capital in disaster contexts and offers new insights into the role of linking social capital.

THE CASE OF MINAMISANRIKU

Between my first research project in Minamisanriku and the subsequent on-boarding of community partners, we have been able to uncover a variety of problems affecting the well-being of residents and the social recovery of the community. We have documented and investigated how the reconstruction process has possibly contributed to divergent recovery outcomes for residents and groups, and how the reconstruction process may further create inequitable recovery trajectories for the districts of Togura, Utatsu, and Iriya. We have also investigated how community issues with resident representation.

However, while our previous work together provided insight on resident experiences, effects of reconstruction on individuals and groups, and how community problems are managed and addressed by different levels of government, we recognized that there was still space to further investigate the connections between reconstruction and community outcomes. As such, based on the status of

Minamisanriku, our understanding of community problems, and how social capital tends to operate in post-disaster communities where there are large structural inequalities, we recognize that the distribution of social capital, its use, and its quality may be disparate across other groups that we had not previously considered. Secondly, we recognize that the quality of social capital may be less robust and less diverse in underdeveloped districts, since there is less social infrastructure as a direct result of reconstruction planning in Togura, Iriya, and Utatsu. As such, the design of this project, beyond the aforementioned theoretical interests, is to help organizations, like my community partners, determine where aid is best directed and to amend how they do outreach to vulnerable and isolated groups in the community. Thus, this final portion of the project provided not only interesting theoretical connections on social capital, but provided practical insight for community actors.

Data collection and analysis

The first objective of this study was to provide insight into how social capital acts as resource to residents to address social and economic issues in Minamisanriku by examining social capital differences across gender, age, location, relationships, and strong and weak ties. This objective was accomplished using social capital mapping exercises (n=200) and organizational mapping exercises (n=200) that identified 1,994 relationships and 800 organizational ties in the community, and a sub-sample of semi-structured interviews of mapping participants (n=70). The interviews were used to meet the second objective, which was to assess the extent to which social capital is actually utilized by residents.

The social capital mapping exercises were created as a way for residents to conceptualize and document their social capital and included demographic data, such as age, gender, and location of participants, and the age, gender, location, relationship type, and relationship strength of the individuals in their social network (the mapping instrument is provided in Appendix C). Participants were asked to consider people they trust and to write down the first ten people who came to mind. The classification of high and weak trust was determined by how close individuals were placed to the center of their map (e.g. high/strong) and the outer of their map (e.g. low/weak). Additionally, participants were asked to consider if they believed any of the individuals on their map was an authority or high-status individual with decision-

making influence at the neighborhood, district, or town level. This classification determined the amount of linking capital a participant possessed. The age, gender, location, relationship type (i.e. familial, acquaintance, etc), and relationship strength of individuals determined if a relationship represented bonding social capital or bridging social capital.

The organization mapping exercises were created as a way for residents to conceptualize the organizations that they volunteer with, are a member of, attend the events of, or merely just know about (the mapping instrument is provided in Appendix D). Participants were asked to consider organizations they perceive as reputable and write down the first one's that came to mind. Participants were also asked to include where they think the organization does their programs the most and their relationship to the organization. The classification of high and weak trust was determined by how close organizations were placed to the center of their map (e.g. high/strong) and the outer of their map (e.g. low/weak). Together with the social capital maps this allowed comparison of both individual social networks and their organizational networks, and the quality and diversity of them.

Mapping exercise participants were recruited through the efforts of eight community partners, including, a non-profit organization, a farming collective, an educational center, a sustainability center, a farming business, a fishery collective, a business association, and a mothers' group. Partners provided informational flyers to potential participants and disseminated meeting information. Mapping exercises were completed during group sessions, with an average of 20-30 individuals in attendance. Four group sessions were held before social distancing was mandated at the beginning of 2020. The remaining mapping exercises were completed remotely, via mail, but the recruitment process remained the same.

The mapping exercises were a vehicle to recruit interviewees as only having data on the amount social capital would not adequately explain its effects in the community, how it is used, or if types of social capital, like linking capital, are used in ways that are conducive to positive recovery, effective decision making, and collaboration. Potential interviewees were approached during the mapping group sessions if they had identified at least 2 influential individuals on their map. Once social distancing was mandated,

maps returned by participants in the mail were sent a follow-up if they met this criterion. In total, 70 semi-structured interviews, averaging between 30 to 90 minutes, were held either in a location of the participant's choice or over a video call. All interviews were recorded and transcribed. All interviewees were given pseudonyms. Interviewees were asked a set of decision-making and influence questions focused on their capabilities based on the linking capital they possessed. This included a total of 12 questions focused on their perceptions of their influence, other's influence, belief in their ability to work collaboratively with others, and their satisfaction with their level of decision-making power at the neighborhood, district, and town level. The second set of 3 questions focused on their opinion of and experiences with town development, and what sort of programs they would like to see in the community, what they believe community needs are, and what needs they would like the government to address (both sets of interview protocols are provided in Appendix E). The descriptive statistics of participant's information, social capital maps, and organizational maps are available in Table 5.1.

Table 5.1. Descriptive Statistics

Descriptive statistics of participants (n=200)				
<u>Variable</u>	<u>Mean</u>	<u>S.D.</u>	<u>Mode</u>	<u>Range</u>
Gender	0.46	0.49	Female	0 (female) to 1 (male)
District	1.76	1.11	Shizugawa	0 (Togura) to 3 (Shizugawa)
Age	42	14	40	20 to 80
Descriptive statistics of relationships (n=1,994)				
Gender	0.54	0.49	Male	0 (female) to 1 (male)
District	2.34	1.48	Shizugawa	0 (outside) to 4 (Shizugawa)
Age	44	15.12	40	10 to 90
Relationship	2.82	1.63	Acquaintance	0 (other) to 5 (family)
TieStrength	0.69	0.46	Strong	0 (weak) to 1 (strong)
SocialCapital	0.89	0.87	Bonding	0 (bonding) to 2 (linking)
Descriptive statistics of organizations (n=800)				
District	2.28	1.94	Shizugawa	0 (Togura) to 3 (Shizugawa)
TieStrength	0.75	0.80	Strong	0 (weak) to 1 (strong)
Participation	1.2	1.21	Participates	0 (only know of) to 2 (volunteer/member of)
OrgType	1.21	1.71	Economic	0 (social) to 2 (economic)
PowerInfluence	1.16	1.85	None	0 (none) to 4 (town and district)

The demographic profile of the 200 participants in this project is as follows: 109 were female (54.5%) and 91 were male (44.5%). The age range was 20 to 80, with 121 (60.5%) between 20-40 and 79 (39.5%)

between 50 to 80. The largest group was 40-year-olds at 55 (27.5%), followed by 50-year-olds at 43 (21.5%), and 30-year-olds at 40 (20%). In terms of district, 36 were from Togura (18%), 48 from Iriya (24%), 44 from Utatsu (22%), and 72 from Shizugawa (36%).

The demographic profile of the 1,994 participant relationships is as follows: 906 were female (45%) and 1088 were male (55%). The age range was 10 to 90, with 1,041 between 10 and 40 (52%), and 953 between 50 and 90 (48%). In terms of district, 264 were from Togura (13%), 361 from Iriya (18%), 375 from Utatsu (19%), 641 from Shizugawa (32%), and 353 from outside the town (18%). In terms of ties, 613 were weak (31%) and 1,381 were strong (69%). In terms of social capital, 878 characterized bonding (44%), 446 as bridging (22%), and 670 as linking (34%). Lastly, of the relationship types, there were 5 distinct groups, familial relationships at 387 (19%), friendships at 500 (25%), co-workers at 283 (14%), previous co-workers at 77 (4%), acquaintances at 697 (35%), and other at 50 (3%).

Analytical approach

The analysis of this study is comprised of three stages. First, social capital mapping exercises were hand coded for bonding, bridging, and linking social capital. Bonding social capital was determined by relationship type (e.g. family, friend, or coworker) and the trust/strength of the relationship (e.g. strong or weak tie). Bridging social capital was determined by relationship type (e.g. previous coworker, acquaintance, other), trust/strength of the relationship, and by how different the participant was from the individual in terms of age, gender, and location. For example, a female, 30-year old participant living in Shizugawa who has a previous working relationship with a 50-year old male living outside of town would be categorized as a bridging relationship due to the considerable differences between them.

Second, organizational mapping exercises were hand coded for the type of participation the participant engaged the organization or group with (e.g. only know of/do not participate, attend events, and volunteer/member of) and the strength of this tie (e.g. strong or weak tie) representing trust. The organizations were also organized by the district the participant listed as their target location or where they believe the organization runs most of their programs and events (e.g. Togura, Iriya, Utatsu, and

Shizugawa). Organizations were analyzed based on the main type of work they do to create three general categories such as, organizations focused on or addressing social problems, economic problems, or a mix of social and economic problems. Finally, organizations were also coded into five categories based on the level of influence participants perceived them to have (e.g. none, neighborhood, district, town, town and district).

Third, interviews were transcribed in Japanese and pulled descriptions were coded line-by-line to create a selection of in vivo codes or categories based on the wording used by participants to explain their influence, satisfaction, decision-making and collaborative capabilities. For the first set of questions, these in vivo codes were grouped into four categories based on the types of social capital utility that emerged: collaboration, decision making, accessing information, and navigating power. Under the collaboration and decision-making codes, were groupings of subcategories. This included one's place and one's role for decision making, and collaboration within districts for collaboration. There were no subcategories for accessing information and navigating power. For the second set of questions on town development, there were 3 main codes, responsibility, social infrastructure, and economic infrastructure.

FINDINGS

The findings are structured into three different sub-sections. First, findings from the social capital mapping and organizational mapping are discussed, followed by outcomes of the interviews. The interview findings are broken down by theme, starting first with collaboration, then decision-making, and followed by accessing information and navigating power. A separate section was created to discuss the findings from the town development questions.

Social capital maps: consolidation and diffusion of social capital

A cross-tabulation was done to see patterns between participant districts, and their relation's gender, tie strength, relationship type, district, and social capital. In Table V.II the left most column represents the current district participants live in, whereas "relation district" represents the district they indicated that members of their social network live in. Due to the identification process, each participant's relationships

were coded individually, such that if a participant had 10 individuals listed on their map, that each connection was treated as unique. Therefore the survey sample represents the 1,994 relationships pulled from the 200 participant social capital maps.

As expected from the history of development in Minamisanriku, Shizugawa holds the most absolute linking capital and strong ties. Secondly, social capital distribution is affected by gender, with more men than women retaining it, affirming that there are inequities with social capital present in Togura and Utatsu, but especially in Iriya (see Figure 5.1). Unexpectedly, Utatsu has less linking capital than Iriya even though Utatsu has double the population of Iriya (see Table 5.2). As expected, Togura has the lowest proportion of strong ties and linking capital.

