Lessons learned since the new Disaster Resilience Law of 2013? Comparing the 2016 Kumamoto earthquakes and the 2020 Kyushu floods.

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Chapter 1

Abstract

The Japanese government responded to successive natural disasters by passing the 2013 disaster resilience law, which placed more responsibility on local governments to deal with natural disasters. Although this law intended to improve and safeguard people's well-being after natural disasters, it exacerbated it. This thesis examines two case studies, the 2016 Kumamoto Earthquakes and the 2020 Kyushu Floods, to examine the law's effects. The case studies show that delegating to the local level leaves out essential aspects for feasible aims for effective disaster management to improve human-wellbeing. The governmental system remains rigid with neoliberal characteristics and omits the possibility of effective disaster response and recovery efforts. The current Japanese disaster management does not allow for innovation, quick decision-making, adequate funding and close cooperation for the short-term and long-term. As a result, the sociopolitical vulnerabilities become more apparent during disaster response exacerbating human-wellbeing. Japanese citizens have limited access to mental health services, remain in temporary housing for extended periods, and have reconstruction issues. Local communities struggle with a future without prospects.

Introduction

Japan lies in a region known for its frequent seismic and volcanic activity. Subsequently, the country frequently deals with natural disasters such as earthquakes and tsunamis, which may impact Japanese communities in various ways (Goldmann & Galea, 2014; Smits, 2014). Natural disasters are often multifaceted and cause severe damage. They occur locally and can become national and even global crises (Suzuki & Kaneko, 2013, p. 1). Therefore, disaster management must constantly be updated with a framework of knowledge and techniques (Suzuki & Kaneko, 2013, pp. 25-26).

In March 2011, Japan faced the Great East Japan Earthquake. People were unprepared for the large-scale so-called triple disaster and its long-standing consequences (Takeda, 2011). The rigid and obsolete governmental structures concerning disaster management have failed Japanese communities in the aftermath of the disaster. Japan's regulatory system is problematic due to dominant political and economic structures that overrule policy-making (Ferguson & Jansson, 2013, p. 5; Kingston, 2014, p. 111). The relationship between the

Liberal Democratic Party (LDP), the private sector, and the bureaucracy are often referred to as the Iron Triangle (also known as the developmental state). The three groups work closely together to shape economic and political policy in Japan, forming a mutual alliance which is challenging to diffuse (Kingston, 2014, p. 104). The alliance can also lead to the concentration of power and the possibility of exploitation in disaster management (Colignon & Usui, 2001, p. 865).

As a result, the Great East Japan Earthquake and its consequences refocused a long-standing national debate on the future of Japan in search of effective disaster preparedness and management (Kitagawa, 2014, p. 388; Samuels, 2013, p. 30). Therefore, the Japanese government enacted the 'Basic Act for National Resilience' law in 2013 to promote disaster prevention and mitigation measures and develop disaster resilience in citizens' lives. The law aims to strengthen the capacity of communities and individuals to cope with disasters and to reduce the impact of disasters on society (Ministry of Justice, 2013).

Furthermore, the law establishes a framework for disaster risk management that includes risk assessment, early warning, evacuation planning, and disaster recovery. The national government, local governments, and other organizations enact this law (Ishiwatari, 2020, p. 100; Ministry of Justice, 2013).

Disaster resilience requires a collective effort and responsibility, as all facets of society, levels of governments, organizations and individuals must participate to adequately foresee, prepare for, endure, and recover from disasters; each sector has a specific function and set of duties. (United Nations Office for Disaster Risk Reduction, 2017). Accordingly, the establishment of policies and strategies, the coordination of initiatives, and the provision of financing and resources are all essential functions of the government. The private sector can maintain the continuity of its activities during and after disasters and offer knowledge, resources, and financial support. In addition, civil society groups, communities, and individuals can support stricter disaster risk management rules and foster community resilience by participating in disaster planning and response activities (Australian Emergency Management Committee, 2011, pp. 10-11).

Building disaster resilience at the local level has gained widespread popularity in Japan after the Great Hanshin Awaji Earthquake as an approach to disaster management. Local governments and communities are often better positioned to comprehend their specific risks and vulnerabilities. They can tailor disaster management efforts, supported by a

people-centered view of disaster management, which can be a more practical approach to reducing disaster risks and enhancing human well-being (Cho, 2014, p. 159).

Nonetheless, it is essential to note that building disaster resilience at the local level requires proper funding, building capacity, and effective coordination between different levels of government and organizations to be successful (Jones et al., 2013, pp. 442-443). In past disasters, the central government failed local governments in disaster response and relief efforts regarding human-wellbeing. Consequently, the government denies the responsibility to carry the burden and fails to deal with disaster adequately.

Thus, through the law's implementation, the central government automatically delegates the responsibility to deal with disasters to the local level, to reinforce local communities' resilience to deal with disasters to protect human well-being and reduce adverse effects on society (Singh-Peterson et al., 2015, p. 757). However, this thesis argues that implementing this law instead aggravates local communities' human-wellbeing concerning disaster response and recovery efforts.

Additionally, the strategy concerning the law operates under the normative presumption that communities can and should be self-reliant in dealing with crises, with the limited involvement of the government to support, fund and direct. Local governments are responsible for themselves in every aspect (Welsh, 2013, p. 20). This can raise responsibility issues, particularly with those in charge of providing financing and resources to assist community-based disaster risk reduction initiatives (Singh-Peterson et al., 2015, p. 757).

Therefore, the question arises, how has the disaster resilience law impacted the disaster response and recovery efforts concerning the human well-being of local people in Japan? The thesis will analyze two case studies to answer the research question, notably the 2016 Kumamoto earthquakes and the 2020 Kyushu floods. By doing so, the thesis will examine the central and local government's response after two disasters to see if the law has effectively placed more responsibility on local communities to improve human-wellbeing. The thesis investigates how Japan's deeply rooted disaster management structures have evolved over the past decade. Additionally, the thesis will consider how the collective effort concerning disaster response and recovery efforts on various levels of government, combined with volunteers and organizations, have played out in the short and long term.

Chapter 2

Literature review

Japan has a long history of dealing with natural disasters. As a result, the Japanese government establish policies regarding disaster management through past experiences (Cabinet Office Japan, 2016, p. 26). Moreover, following any disaster, the Japanese government has been responsible for managing its laws and policies concerning disaster management to aid affected local communities and increase its disaster resilience. After all, it is the government's purpose to ensure human-wellbeing (Iokibe, 2020, p. 62). However, in the aftermath of the Great Hanshin Awaji Earthquake in 1995, the Japanese government had a lack-luster approach to providing aid to the affected areas and their victims, which contributed to the declining faith of local communities in the government (Kingston, 2012, p. 9). When the earthquake struck, the disaster killed approximately 6500 people, the infrastructure was devastated, and hundreds of thousands of buildings were destroyed or damaged.

The central government's response was too centralized and bureaucratic. Their central decision-making did not consider the local government's needs, and their lack of communication exacerbated the earthquake's consequences (Iokibe, 2020, p. 94). On that note, the poor and inadequate response by the central government is reflected in various situations concerning the disaster. There was a lack of information because of nonfunctioning emergency communications (Iokibe, 2020, p. 94). Therefore, immediate disaster response was delayed, and just a handful of Self-Defense Forces (SDF) rescues were successful and slow due to their late arrival (Iokibe, 2020, pp. 76-77). Notably, the primary role of the SDF, after all, is protecting the lives of the Japanese people. Even though the SDF were dispatched eventually, the first day is the most critical to respond and rescuing victims (Iokibe, 2020, p. 77). However, due to poor communication and mobilization, the SDF was slow to respond to aid victims.