Table 5.2. Cross-tabulation of participant's district by relation's gender, district, tie strength, relationship type, and social capital (n=1,994)

District	<u>Relation gender (%)</u>		<u>Relation ties (%)</u>		<u>Relation Social Capital (%)</u>		
	<u>Male</u>	<u>Female</u>	<u>Strong</u>	<u>Weak</u>	<u>Bonding</u>	<u>Bridging</u>	<u>Linking</u>
Shizugawa (n=724)	357 (49)	367 (51)	494 (68)	230 (32)	340 (47)	152 (21)	232 (32)
Utatsu (n=420)	228 (54)	192 (46)	291 (69)	129 (31)	204 (49)	82 (18)	134 (33)
Iriya (n=508)	312 (61)	196 (39)	370 (73)	138 (27)	180 (16)	127 (25)	201 (59)
Togura (n=342)	191 (56)	151 (44)	226 (66)	116 (34)	154 (45)	85 (25)	103 (30)
	<u>Relationship (%)</u>						
	<u>Other</u>	<u>Acquaintance</u>	<u>Prev. coworker</u>	<u>Co-worker</u>	<u>Friend</u>	<u>Family</u>	
Shizugawa (n=724)	16 (2)	224 (31)	26 (4)	109 (15)	206 (28)	143 (20)	
Utatsu (n=420)	13 (3)	150 (36)	10 (2)	64 (15)	94 (22)	89 (22)	
Iriya (n=508)	18 (4)	199 (39)	25 (5)	67 (13)	116 (23)	83 (16)	
Togura (n=342)	3 (1)	124 (36)	16 (5)	43 (13)	84 (25)	72 (20)	
	<u>Relation district (%)</u>						
	<u>Shizugawa</u>	<u>Utatsu</u>	<u>Iriya</u>	<u>Togura</u>	<u>Outside</u>		
Shizugawa (n=724)	369 (51)	112 (15)	69 (10)	47 (6)	127 (18)		
Utatsu (n=420)	84 (20)	203 (48)	57 (14)	10 (2)	66 (16)		
Iriya (n=508)	120 (24)	33 (6)	200 (39)	47 (9)	108 (22)		
Togura (n=342)	68 (20)	27 (8)	35 (10)	160 (48)	52 (14)		

Note: percentages are listed across rows in parentheses.

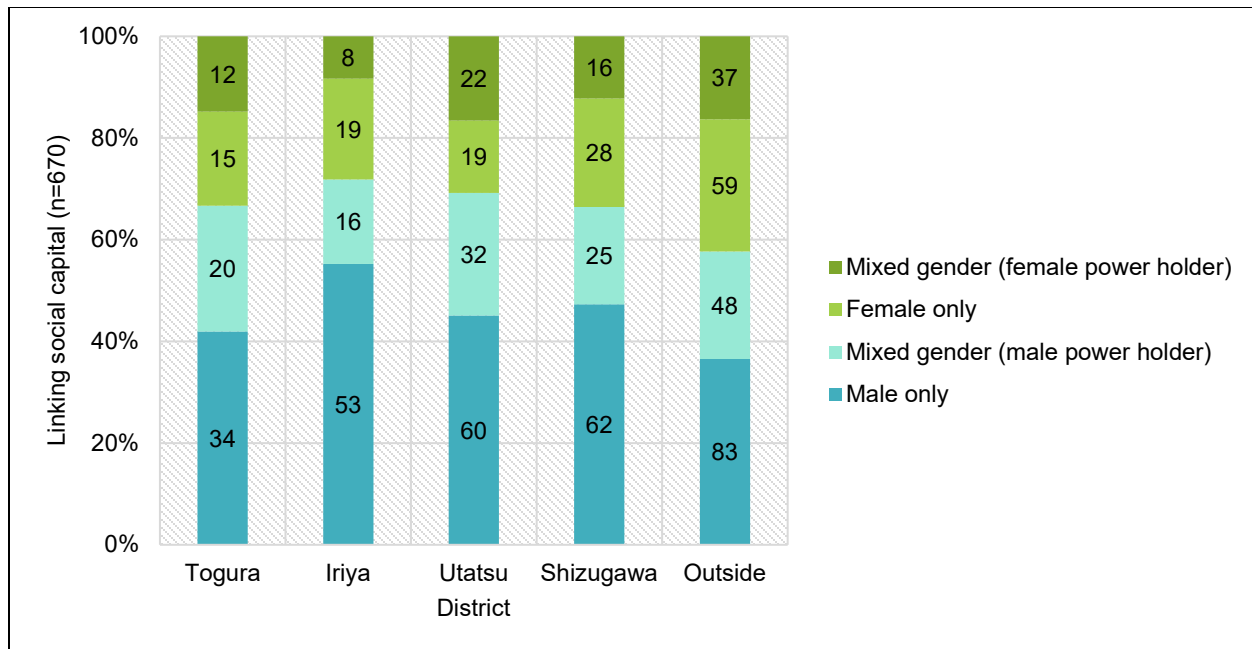


Figure 5.1. Minamisanriku linking social capital relationships differentiated by gender.

Most linking social capital is retained by men, with gender dynamics often favoring women linking to men, rather than men to women. Regardless of district (including outside-town relationships), linking capital between males or retained by males makes up 433 or 65% of recorded linking capital. This indicates that men in the community are in more positions of power at the district or town level compared to women. Further, residents have more connections to people outside the community with linking capital than those within the town. Due to the large diaspora of people from the community and influx of outside support after the disaster, the amount of social relations linked to outside individuals is not unexpected. However, when looking at how linking capital is interconnected in the community, residents are more likely to have a linking relationship with someone outside the town than they are with someone from Togura (see Figure 5.2). Thus, out of all districts Togura lacks the most connections to linking capital and also has inequitable distributions of other forms of social capital. However, Togura does have a strong linking capital tie with Iriya, with 60% of their linking capital being connected to Iriya (see Figure 5.2).

For Figure 5.2, this represents the number of linking social capital connections between the participant's district, and the districts recorded for each of the relations listed on their map. For example, for Togura, we can see that Togura participants have minimum linking connections to fellow Togura residents.

However, Togura participants do have stronger linking connections with others in Iriya and Utatsu. This pattern continues between Togura, Iriya, and Utatsu having more linking relations between each other, rather than with Shizugawa residents or individuals outside town. Similarly, for Shizugawa, nearly half of Shizugawa participant's linking capital comes from outside connections.

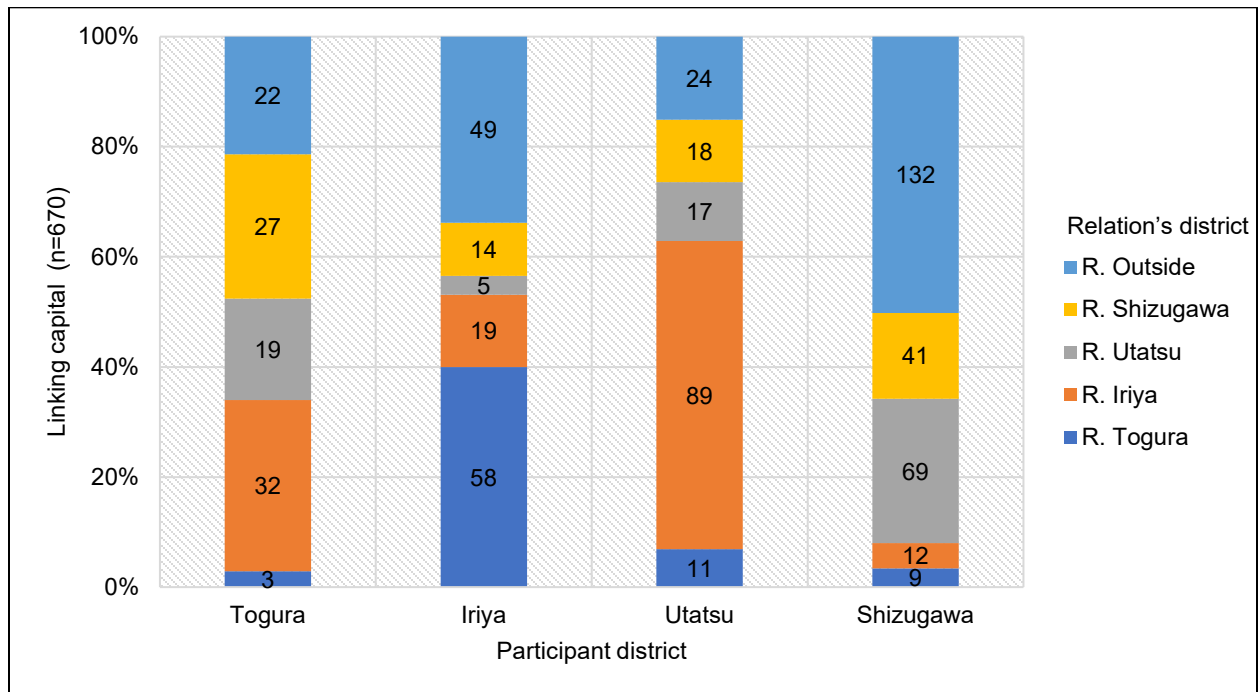


Figure 5.2. Minamisanriku linking social capital relationships by participant's district and relation's district.

Thus, from the social capital maps, different patterns emerge with the consolidation and diffusion of linking social capital. Social capital is strongly mediated by gender and by the lack of interconnectedness between districts. As a result, Shizugawa residents do not interact with other districts as often as they do their own. Iriya and Togura residents are more likely to interact with each other than with Shizugawa, further suggesting that there are power differentials between districts and inequality issues.

Organizational maps: consolidation and diffusion of organizational ties

A cross-tabulation was done to see patterns between where organizations conduct their activities, and their organization type, the level of resident participation, the perceived power the organization has, and

trust in the organization. Similar to the social capital maps, each organizational tie was coded as a unique relationship. Thus, from the 200 participant maps, 800 organizational ties were pulled (see Table 5.3).

Table 5.3. Cross-tabulation of organization's district by tie strength, participation, organization type, power/influence (n=800)

<u>OrgDistrict</u>	<u>Tie strength (%)</u>		<u>Organization type (%)</u>		
	<u>Strong</u>	<u>Weak</u>	<u>Social</u>	<u>Mix</u>	<u>Economic</u>
Shizugawa (n=504)	359 (71)	145 (29)	147 (29)	114 (23)	243 (48)
Utatsu (n=102)	90 (88)	12 (12)	26 (25)	4 (4)	72 (71)
Iriya (n=114)	86 (75)	28 (25)	36 (32)	2 (1)	76 (67)
Togura (n=80)	67 (84)	13 (16)	38 (48)	10 (12)	32 (40)
	<u>Participation (%)</u>				
	<u>Know of/do not participate</u>		<u>Attend events/participant</u>	<u>Volunteer/member</u>	
Shizugawa (n=504)	78 (15)		279 (55)	147 (30)	
Utatsu (n=102)	15 (15)		44 (43)	43 (42)	
Iriya (n=114)	13 (12)		57 (50)	44 (38)	
Togura (n=80)	6 (7)		34 (43)	40 (50)	
	<u>Power/influence (%)</u>				
	<u>None</u>	<u>Neighborhood</u>	<u>District</u>	<u>Town</u>	<u>Town-district</u>
Shizugawa (n=504)	154 (31)	-	120 (24)	167 (33)	63 (12)
Utatsu (n=102)	45 (44)	-	40 (39)	10 (10)	7 (7)
Iriya (n=114)	40 (35)	-	41 (36)	22 (19)	11 (10)
Togura (n=80)	20 (25)	-	43 (53)	7 (10)	10 (12)
Note: percentages are listed across rows in parentheses.					

Of the 200 participants only 151 recorded at least 1 organizational tie. A concerning portion of the sample (49) indicated no attachment to organizations or groups. In connection with the social capital maps these individuals' social networks were mainly comprised of bonding relationships, and few bridging relationships. In comparison those with diverse networks exhibit many more organizational ties and also were more likely to be an active participant at events, or even a member of the organization in some capacity. This relationship confirms the relationship between more powerful forms of social capital contributing to engagement. However, this also indicates that there is some barrier to less connected individuals accessing organizations that is not entirely explained by their social network quality.

As expected, given the history of reconstruction planning, Shizugawa has hegemony in terms of the total amount of organizations indicated as mainly working in that district (*OrgDistrict*). Similarly, more residents attend, participate, or are a member of organizations working in Shizugawa (even if they live in another

district) (*Participation*). Shizugawa organizations are also overwhelmingly perceived by residents as more powerful, with a majority indicating organizations there having power over district-level, town-level, as well as over both district-level and town-level decision-making (*Power/Influence*). In comparison to other districts the power of Shizugawa overshadows them. The relationships between Shizugawa participants and the organizations listed on their maps also suggested that because Shizugawa became the seat of power post-disaster, that they do not have reason to participate in other districts or other organizations mainly working in other districts (this finding is further supported from the interviews). So whereas proportionally speaking, some districts have comparatively more membership in the reported organizations, in absolute terms, the disparity between them and Shizugawa is still large.

Similarly, there are power disparities between types of organizations (e.g. social, mixed, economic), and the perceived power they hold (see Table 5.4). Notably, economic leaning organizations and groups are more likely to have power at the district, town, or both the town and district level. Another noticeable pattern was very few to no organizations having power at the neighborhood level. For this portion of the analysis these were excluded as there were less than 5 incidences of neighborhood level power. In comparison, social organizations are perceived as holding less power in comparison to their economic peers. Across power categories, social organizations were listed 168 times as having power at or above district, whereas economic organizations were listed 272 times with power at or above district.

Table 5.4. Cross-tabulation of organization type by power/influence (n=800)

<u>OrgType</u>	<u>Power/Influence (%)</u>			
	<u>None</u>	<u>District</u>	<u>Town</u>	<u>Town-district</u>
Economic (n=423)	151 (36)	123 (29)	104 (25)	45 (10)
Mix (n=129)	28 (22)	17 (13)	56 (43)	28 (22)
Social (n=248)	80 (32)	104 (42)	46 (19)	18 (7)
Note: percentages are listed across rows in parentheses.				

Overall, across participant maps, 182 different organizations or groups were listed. Of those listed, only 30 were noted 6 or more times (see Table 5.5). In the thermal map below, no power or less power is represented in shades of red, whereas higher levels of power are shaded green. Categories with a higher count of instances are more saturated. Similarly, for trust, more instances of weak ties are saturated a

deep red, whereas strong trust is represented in green. Seen here, NPOs and others who made the top-30 have little to no power at the “town/district” level compared to economic peers. However, even if a social group was perceived as less powerful, they often had strong ties (trust).

Table 5.5. Thermal map comparison of 30 organization's power and trust levels

<u>Organization (instances) from most to fewest</u>	<u>Power/Influence</u>				<u>Tie (trust)</u>	
	None	District	Town	Town/District	Weak	Strong
Tourism Association (85)	27	7	33	18	34	51
Town office (59)	5	3	34	17	21	38
Training center (27)	6	3	11	7	5	22
Fishing cooperative (24)	5	16	1	2	7	17
San-san market (23)	10	4	8	1	6	17
Women's Eye NPO (22)	12	6	4	0	5	17
Utatsu Hama-re market (18)	8	10	0	0	3	15
Farming cooperative (18)	1	7	10	0	4	15
Chamber of Commerce (16)	6	0	7	3	6	10
ESCCA NGO (14)	6	1	5	2	5	10
Iriya "Green Wave" Promotion Committee (13)	4	6	3	0	11	2
Future Town Dev. Council (11)	6	6	0	0	3	9
Yes Factory Ltd (11)	5	6		0	2	9
Minamisanriku Japan Ag (11)	6	2	1	2	7	4
Social Welfare Council (11)	2	0	4	5	6	5
Noukoubou Ltd (10)	6	1	0	3	1	9
Nature center (10)	3	2	3	2	2	8
Green Farmers Miyagi Ltd. (9)	8	1	0	0	0	9
Place to Grow NPO (9)	1	4	4	0	1	8
Togura community center (8)	0	8	0	0	0	8
Iriya community center (8)	0	8	0	0	0	8
Seaboys (8)	0	8	0	0	0	8
Okikura EELS Ltd (8)	4	2	0	2	0	8
Fukkouchi (8)	2	0	2	4	2	6
Sea tradesmen (7)	5	0	0	2	0	7
Utatsu fishing cooperative (7)	4	3	0	0	1	6
Maruara Ltd (7)	5	2	0	0	1	6
Everyone's Reconstruction Association (6)	0	0	6	0	1	5
Hikoro no Sato (6)	0	4	2	0	0	6
Shizugawa fishing cooperative (6)	2	4		0	4	2

From the organizational maps, different patterns emerge around the consolidation and diffusion of where organizations and groups do most of their work, as well as differences in terms of the perceived power of social and economic organizations. Mostly, organizations are highly concentrated in Shizugawa, and benefit from pulling residents from other districts. However, Togura, Iriya, and Utatsu do have high participation in their own local organizations. Overall, similar to the findings from the social capital maps, Shizugawa disproportionately holds power over other districts in terms of the influence of their organizations.

Interviews: collaboration

Overall there were 25 women and 45 men in the interview sample, with linking capital ranging from a frequency of 2 to 10. In addition, 24 interviewees came from Shizugawa, 20 from Iriya, 16 from Utatsu, and 10 from Togura. Sixty interviewees had a frequency of linking social capital between 2-4, and 10 interviewees had a frequency between 5-10. For collaboration there was no noticeable pattern between the amount of linking capital held and the type of collaboration engaged in. For example, interviewees with 5 or more linking relationships did not have very different answers from those with 4 or fewer linking relationships.

On items related to collaboration, interviewees indicated that they are much more inclined and connected to work with small groups within their districts or collaborate with others within their occupational field within their district. The strong close-knit collaboration between like-district members highlights that cross-district collaboration between individuals is more frail and less developed. Similarly, non-Shizugawa residents are less inclined to go to the town office for assistance. As Mr. Ito, an agricultural business owner placed it,

“I share equipment with other farmers since they do not have a tractor (for tilling), or they need more nets...we do not have enough workers, so even then we contact the training center (Iriyado) to see if their staff (regular office staff) can help harvest, or you (laughs). Getting help for harvesting with JA can be hard since the workers are inexperienced...and the town office directs to the JA office, so there is not (much) help there. I think (pauses), Iriya problems (pauses again), we did not lose as many things (from the tsunami), so...problems here are less addressed I think, or there is this, hm, distance between us (and others).”

Other farmers when asked about collaboration, expressed dissatisfaction with the amount of funding and support for farming in comparison to fishing, highlighting that more agrarian districts feel they are competing with fisheries for resources. However, when asked about collaborating to affect town decisions, the focus was on supporting either their district or agricultural occupations. As a result, primary industry workers in the community have solid collaborative ties with other fishers or farmers to support their livelihoods, but not necessarily the power to instigate change through the local government to permanently improve their quality of life.

Similarly, interviewees expressed that while decision-makers and other influential figures do not directly state their disinterest in assisting districts outside Shizugawa, their actions show a level of carelessness towards the needs that non-Shizugawa residents have. As Ms. Tomoko, a long-time farmer, put it,

"This happens a lot. When there is a disaster, like with Typhoon Hagabis, the main road is cleaned first...I understand that...but roads and bridges are still (washed) out here after a year. Sometimes if a problem is not an issue to tourists it (pauses) I feel there is less urgency to address it...With other things we (Iriya residents) have to manage or request assistance for help. When everything flooded, we lost the greenhouse and other fields were damaged (pauses), there is still debris in fields, (and the) bridge at the river-bottom..."

Ms. Tomoko's thoughts also echo feelings of the Iriya and Togura districts being less cared for. As Mr. Takahashi notes, "I understand why everything is focused on Shizugawa, but it's as if they are standing on their shoulders (looking down on us)." Mr. Takahashi went on to describe how members of the district mostly attend events in Iriya, and how the town office promotes communal events. Secondly, when questioned about district participation, Mr. Takahashi notes, "the harvest festival is special to Iriya, so we don't have many other people come, but—no one really goes to other place's events, except for when there is an event at the Fukkouichi (in Shizugawa)...(we) don't go to events in other districts...I don't mind driving but there is nothing to do in Togura, and Utatsu is far."

For other groups such as fishers in Utatsu and Togura, most interviewees currently fishing or connected to marine processing, noted that they generally feel that they are able to work together and address problems at their specific fishery. However, there is a sense that resource distribution is unequal, and that there is conflicting interest between groups. Similarly, pride in one's own work and feelings of self-

responsibility also discouraged individuals from working with those outside their district.

Across responses, interviewees explained that they often collaborate to support the needs and goals of their district rather than the overall goals of the town. However, it is not that they intentionally ignore larger goals of the town, rather issues closer to them are easier to address. As such, interest in district well-being is high, but ideas of fostering this well-being through the town office is less present. Instead, responses indicated that individuals and groups believe their district's social and economic problems require different solutions to remediate them compared to others. Thus, residents conceptualize their districts as having unique relationships with social and economic problems. Secondly, while responses note that it is the government's responsibility to handle major town issues, the role of district collaboration to help remediate these issues was understated. Instead, the collective capacity of the town as a whole is questionable, as non-Shizugawa districts seem to be socially and economically detached, and non-Shizugawa residents feel less able to access resources. Similarly, the perceived distance by some interviewees, highlights that due to the centering and development of Shizugawa that a sense of inferiority has been created, or a sense that other districts are less important. Due to issues with district interconnectivity, this reinforces the insularity of districts, and is similarly apparent in the lack of bridging and linking capital across districts.