In addition to poor information and communication, the hesitant central government did not allow foreign emergency response teams in the critical hours of the aftermath of the disaster. The Japanese authorities were resisting international offers of aid, partly because

they were unaware of the extent of the destruction. The issue was concluded in the first place partially because Japanese authorities adopted a bureaucratic consultation and consensus-building process (Kristof, 1995). Eventually, foreign physicians were dispatched to offer aid; however, in Kobe, they experienced similar problems. Initially, Japanese health officials indicated that foreign physicians could only treat patients after being licensed in Japan. However, the Foreign Ministry stepped in, allowing foreign doctors to care for the patients (Kristof, 1995). The earthquake resulted in a high death toll because many seriously wounded people could not receive immediate medical care (Iokibe, 2020, pp. 148-149).

While the government's response was lacking, the civil society groups grew more vital (Avenell, 2012, p. 53; Kingston, 2012, p. 2). Volunteers supported affected people in Kobe and surrounding areas (Avenell, 2010, p. 69; Avenell, 2016, p. 193). The concept of self-help and mutual support gained widespread acceptance and popularity due to this outcome. The concept emphasized the limitations and distrust of governmental responsibilities in disaster management (Ishihara, 2019, p. 259). As a result, there was a high demand for change (Iokibe, 2020, pp. 148-149). Therefore, the importance of communal disaster resilience among the affected local governments and communities was introduced due to the Great Hanshin Awaji Earthquake (Ishihara, 2019, p. 259).

It was clear to the government that the centralized governing was not beneficial for Japan's disaster response and recovery efforts. Consequently, the importance of social capital increased, as research has shown that communities with higher levels of social capital can cope with and recover from disasters. It allows communities to rely on each other for support and assistance during a crisis, rather than relying solely on outside organizations or government agencies (Cho, 2014, p. 159; Masud-All-Kamal & Monirul Hassan, 2018, pp. 1550-1551; Patterson et al., 2010, p. 130).

Thus, many people criticized the government for being slow, poorly coordinated, and inadequately focused on the long-term needs of affected communities. Nevertheless, the disaster offered Japan's government a turning point and significantly changed how the country prepares and responds to disasters. The government established new policies and institutions to improve disaster management and increased its focus on a more decentralized approach and community-based disaster management (Cho, 2014, p. 159).

After the Great Hanshin Awaji Earthquake, the central government developed new responses to disasters. The new responses were tested on March 2011, as Japan faced another disaster, the Great East Japan Earthquake. This time, the consequences were worse than anyone could have imagined. A major 9.0-magnitude earthquake struck the Pacific Ocean in North-Eastern Japan following a tsunami, causing severe damage to practically all of the Tohoku region and a portion of the Kanto region. Additionally, the tsunami caused the meltdown and radioactive leak at the Fukushima No. 1 nuclear reactors when the cooling system failed, resulting in a nuclear disaster (Kingston, 2012, p. 1). People were unprepared for the large-scale so-called triple disaster, also known as the Fukushima disaster (Takeda, 2011).

According to Iokibe (2020), the government had learned from the slow response two decades earlier. The SDF was quick, resulting in significant reforms and success during the Great East Japan Earthquake (p. 78). Additionally, volunteering was even more structured and thriving during the Great East Japan Earthquake, owing to the enormous growth of nonprofit and nongovernmental organizations (NPOs and NGOs). Civil society groups have played a crucial role in filling gaps where government capability has been weak and have notably helped minimize the repercussions and assist individuals and communities in recovering (Kingston, 2012, p. 5).

There have been visible improvements since 1995 concerning a new disaster response framework. The central government's reaction was more decentralized and involved local governments and community participation to coordinate disaster response and recovery efforts (Thiri, 2022, p. 3). However, the government's response was still problematic, especially regarding long-term recovery (Akimoto, 2018, pp. 25- 28). Notably, Japan's government has consistently failed the public throughout this crisis, especially the local people in the Tohoku region. The government's crisis management with decision-making frameworks was unclear and unstructured, with no clear role division (Kingston, 2012, p. 7). Furthermore, the government lingered around, busy with unimportant politics (Kingston, 2012, p. 7). The new policies after the 1995 disaster would allow local governments and communities more autonomy and responsibility over decision-making processes. However, the constraints of institutional systems eliminated the ability to have the autonomy to make decisions, and the central government remained dominant (Akimoto, 2018, pp. 23-24; Thiri,

2022, p. 15). Additionally, there was uneven communication between local and central governments, which undermined local governments' responsibility. The central government intervened instead, making close cooperation, which is highly needed in disaster response, near impossible (Shinoda, 2013, p. 244). The developmental state of Japan explains why.