For collaboration, social capital has both adverse and positive effects. First, there are barriers to accessing, gaining, or even feeling comfortable requesting assistance from non-district members. Second, while like-district members have created deep connections with each other assisting in the flow of resources, their resource access is limited to their small groups. Essentially there is a trade-off happening—groups generated strong internal ties that act to meet their needs but simultaneously the feeling of needing to be self-dependent due to development decisions reduces the broader utility of social capital. As a result, there is evidence that social capital supports the collaborative capacity of groups but unified town capacity to mitigate adverse disaster impacts is reduced due to individualized district responses to problems.

Interviews: decision-making

When discussing interviewees' influence on decision-making at the neighborhood, district, and town level, there was a genuine sentiment that it was odd to expect them to be involved with decision making. Similarly, interviewees felt that for decision-making spaces, they were not necessarily the person who should be there, suggesting that the structure of decision-making disincentivizes resident engagement. This sense of detachment from decision-making and their influence over it was generally captured as differences between it not being their "role" or "place" to be active in these spaces. Disconcertingly interviewees suggested a sense of being misplaced, and that whatever knowledge they had was unimportant (regardless of if they held more or less linking capital). As a result, residents regardless of their status in the community are likely to downplay their actual or possible contributions in affecting decision making. Secondly, due to how interviewees framed their knowledge as being a less needed contribution, there was a sense of inferiority generated around discourses of which "knowledge" is acceptable to have influence over decision-making.

For example, in my discussions with members from a women's group, Mrs. Yu noted that feelings of one's place also intersects with issues of gender,

"I think most people will say they do not have any influence (other women nod), because I feel (we) mostly do not have time to participate as mothers...(Ward: so you cannot participate?)...(pauses) it is possible to participate...but when I have gone to some meetings there are other problems discussed and...(pauses), there is less time for us to contribute."

Another woman at the meeting, Ms. Aiko, framed it as "we are not expected to be there." Highlighting that issues with resident confidence to share their knowledge is mitigated by other expectations, and in some cases, especially for women. Similarly, other interviewees who framed their engagement with decision making as not their role or place, often responded with *shoganai* or "nothing for it" in terms of participating. Otherwise, there was also a sense that the individuals in spaces of decision making at the neighborhood, district, or town level are expected to be experts, a public official, or some other influential individual, not regular residents. Both discussions from one's place and one's role suggest that interviewees accept this inequality as normal (or that is has been normalized). Similarly, some expressed no interest in decision-making or that they had not considered that their thoughts and opinions would

matter for decisions, such as at the town level. As such, linking capital as an asset to influence decision-making processes is limited due to cultural norms and expectations acting as a barrier. This was especially notable in responses similar to Mr. Fujita's,

"I think to make decisions we think you need to be experienced...like someone from the Board of Education, but that isn't necessarily true. I've worked with the PTA for a long time, but usually the same problems and solutions are circulated....new ideas are less (frequent), I think (pauses), some people are, feel, less included. So the extent to which my influence matters is hard to...guess. If I volunteer then I take on responsibility, but some at the meeting may think it is not my place to. I think it can be hard for people to find their place in the meetings (if they aren't a board member)."

On aspects of decision making at the district level, some farmers also expressed that it is not their job (role) to manage issues with the Minamisanriku JA, even if some believe there are problems and that the JA is disconnected from some farmer needs. As Mr. Oyama, put it,

"I feel that JA staff want us to be happy with what they are doing, and that we are supposed to agree that such and such is good. However, attending meetings is mostly just being told what practices to implement on your land, or sharing information on seed dealers. In these meetings, we all sit in chairs and face a whiteboard as a staff member presents to us, sometimes on new ideas. They do ask us for feedback, but it isn't...no one is going to (outright) say this is a bad idea...it can put you on bad terms...maybe senior farmers can, but for most of us, it isn't our place to question planning (JA policies) necessarily...I mostly wait for the meeting to end so I can get back to work."

Findings from one's place and one's role suggest that social norms of hierarchy are important when an individual considers participating and that aspects of power also mediate how residents perceive their influence. Similarly, social norms of who should be in decision-making spaces (e.g. town officials, public servants, or experts) delegitimizes the knowledge and ideas of residents who do wish to influence outcomes. As such, cultural and social norms of bureaucratic spaces limit resident capacity to use linking capital as an asset to engage these higher decision-making structures. As a result, it seems that for some parts of the community it is normal for disenfranchisement and exclusion of residents to go uncontested. Secondly, due to the combined nature of disempowerment and the social and economic problems residents juggle with in their daily lives, some individuals may not have the time to utilize their linking capital at all, such as in the case of women. This phenomenon aligns with the social capital findings from the mapping exercise where connections are mediated by gender and district membership.

Interviews: accessing information and navigating power

There was a stark difference between interviewees when it came to information in Minamisanriku and how they access it. Similarly, issues of power and the intermediary role navigating power plays in having needs met was expressed frequently. There were distinct differences in the answers given by interviewees with 4 or fewer linking relationships (60), which highlighted power difference between this group and the 5 or more linking relationships group (10). Notably if the interviewee was part of the latter group, they were able to easily answer questions related to who is responsible for what, where to go if you need assistance with a specific problem, and spoke often about their colleagues (also high status individuals). This group of individuals also affirmed that they are regular attendees of town level meetings or are responsible for the meeting itself as the Chair or designated representative of a group. In comparison to interviewees with fewer linking relationships, not many of their linking capital was connected to an individual at the town level, and some of their connections were weaker. Out of the less influential group, even if they had connections with a representative of their ward or an agency or association, the actual closeness of this tie was weaker than their map suggested during discussion.

As a result, the major difference between these groups was if the person was a high-status individual. For example, these individuals hold positions of power in the community, as an organization or association head, a town council member, a board of education member, a community leader, or as a leader of farmers or fishers. Additionally, this group participates in discussions about town issues, resident well-being, and other concerns frequently. However, after reviewing their maps together, it became clear that most of their linking relationships were with people in similar positions of power. So in terms of being able to access information, it matters less how many linking ties you have, and more about how developed that relationship is, even if it is only one person.

Similarly, even amongst the influential group there was a propensity to either remain within their political network or to be a public resource, not both. Not all interviewees were public officials so there is less responsibility to be accessible to the public, but generally those in less esteemed positions, such as a farming cooperative representative were more likely to make themselves available to district members

and act as a resource to them. As such, the ability for residents to access information, not just from the town office, but from other important members of the community is predicated on the individual's willingness to share common internal knowledge with them. This means that residents, even if they are connected to individuals with power and influence, these individuals may not have interest in listening to their needs or engaging with them. As a result, the relationship meets the general definition of what might be considered linking capital, but it lacks any utility for residents to use that relationship as a tool. Similarly, the access to knowledge of power structures and information is ununiform, and some have more access than others. This dynamic creates a space wherein residents may not understand how decision-making occurs in the town because of issues with information diffusion.

As for consequences of accessing information, insights from this group clarify conflicts between residents and reconstruction planning. For example, in town development discussions with Mr. Abe, there is confusion about the shared responsibility between the town office and the tourism association.

Ward: When I've spoken with other residents, many complain that there is not enough resident-focused projects, such as building public baths, parks, and other amenities for them to enjoy. Why do you think the local government hasn't created more resident-centered projects?

Abe: (head nodding) Yes, that was an issue back in (pause) 2014. I can't remember the name of it, but a lot of those things are supposed to be built now. I think most residents don't know that the local government shares decision-making with the tourism association, so (pauses)...well, there was just more concern for recovery of the business district I think... Most subsidies come to us as economic grants, but I believe the majority are designated for tourism development.

Ward: So, what I'm trying to understand, is that residents don't understand why the town office supports other projects, but you mean that residents aren't aware of the tourism association's role on deciding projects? Sorry, I am just trying to clarify.

Abe: Yes, that is correct.

In other cases, responses highlight that accessing information is inherently tied with having to know how to navigate power systems, knowing who to talk to, and finding sympathetic members on councils, committees, or boards. Essentially, residents weigh the costs of reaching out to what may be considered a power broker before doing so. Similarly, due to how governance is organized in Minamisanriku, some members of the less influential group noted that it can take too long to contact and get assistance from whomever is responsible for managing their concern. As Mrs. Honma noted, portions of the community simply do not engage with political actors unless necessary,

“If I have a problem, for example with transporting produce, I reach out to Mr. Oba to see if he can lend me an extra vehicle, or if it is the rainy season we have to harvest a lot sooner or a typhoon can ruin the whole crop. I also reach out to other farmers too in that situation....(Ward: when do you reach out to your JA contact on your map?)...Usually after a typhoon has come through to see if I can be reimbursed for some portion of my losses, but everyone else has the same problem so even if I were to reach out...it takes time to be reimbursed and...you have to provide documentation so sometimes unless it is severe I just take the loss, so do others.”

Mrs. Okada, a small business owner highlighted how navigating power, having access to the right information and resources, especially affects the recovery outcomes of some in the community,

“As part of the San-San Market Business Association we have to attend meetings of course, and other business staff like Etsuko are supportive in creating new advertising campaigns for the market, especially online...but I remember the shop owners at the old market and they aren't here because, the expense was high, and in my case, I received money from family to afford the costs of having a storefront here. If you didn't know someone to advocate for you, or...well, some shop owners were pushed out so even with us to get by you need to know someone on the town council like Mr. Onodera, or Mr. Oikawa at the Tourism Association (listed on their map). You spoke with Mr. Oikawa? (Ward: yes) I think it is a shame because people thought the new market would house most of the old businesses, but that didn't happen because there was not much discussion about it...even at the Hama-re Utatsu market, unfortunately there really was difficulties in everyone finding support and (correct) information.”

As a result, the ability of residents to use their linking capital to mobilize the resources entrenched in their social networks to access critical information or powerful individuals is present for some, and limited for others. For the latter, groups and individuals are more likely to rely on their family and working relationships to meet their needs. Similarly, though social capital has the ability to penetrate resources entrenched in structures and systems is strong, the process of utilizing the resources present in an individuals' social network is very complex. Especially as the ability of residents to utilize their linking capital to accomplish this goal is dependent on not just finding information and gaining knowledge of these systems, but finding an influential figure that is open to residents.

Interviews: town development

Lastly, responses to town development, community needs and programs, and government assistance formed a narrative that reconstruction has not met some resident needs. Rather structural holes and minimal aid contributes to deep disparities, primarily caused by a lack of social infrastructure, and in some cases, the combined effect of minimal social and economic infrastructure. Interviewees had three main

areas were they expressed concern: social infrastructure, economic infrastructure, and government responsibility. When it came to addressing community needs and programs, interviewees mainly focused on social infrastructure items and other things related to improving life satisfaction. This included parks, public space, nightlife, children's activities, public baths, children's educational programs, and recreation and leisure activities. For items related to economic infrastructure, improving career jobs/job stability, subsidies, and other measures of employment were central. These also included discussions on transportation (e.g. buses, sidewalks, and rail), safety measures (e.g. seawall), marketplaces, shops, and industry (e.g. ports and distribution centers). For the last theme, there were strong feelings that the town office is not doing enough to address depopulation, the lack of young families, labor shortages, and the lack of emergency funding.

For social infrastructure related items, issues with life satisfaction and making the town a comfortable place to live for residents was encapsulated in the lack of public facilities for families, children, and young adults to enjoy. As Mr. Yae highlighted,

"I run activities for children at events, like the break-down playgrounds at the Fukkouichi. However, spaces for children is really inadequate, beyond a few neighborhood parks. We are interested in doing a pen-pal program, that Place to Grow does as well...(Ward: Yes)...but interaction between children is very low and I worry about providing them enough opportunities not just educationally but ways to create friendships. If there was something to improve the availability of spaces for families that did not compete with tourists I think I would see more interaction between families as well."

Similarly, of the younger interviewees there was disappointment at the lack of venues and "fun" spaces to hang out and spend free time, as Ms. Natsumi framed it,

"During the week there isn't really much to do. We do not have a game center, a movie theatre, or even a larger mall that would be fun to visit. All the stores at the markets are for tourists so I don't like to hang out there except for on weekdays. Usually we go to Tome (next door city) for fun or when we were in high school, we could spend time together during club activities. I can't say that there is anything interesting here for young adults or those in their 20s."

For those with children, there was also a focus on the lack of educational development and educational opportunities. Many were worried about their child's future prospects, and some noted that they would fund their children to attend college to have better career options outside of farming, fishing, or forestry since most available career jobs are in public service. As Ms. Izumi framed it,

“Just this year (2020) the high school published their plan to help with school closures, but when our middle school closed (in Togura), there was not the effort there is now to sustain it. I worry about how quickly the number of children in school is shrinking, and the lack of quality education here. Both of my sisters moved to Sendai with their families...Their schools are newer and have better programs (besides clubs)...I want my children to grow up in our hometown, but I worry if I am making the right decision.”

Beyond the concerns discussed above, interviewees younger than 50 emphasized that there are not enough activities or amenities for adults and families to enjoy, such as bars, karaoke, and restaurants, and for families, public baths, and child-friendly facilities. Elders also wanted greater access to public baths, and for those not close to health care facilities, greater access to those as well.

For economic infrastructure, most interviewees were concerned with the lack of development for businesses that offered more secure employment outside of hospitality, public service, or jobs in the primary industries and the number of stores and services available across districts. This concern was emphasized by those from Togura, where, as Mrs. Hayama notes,

“I have to travel to Ishinomaki for most of my shopping, or I need to go into Shizugawa to get groceries. I know for my parents, if I weren’t here, they would have to move into public housing in Numata (Shizugawa Ward), so that they could be close to the hospital, bank, and care home since they can’t drive. The transportation here is not very good since the number of buses is low...I also worry because things are far from each other, or you need to walk up a steep hill for the town office...even walking is difficult.”

In terms of business and industry, the seawall was mentioned frequently by fishers, who found the construction of the wall a barrier to operating their businesses (compared to pre-seawall construction). Those with private ports where there is no seawall also note that the infrastructure that fishers can access is ununiform, with some fishers processing their catches on-site and others having to use facilities farther away. Especially for fishers who had the seawall constructed on their land, they feel troubled as they no longer have access to their private docks and have had to move their ships to a different location, while their processing equipment and other tools remain at their original location. As such, most fishers discuss issues with adequately being able to do their job and the added steps going from catch to distribution.

Others, such as retail and hospitality workers, government workers, and public servants, are concerned about the location, amount, and type of businesses. For those in Togura, most commute to either

Shizugawa or Utatsu for work and feel that developing businesses or support for entrepreneurial activities in Togura would benefit resident well-being (and overall satisfaction). Utatsu and Iriya workers similarly want the construction of businesses that could support lifetime careers. In general, while not explicitly mentioned, most economic infrastructure was related to creating industry stability.

Lastly, for town responsibility interviewees were mainly dissatisfied with how depopulation has been handled, especially with rising attrition in schools, and few young families moving to the town despite reconstruction being mostly complete. Among offered solutions, interviewees discuss that it is the responsibility of the town office to develop programs to encourage new young families to come to the community and to provide economic incentives to entice young entrepreneurs. As Mr. Haine framed it,

“We lack new families here, especially in Togura, despite having a new elementary school and public housing built next door to help to people move here. Right now there is no program or subsidy for young families to move here...I would be happy to hear if the town office planned to work with other government agencies to encourage more new transfers. We have many entrepreneurial opportunities, but those usually encourage older people to move here, or those who are single. The new winery and other business have only been opened in Shizugawa, so we need more businesses here to also show that families can live a happy life here.”

Both farmers and fishers were similarly concerned by the lack of subsidies and lack of understanding about how much the rainy season effects their ability to do their work. In the case of fishers, they were especially upset by the lack of assistance for when toxic algae would kill off most of the shellfish they cultivate. They expressed wanting the town office, JA, and JFA to exercise greater responsibility for supporting their livelihoods. As a prospective solution, both farmers and fishers agreed that having some form of an emergency fund available would help. Similarly, those in primary industries believe the town office is responsible for helping alleviate labor shortages by enticing workers to come to the town, even if only seasonally. As Mr. Iji noted,

“I am in the process of hiring workers from (redacted) due to how poor the current status of farm workers is. I’ve advertised extensively in town and no one wants to work in farming. I have also gone through the JA who could not provide assistance on the legal and visa sponsorship process for hiring foreign farmworkers. It is really prohibitive because I have to insure and ensure that they will have housing with no assistance from the town office. Farmers in Utatsu...well all farmers with much land, have issues with labor shortage, especially younger workers. I think the town office needs to consider providing services to advertise to workers outside of town during peak harvest. I know fishers already hire part-time workers during peak season, but there are many more fishers here than farmers.”

Overall, answers to community needs and programs, and what the town office needs to address, showcase that inadequate development and spending on social infrastructure has created deep inequalities in terms of life satisfaction in different parts of community, and has also created new problems in terms of transportation, retaining new families outside Shizugawa, and maintaining positive job and educational opportunities for young people. Similarly, aspects of economic development, such as the location of businesses and services, disincentives working in the community and creates difficulties for some industries to stabilize or create job security. For community needs and programs, responses highlight a lack of social infrastructure, deepening depopulation issues, as the community is unable to retain young workers and families. Similarly, the lack of infrastructure to support satisfactory and enjoyable lifestyles lowers the community's appeal to possible new migrants. As a result, underdeveloped social infrastructure is not the only issue affecting social capital utility in this study; unequal economic infrastructure also mitigates its uses. Thus, the ability for social capital to drive economic and social recovery, as conceptualized by Aldrich (2010, 2011, 2012), Shaw (2014), Yamamura (2010), and Shimada (2017), is lowered.

CONCLUSION

At the outset of this project, we knew that there were issues with the reconstruction process, based on the findings of our previous work in the community. Looking specifically at resident social capital and how they use it to meet their needs and manage adverse risks from the disaster was important for determining the extent to which disaster management and reconstruction planning effected recovery outcomes in Minamisanriku. Focusing on organizations allowed us the ability to see which organizations are well perceived, hold power, and which members of the community they mainly serve. This also helped to elucidate which organizations residents frequently interact with, but also which residents are entirely disengaged from organizational resources. In terms of practical takeaways, the partnered organizations on the project recognize that the disparities in Togura are far worse than first thought, and that very few organizations, including their own provide much opportunity for them to engage. As a result of the practical insights from the study we are planning to host summer camps and other educational opportunities for children and families in Togura once Covid-19 restrictions in Japan are lifted.

In terms of theoretical insights, taken as a whole, the reconstruction process in Minamisanriku creates adverse situations for individuals, groups, and districts that prompt people to utilize their social capital, but also restricts their utility of it. Additionally, due to the distribution of organizations across districts and the disparity of social and mix organizations, some portions of the community are being left behind.

Especially for this case, social capital provides residents the ability to meet their immediate needs and support their livelihoods through collaborating with people in their districts, however over-reliance on district support creates social and political dynamics that fortifies strong in-group out-group behaviors. As such, the ability of residents to utilize their social capital to successfully address social and economic problems is limited to the scope of their district. Similarly, there are holdover issues from the disaster that have created invisible tensions between districts. Especially those that are perceived as having less to recover from, therefor trivializing their problems. In this way, social understandings of needs across districts are mediated by feelings of inferiority to Shizugawa for Iriya, Utatsu, and Togura.

Overall the importance of social capital in this community is its ability to fill in gaps, structural holes, and bridge the needs of residents left behind by the reconstruction process. However, the extent of social capital to provide these assets is limited when organizational support and access across districts is unequal. Similarly, since larger problems of depopulation and industrial decline continue to worsen, individuals and district organizations ability to treat problems is difficult. More unified support is needed to resolve issues with social and economic infrastructure, and to create more community cohesion.

Similarly, the top-down nature of the reconstruction process and the extreme disenfranchisement of some districts, like Togura, creates sentiment that the survival of other districts, like Shizugawa, is more important. Thus, other district members recognize this lack of care especially through the inequitable distribution of funding and investment and a lack of projects. In this case, social capital is insufficient to bridge these political conflicts, but does provide districts some internal capacity to handle concerns they deem important more quickly by having to not rely upon other agencies or bureaucratic systems.

When considering social capital as an asset for residents, its benefits mostly appear in the ability of

groups to coordinate the sharing of resources and equipment, meet group interests, and manage problems. However, these collaborations do not necessarily enable these groups to address larger power structures. Thus, social capital alone does not have the power to drive recovery in this community, and the scope of its influence to improve the economic and social well-being of residents or manage adverse risks from the disaster is highly sensitive to other disparities and inequalities.

Moreover, issues with community unity due to reconstruction planning means that residents are working in smaller independent groups to address issues that may be best treated through broader unified and collaborative efforts to more efficiently handle both district and town problems. As a result, residents do not get the full potential use value out of the social capital they do possess. Similarly, the town office's lack of recognition of troubles with unity and lack of supporting resident participation may further prolong the recovery process and continue to leave critical social and economic problems untreated.

Finally, when considering decision-making, accessing information, and navigating power, residents have desperate amounts of linking capital as well as disparate levels of quality too. The ability of linking capital to drive residents to use their knowledge and influence processes is affected by who comprises these linking relationships, and how these individuals interact with others. If linked members engage the public frequently and other individuals outside their in-group, it is easier for residents to access power and information. However, as evidenced in this project, linked individuals are also just as likely to only engage with other linked individuals, keeping power insulated from others. As such, the utility of linking capital is predicated upon norms and values that found social and power hierarchies. Lastly, despite the high amount of linking capital in the community, most of this is retained by men and women's connection to linking individuals is much smaller. As such, there are also gender inequities in accessing information and navigating power. As a result, women across the town may be experiencing higher inequality, as they have less access to formal institutions of power, and because this access is likely to be brokered by men.

When considering the future trajectory of social capital disaster studies, there are a few recommendations given the consequences of social capital highlighted through this project. Mainly, that previous social

capital studies tend to be more quantitative and are removed from local contexts that would provide clarity on if the consequences found from data should be attributed to social capital at all. As seen here, social capital alone cannot explain the variety of different outcomes, although it does provide insight into conflicts, isolation, and collaboration experienced by residents. Essentially, without doing field surveys, interviews, or some other method to check that patterns occurring from data exist in the lived experiences of participants, critical contextual information that influences understandings of how social capital is claimed to work is missing. As such, future studies should use a variety of qualitative and quantitative methods to collect data from their case sites to ensure they accurately capture how social capital functions for individuals in day-to-day use, such that broad influences of social capital can be differentiated from intermediating forces. Additionally, the creation of such studies would help to pinpoint which qualitative measures of social capital best explain recovery outcomes. Similarly, social capital disaster studies should take care in documenting the effects of social norms and culture influencing the creation and use of bonding, bridging, and linking capitals, especially when considering issues of gendered access to power.

In terms of reconstruction and disaster management planning, while it may be bureaucratically efficient to focus development in a centralized location, like Shizuoka, this process directly disenfranchises other districts, makes it more difficult to access resources, and produces secondary inequalities from the disaster. This in turn reduces the well-being, happiness, and satisfaction for a majority of residents. As a result, while this is not a new insight, this study reinforces calls by other scholars that reconstruction planning should use a holistic approach to developing communities in order to properly address inequities. Similarly, over-investing in one district makes other districts needlessly more vulnerable to future disasters and greatly threatens the future existence of those districts. Thus, reconstruction planning projects in Japan should look to serve the interests of the entire community rather than a select few to avoid creating or to avoid worsening social, political, and economic problems.

6. CONCLUSION

In this dissertation, I have presented a set of four studies investigating and exploring post-disaster consequences in Minamisanriku using social capital and other complementary concepts to incorporate intersections of power—sense of place, collaborative governance, and participatory discourse. This integrated theoretical framework focused on using concepts of social capital to inform a critical examination of how intersections of power affects the ability of communities to recover in the aftermath of major disasters. These studies engaged with different facets of community-identified issues starting with a deep contextualization of historical problems and systemic issues, and then progressing further to more micro-level investigations of recovery outcomes for residents. Throughout this process, I actively engaged in partnerships with community-based organizations integral to the well-being of residents to create projects that would have direct effects on residents and my partners. In this way, the past six years of projects in Minamisanriku showcase the ability of community-based research to have overarching community benefit and simultaneously generate theoretical insights.

First, I investigated how historical legacies of government policies influenced recovery outcomes in the Tohoku region and how these processes influenced economic restructuring and social development in Minamisanriku. Interview findings revealed both reinforcing and detracting factors affecting recovery outcomes for residents, based on their social networks, integration with organizations, sense of attachment and place to their community spaces, and their interactions with governance systems. Residents' varying positive experiences relied on their own feelings of perseverance, achievement, and obligation which drove them to pursue other opportunities. Whereas negative experiences of uncertainty, dissatisfaction, lack of respect, and other factors pushed residents away from engaging in their community. Due to issues with communication and engagement by political actors, integration of some parts of the community were actively harmed. Thus, the ability for residents to retain, maintain, and build their relationships, both with people and the environment, post-disaster was affected by disaster management that had difficulty handling dual pressures of rebuilding infrastructure and meeting social development needs.

Next, I investigated how governance structures within Miyagi prefecture influenced the social and economic development of Minamisanriku during reconstruction by applying social capital and collaborative governance. I showcased the propensity of the prefectural government to undermine the autonomy and agency of local governments through the implementation of Special Zones for Reconstruction (SZRs), and how these SZRs constrained local government actors' ability to meet the needs of residents. Findings from the interviews highlighted that SZR related political stressors generated other communal stressors, such as conflicts over the distribution of resources, especially recovery grants and aid to local organizations. For both individuals and some organizations, finding support and generating their own networks of mutual-aid were integral to responding to local issues. Due to mutual-aid, many organizations were able to effectively utilize their resources to assist residents when there were gaps in support from the local government. As a result, social capital provides residents, organization directors, and others a means to develop their own paths toward social recovery. Moreover, this development and activation of social capital between organizations benefited residents by re-integrating them into the community while simultaneously addressing local issues. However, organizations cannot serve the entire region, and there are portions of the community still isolated. In this way I highlighted the significance of social capital for organizations in recovery processes, especially when there are inefficient, divisive, or inequitable governance systems in place.

Next, I investigated how social capital affected the ability of residents to handle locally identified problems such as depopulation, out-migration, and industrial stagnation, by applying social capital and using a participatory discourse analytical frame. Examining reconstruction documents and resident narratives, we identified participatory and representation measures during the planning process and assessed the extent of their positive outcomes. As a working group, the analysis of government and reconstruction documents in comparison to resident narratives, revealed the extent of local governance influences on representation and participation of residents on decision-making boards, councils, and others affecting local problems. Findings highlighted that the positive effects of participatory discourse were limited due to the absence of critical participatory discourse measures necessary to generate consensus. Similarly, participation and representation measures did not accomplish better communication between the public and political

actors, did not create plans serving the 15 different resident concerns, and did not effectively address uncertainties, risks, and ambiguities post-disaster. Moreover, the Minamisanriku case showed that biased representation on councils and in other deliberative spaces generated feelings of exclusion. Similarly, this exclusion effects the social relationships of political actors with the public and created gaps in community understandings of reconstruction decisions. Overall, due to the lack of participatory discourse, local ties were under-developed and the efficacy of social capital to act as tools to present public concerns to officials and to have those concerns addressed in a manner acceptable to the public was reduced. The application of participatory discourse, and the use of social capital, is extremely sensitive to pre-existing inequalities, which affect their capacity to be good tools in generating trust and positive perceptions of government.

Lastly, I investigated how and to what extent social capital drives economic and social recovery, collaboration between groups, and decision-making within Minamisanriku through an application of social capital mapping exercises and interviews to measure resident social capital. I focused on resident's interpersonal relationships, inter-district relationships, and organizational relationships to determine how developed their forms of social capital were, and to compare this to how they described their utility of their relationships. Findings highlighted discrepancies between those with high and low social capital, and high and low integration with organizations. Overall the reconstruction process over the past decade created adverse situations for community members, prompting them to use their social capital but the extent to which they could use it to address social and economic problems was limited. Due to a lack of useful linking capital, and the consolidation of powerful organizations in Shizugawa, some members of the community have been isolated or are being actively left behind. In this way, I highlighted how social capital provides some residents the ability to meet their immediate needs, support their livelihoods, and collaborate with others. Simultaneously I highlighted that these relationships also generated strong in-group out-group behaviors that were also exclusionary. As such, the efficacy of social capital to address social and economic problems is limited to district boundaries, but nonetheless can help fill in gaps, structural holes, and bridge the needs of residents left behind by the reconstruction process.

Each study highlighted some of the positive effects as well as limitations of social capital during disasters. First, as a through line in each study, findings provided empirical support for previous research upon the importance of trust for generating, maintaining, and utilizing social capital (Coleman 1990; Flora et al. 1997; Paxton 1999; and Putnam 2000). Mainly, that misunderstandings between political actors and the public generally prohibit residents from using their social capital in its greatest capacity. This means that social capital embedded in resident social networks is not always able to provide certain benefits, such as accessing resources and information. Similarly, as was seen in each study, due to social capital limitations, the extent to which social capital could provide support to social infrastructure is reduced. As a result of the reconstruction process, the full utility of social capital to increase resident capacity to resolve problems and generate collective solutions is limited to smaller areas in the community or through an organization, rather than having a larger effect on the total community (Flora et al., 2004; Flora et al., 2016).

Second, especially from findings in Chapters 3, 4, and 5, social norms do constrict how residents can use social capital. While resident interests were cognizant of broader community issues, more often immediate and closer problems (i.e. district problems) superseded collective interests. While Japanese social norms may have a greater propensity to enforce collective interests, residents expressed frequently that they only had the energy to address problems mainly affecting them individually. This competing expectation between the individual and larger group, did create in-group and out-group behaviors, and other exclusionary practices that isolated others (Gill, 2015; Kimura, 2016; Sekine & Bonanno, 2016). However, residents and organizations did rely on mutual-aid to address reconstruction problems when possible. Social norms also affected community members differently. Women in the community have other competing issues, such as gender stereotypes, gender biases, and other expectations that limit their capacity to engage in recovery processes and capitalize on their social capital (Gill, 2015; Kimura, 2016).

Lastly, in each study, organizations played a role in assisting residents or by filling in structural gaps. In this way, organizations in Minamisanriku were able to utilize their social capital (and other capitals) to

serve the community effectively. As a result, organizations showed that their integration in the community enabled them to meet needs more efficiently and their cross-collaboration and mutual-aid efforts reinforced their capacity to collaborate, cooperate to manage threats, and facilitate a sense of shared responsibility and identity, and attachment to the community (Tierney, 2019; James & Paton, 2007; Aldrich, 2012a; Ye & Aldrich, 2019; Shaw, 2014; Schellong, 2008).

At the outset of this dissertation, the risk of a disaster leading to the evolution of a corrosive community norms and structures was mentioned as disasters and reconstruction processes disrupt established community systems and ways of living (Freudenburg, 1997; 2000). The onset of a corrosive community, or a maladaptive system is important to revisit, as it directly intersects with the effects of social capital and debilitating processes related to disaster as seen in this dissertation (Green, 1991; Picou & Gill, 1997; Couch, 1996). To reiterate, corrosive communities often appear post-disaster where there is catastrophic damage to social, economic, and political structures (James & Paton, 2007). Corrosive communities are difficult to treat, as disruptions to relationships directly influence social structures between individuals, groups, organizations, and institutions. This process can create a negative feedback loop where more and more uncertainty and animosity are produced. Thus, “(w)hen social structures are altered, associations are likely to change as well; when interaction is diminished, opportunities for information flow, consensus building, and development of shared understanding(s) are limited” (Ritchie & Gill, 2007, p.117). While some of the precursors to a corrosive community are present in Minamisanriku—such as trust and communication issues between political actors and the public, limited town capacity to collectively address problems, and a lack of consensus building—a corrosive community has not taken hold.

This is due to three conditions that were empirically observed throughout this dissertation. First, organizations continue to be a significant linchpin in ensuring that information flows and consensus building still occurs despite political issues. Within Minamisanriku they play an integral intermediary role for residents that is invaluable for disaggregating information and resources otherwise inaccessible from the local government. Secondly, while residents are more likely to address problems collaboratively within

their own districts, they are cognizant and sympathetic to problems outside their social and economic circles. Residents do continue to have an invested interest in maintaining and ensuring the sustainability of the town for future generations. Lastly, there is something to be said about the types of people who remain in disaster affected areas in the long-term despite issues with living conditions, life satisfaction, and other community problems. The group of residents remaining in Minamisanriku have not given up on recovering from the disaster despite mounting and compounding issues. The extent to which they will be successful and that Minamisanriku continues to exist, is debatable, but it would be inaccurate to say that Minamisanriku has become a corrosive community.

POLICY RECOMMENDATIONS

This dissertation has touched upon the consequences of disaster management and governance on recovery trajectories. Similarly, findings showcase the limitations and shortfalls of management measures, but also areas for improvement. Throughout the dissertation and my time in Minamisanriku I have thought about what disaster management and disaster recovery means to locals, how these two concepts affect their day-to-day living, and how evaluating “successful” disaster management and disaster recovery is different for locals and experts. I think it is important to disentangle disaster management from disaster recovery when evaluating how successful recovery is. Similarly, it is also important to consider who is evaluating these systems, and what values or whose values are represented within evaluation criteria. For example, residents are less likely to rate civil engineering projects highly if those projects ultimately remove their access to previous community spaces and environmental spaces. However, for experts, these same civil engineering projects may be highly rated due to their efficiency, use of innovative construction, or quality. Essentially there is a gap between the effects on the immediate community versus the goals of disaster management.

Additionally, some measures of disaster recovery may be better accomplished through other means rather than by formal disaster management structures. I am not arguing that disaster management and disaster recovery be disassociated from each other, but that more flexibility is needed within disaster management structures to ensure management measures adhere to community-based needs, and also

adapts to new and evolving needs over time. Especially in Japan, the rigidity of vertical governance systems reduces opportunities for more community-based reconstruction. Similarly, resident experiences in Minamisanriku highlight that while disaster management may reach certain infrastructural milestones, this does not necessarily translate to equitable recovery nor sustained recovery in the long term. Essentially, the tools or measures to accomplish management and recovery are not always the same, nor are they the same for all communities, nor different districts within the same community.

Secondly, disaster management measures should be re-assessed as to how “community-centered” they are. From the review of disaster policies in this dissertation and how they have manifested in Minamisanriku, the extent to which disaster management frameworks achieve decentralization and community-based disaster management, reconstruction, and planning is questionable. As seen in Minamisanriku, the extent to which community engagement and participation was facilitated in the reconstruction process, often did not adequately serve their interests. Moreover, these processes exacerbated or generated new local problems. This gap between policy and implementation is visible in the recovery outcomes in Minamisanriku, as post-disaster realities diverged in terms of how well community members were genuinely included in planning processes (e.g. Shizugawa’s recovery trajectory versus Togura’s). Thus, future disaster management planning and policies should ensure that participatory discourses are well included, and given due space, such that residents and governments agree on their recovery trajectory, how they are going to reach recovery, and how they will ensure recovery is equitable. To do otherwise would inflict additional disaster-related trauma on communities that is avoidable and unnecessary.

Thirdly, within disaster management frameworks social capital has continued to become more recognized as an important tool in generating good social recovery through the development and maintenance of social infrastructure. However, the actual ways to develop, maintain, and build social capital in post-disaster communities within these frameworks, especially in Japan, is under-developed. The vertical governance system in Japan does not necessarily lend itself to community-based collaborations, nor generating the necessary social infrastructure needed to assist in the production of social capital.

Moreover, as was seen through the dissertation, social capital inherently deals with and is influenced by power, power dynamics, and power inequities. To adequately include social capital as a measure in disaster management frameworks, means to also adequately address power issues, and how these intersect with a variety of social locations (i.e. gender, status, ect). As a result, future disaster management inherently needs to become more beneficent and just to ensure problems created by power does not diminish the efficacy of social capital to assist disaster affect communities. Rather than simple decentralization or reshuffling of responsibilities to local governments, there needs to be more discrete efforts to also “decentralize” the sorts of knowledges that inform management decisions.

In many ways the problems with traditional disaster management are the same to traditional “ivory tower” research—they have difficulties solving complex community disparities, they may exploit groups or participate in other forms of “malpractice,” they have difficulty developing mutual trust, and often overlook the importance of generating community-specific or context-specific solutions to problems. Issues like these are the reason why methodologies like community-based participatory research (CBPR) are needed. Similarly, I am intentionally drawing a comparison between traditional research and disaster management, versus non-traditional research (CBPR) and disaster management to highlight that traditional ways of engaging with communities often ignores to minimizes how important it is to address power dynamics. I am not arguing that disaster management structures should remove experts, specialists, academics, special boards, or advisors, but that critical re-evaluation is needed on if these groups understand the day-to-day needs of people and how they interact within and with their community.

FUTURE WORK RECOMMENDATIONS

For those pursuing or doing community-based work in disaster areas, it is important that the work is contextualized and sensitive to the different realities of the community as well as community members. Often disaster studies fall into being ahistorical and thereby miss important factors influencing recovery outcomes. This is more common with large quantitative studies that are limited by how many site visits are possible. Similarly, an ahistorical approach also removes the possibility of creating context-specific solutions that matter to locals, compared to a traditional academic audience. This again falls into whether

the work is creating more disaster-related trauma or not, by doing research to or on something, rather than with a community. By embedding the research into historical and cultural contexts this also proves useful when evaluating what kinds of interventions have and have not worked in the past and the outcomes of them.

Secondly, for this kind of work, some types of research will be incompatible, and researchers should resist the urge to do community-based work poorly or in name only. For example, there is an increasing propensity for researchers to offer partnerships to organizations or stakeholders with no intention to share power, decision-making, or other parts of the research process. This attachment to vertical power by researchers in community contexts is dangerous as it violates the purpose and goal of community-based work to generate social change and action. Moreover, in recent years, this disingenuousness is a common problem within community engaged scholarship and not only actively harms community members but also the relationship between the public and academics.

Thirdly, when constructing a social capital-based disaster study, it is important to be cognizant of the aspects of power discussed in this dissertation as well as inequities. Social capital alone is often not a sufficient measure for accessing disaster outcomes and often needs accompanying concepts to accurately describe the observed phenomena. Furthermore, despite the building prominence of social capital as a recovery measure on par with traditional economic indicators, care should be taken to not attribute intermediary factors to only social capital when they are produced by something else or as part of a process. In this way, social capital in any study must be carefully defined or “bounded” and measured to ensure that other factors producing benefits are not falsely attributed to social capital.

Lastly, within issues of power and social capital, I want to bring special attention to gender. As was seen in previous chapters, socially vulnerable groups, like women (and especially mothers), have other pressures and barriers that affect their use of social capital. Similarly, they also encounter and engage in spaces differently than men due to social norms, gender roles, or gender stereotypes. Therefore, the ways in which women create, maintain, and generate social capital may be significantly different from

other groups. Thus, different measures of social capital may be needed to adequately explain and include women's experiences. As such, when considering the effects of social capital and its claimed benefits, care should be taken to examine how social capital efficacy diverges by gender. Similar to women, other socially vulnerable groups, like elderly or disabled community members, may have adverse circumstances that effect their use of social capital, such as less mobility and wealth. As a result, while measures of social capital have generally consolidated into a set of reliable tools, new tools or measures may be needed to equitably capture the full experiences of people with different social locations.

APPENDICIES

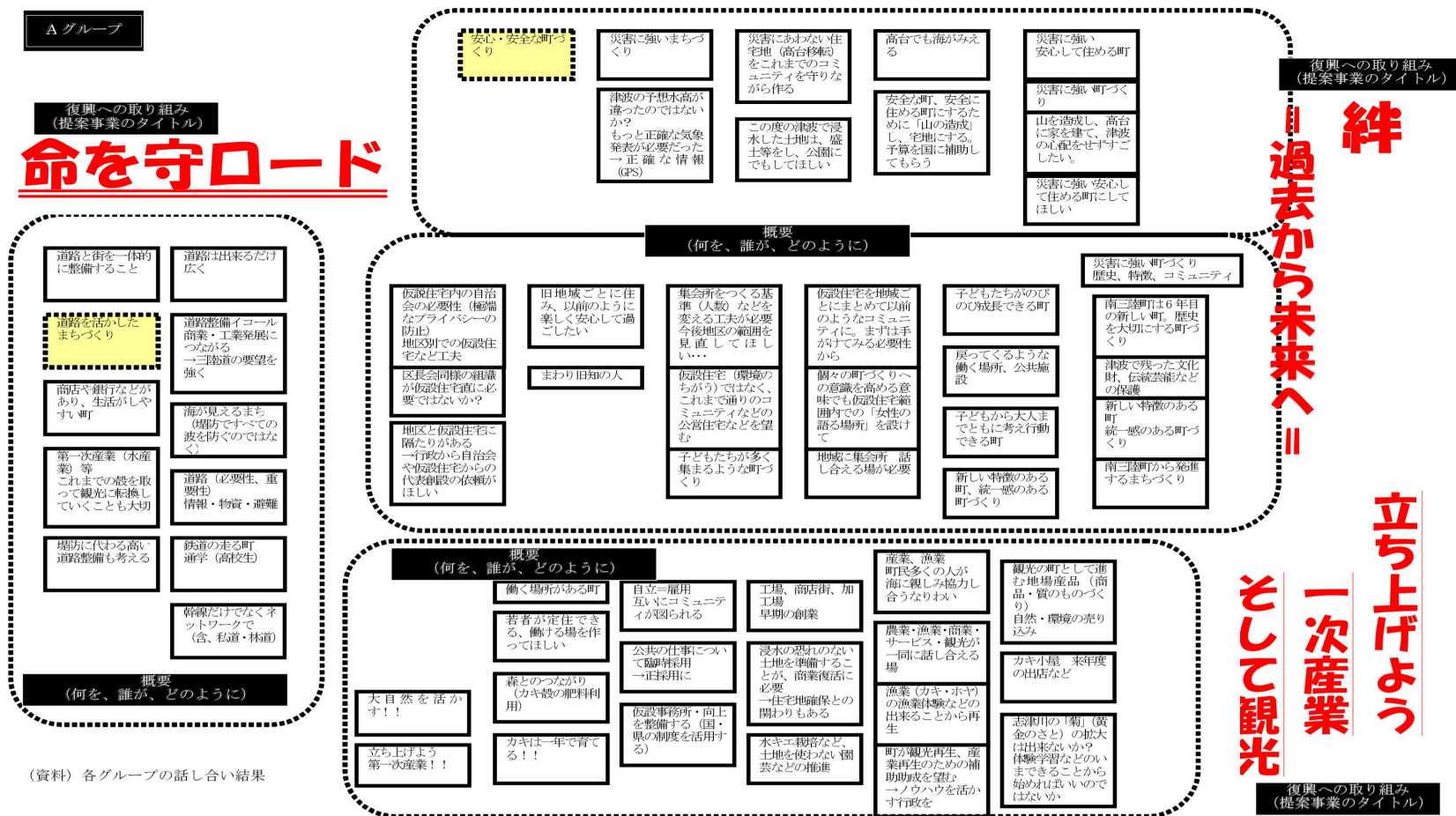
Appendix A Interview Guide

The introductory explanation varied based on the person being interviewed. For example, the below questions were asked of people in various occupations, so the subject of the question would be adjusted to fit their working circumstances. Additional examples are provided in parentheses for questions 7 and 9.

1. Are there any groups or programs you have received support from [after the earthquake]? For example, various groups such as unions/associations or volunteer groups?
2. Have you ever had difficulty farming/fishing/working/etc? Why is that?
3. Do you need something that can help you be more agriculturally/aquaculturally/working/etc productive? For example, do you need more equipment, labor, etc.?
4. Do you interact with or cooperate with other farmers/fishers/sectors/workers/etc?
5. Do you think the farmers/fishers/workers/etc support each other?
6. Is there any help you would like to receive from inside or outside the town of Minamisanriku? (Financial, social, etc.)
7. Do you think the farms and fields/fisheries/industry/etc in Minamisanriku are doing well? (Do you think the places of work, factories, and shopping in Minamisanriku are doing well?)
8. So far, what kind of experience have you had as a _____? For example, faced with many obstacles, achieved personal cultivation goals, and so on.
9. What is your relationship with the JA/JFA/other organizations? Do you and other farmer/fishers/etc cooperate with them? (What is the relationship between the craftsman / office worker (or yourself) and the union/association?)
10. What is the biggest problem in the countryside as a _____?
11. Do you have any concerns about living in Minamisanriku?

New interviewees who I had not interacted with before were also asked how long they had lived in Minamisanriku, and if they moved from elsewhere, why.

Appendix B Resident proposal example



(資料) 各グループの話し合い結果

Figure 4.5. Resident proposal example from Townspeople Conferences.

Figure 4.5. (cont'd)

Group A

Reconstruction proposed projects from group A focused on three main areas: 1) Creating “roads” to protect livelihoods and lives, 2) supporting relationships, and 3) supporting primary industries and tourism. Their ideas and concerns centered on who and what the projects include/effect and how to accomplish their plans.

“Roads” protecting lives/livelihoods (left side of image)

- The main theme was to utilize town development that makes the most use of roads, for example, by integrating the town with extensive road networks and connections to the Sanriku expressway to support commercial and industrial development. They recognized that shops and other industries strongly demand road access, and that the town should be easy to live with access to a variety of amenities. Additionally, they note road are extremely necessary for transporting information, supplies, and providing evacuation (routes). However, focus should not only be on the main road but other secondary roads, including private and forest roads to create an extensive network.
- A second theme focused on creating a town where you can see the ocean rather than completely blocking off the ocean with safety measures (“defense”). This included requests for consideration of relocating roads to higher areas in lieu of building levees or embankments.

Supporting relationships (top-center of image)

- The main theme was to utilize town development to create a safe, “worry free” town, for example, creating a disaster resistant to/strong against/resilient against disasters. To accomplish this they noted that more accurate information is needed for emergency announcements (i.e. “wasn’t the tsunami height much higher than what was announced?”) They also noted relocating residential areas to higher areas where a future tsunami couldn’t reach so people could have peace of mind. Additionally, even though they advocated for relocation they also wanted original communities to be kept together to maintain existing communities.
- A second theme focused on what to do with the inundated land. They first noted filling in some of the area and creating a park (similar to the memorial park that stands in Shizugawa today). Second, they recommended pursuing national subsidies to support land-filling to create “mountains” to build new residential areas. Regardless of where residential areas were located, they listed that the ocean should still be visible.
- Some final themes included preserving history and protecting cultural activities from the tsunami, such as performative arts, as well as history. Secondly, they wanted town development that would create a town with a sense of unity, and that this development would come from within the town.

Building up primary industries and tourism (bottom-center of image)

- The main theme was to utilize town development to build back the primary industries, for example, by creating places to work and places where young people and settle and work (i.e. rebuild factories, shopping districts, and processing plants). They noted using un-inundated land for commercialization (as well as housing). This included recognizing that independence is based on employment. Secondly, they recommended moving away from temporary recruitment to regular recruitment for public affairs and to improve temporary work spaces/offices.
- A second theme focused on creating cross-collaborations amongst the industries, such as using oyster shells for fertilizer, having those in industry and fisheries familiar with the ocean operate together, and having a discursive space for those in agriculture, fisheries, commercial services, and tourism.
- A final theme was developing tourism and industrial revitalization through subsidies that the administration should apply for. They recommended promoting (literally “hard selling”) nature/the environment for tourism, and manufacturing local product of quality for tourism

Appendix C Social capital mapping instrument

属性
被災した田舎: 被災地コミュニティの修復

仕事: 年齢: 地域: 関係マップ

個人に対する信頼度

記載するのは知人(10名):

仕事・職業
年齢
地域
関係

高

低

Figure 5.3. Social capital mapping instrument.

Title of mapping instrument (top): Relationship map; trust/reputability of/in individuals

Top left (in order from left to right): Demographics, occupation, age, and region.

Top left of map (in order from top to bottom): Information of 10 people; occupation, age, region, and relationship.

Center of map (character): High

Bottom left of map (character): Low

Appendix D Organizational mapping instrument

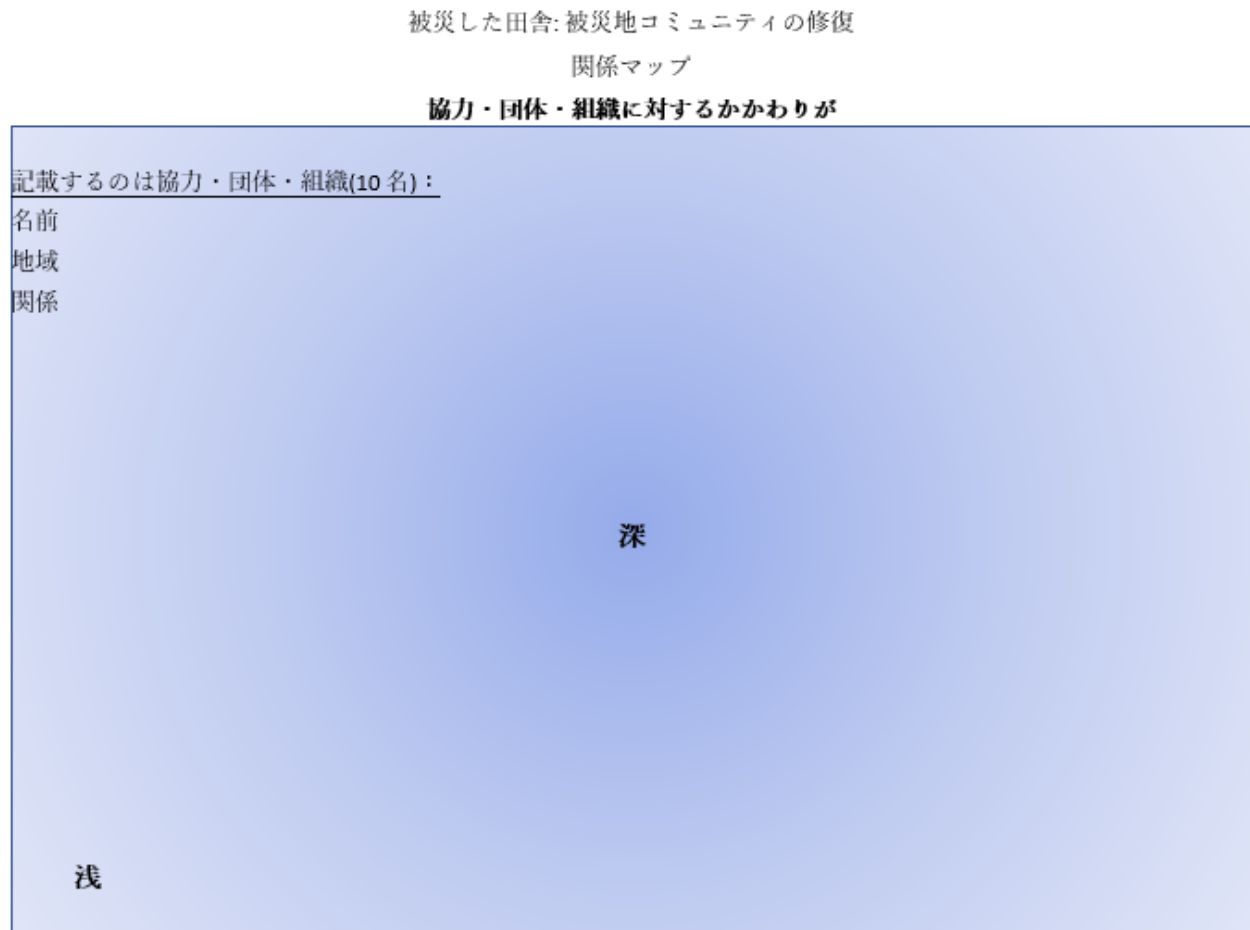


Figure 5.4. Organization mapping instrument.

Title of mapping instrument (top): Relationship map; connection with association, group, or organization

Top left of map (in order from top to bottom): Information of 10 associations, groups, or organizations; name, region, and relationship.

Center of map (character): Deep

Bottom left of map (character): Shallow

Appendix E Interview guide (Adapted from Israel et al., 2012)

Thank you for meeting with me today. I wanted to ask for your voluntary input on some questions I have about your life and your participation in the community. This is related to the mapping exercise we completed earlier about your relationships in Minamisanriku. These questions focus on community change and how much power you think you have in the community. It is our goal to talk with people like you to understand their role in the community and how they would like to see the community change. Please feel free to stop me to ask questions or if you would like to end the interview at any time. This interview should take approximately an hour. Is it okay to record this interview? Would you like a copy of the recording? How would you like to receive updates on this project? (email, mail, community partner newsletter).

For each of the following questions please tell me how you would respond. Please also think about reasons why you may agree or disagree with these questions. If you are uncomfortable with any question please circle it, and I will not ask you it. Before we begin do you have any questions?

1. Can you influence decisions that affect your life?
2. Are you satisfied with the amount of influence you have over decisions that affect your life?
3. Can you influence decisions that affect your neighborhood?
4. Are you satisfied with the amount of influence you have over decisions that affect your neighborhood?
5. By working together with others, can you influence decisions that affect your neighborhood?
6. Does your neighborhood have influence over things that affects your life?
7. Can you influence decisions that affect your area (Shizugawa, Togura, Utatsu, Iriya)?
8. Are you satisfied with the amount of influence you have over decisions that affect your area (Shizugawa, Togura, Utatsu, Iriya)?
9. Can you influence decisions that affect Minamisanriku?
10. Are you satisfied with the amount of influence you have over decisions that affect Minamisanriku?
11. By working together, can people in your neighborhood influence decisions that affect Minamisanriku?
12. Do people in your neighborhood have connections to people who can influence what happens within Minamisanriku?
13. What sort of new programs do you want in Minamisanriku? Why?
14. What do you think the current needs of Minamisanriku are? Are these different from what your neighborhood/district needs or are they the same?
15. What needs would you like the local government to address? Have they addressed these in the past?

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