Because of Japan's developmental state, the government directs and monitors economic growth with deeply-rooted bureaucracy and the private sector working together to lead and shape policies to achieve their objectives (Tonami, 2018, p. 1211). After promoting a more decentralized system in the 90s to revise its economy, the Japanese government reformed its policies with conflicting characteristics to strengthen local governments' autonomy and, contrarily, to combat its financial struggles (Cho, 2014, p. 160). Therefore, in the wake of the Great East Japan Earthquake, Japan's vulnerabilities concerning its socio-political system became apparent. Consequently, recovery delays happened as the local government's political interference and involvement in disaster management was limited and made innovative disaster management systems and close cooperation with the central government challenging (Cho, 2014, p. 158; Thiri, 2022, p. 2; Shinoda, 2013, p. 258). As a result, the vulnerabilities that entail power imbalances within society became apparent. For example, the inadequacies of government institutions and emergency services and the shortcomings of policies and regulations to mitigate the impact of disasters. These vulnerabilities reflected the reconstruction efforts after the Great East Japan Earthquake (Akimoto, 2018, pp. 25- 28). The problematic decision-making reflected in reconstruction efforts in Tohoku has become a long-term and slow process. The role division at the time on all governmental levels and the funding distribution gave municipalities no leeway. The central government issued guidelines regarding the high-level reconstruction of the impacted areas, to which local communities agreed; however, causing a significant hardship for citizens in the long term, as it exacerbated travelling issues and impeded commercial and civil society rehabilitation activities (Cho, 2014, p. 173). Additionally, there were no long-term mental health facilities, and simultaneously, there was a high demand for healthcare professionals and funding (Maeda et al., 2022, pp. 47-48). The human-wellbeing of the victims suffered under the reconstruction efforts in place.

The disaster response in 1995 and 2011 share overlapping characteristics. While the central government changed its policies to a more decentralized disaster response, in practice the adjustments were not working due to several elements; the central government's developmental state resulting in its mistrust of local governments, money allocation problems and long-term reconstruction problems. All these developments aggravate and undermine human well-being. In the end, the government saw the opportunity to establish a more 'resilient' society after the 2011 disaster.

With the grave consequences of the Great East Japan Earthquake, the Japanese government, once again, intended to re-enforce and foster disaster resilience by strengthening its disaster management (Cabinet Office Japan, 2016, p. 26; Ministry of Justice, 2013). In retrospect, the central government did not offer the possibility during disaster response to local governments concerning decision-making. Moreover, the disaster response and recovery efforts exacerbated human-wellbeing of local communities. The central government argues that they recognize they failed to aid victims in the disaster response and, therefore, do not want to carry that burden and blame. Conveniently, as a result, the central government wanted to promote and strengthen disaster resilience through mutual support and self-help through local governments and their communities. Therefore, the government sets an emphasis on responsibility to local governments by implementing the 'Basic Act for National Resilience' law in 2013. The government argue that resilience will be strengthened by sharing the burden (Kitagawa, 2016, pp. 629-632; Ministry of Justice, 2013; Takemoto et al., 2021). Thus, it established a particular course for disaster management laws and systems (Ota, 2019, p. 303).

The law aims to build disaster resilience among local citizens to increase their power to protect themselves and human-wellbeing in the wake of large-scale disasters (Kitagawa, 2016, pp. 629-632; Ministry of Justice, 2013; Takemoto et al., 2021). Mainly by stressing the importance of mutual support and self-help through local governments and their communities, as the government argues, is the most effective means to rescue victims during disaster response, which is questionable (The Cabinet Office, 2016, p. 1). In addition, the law implies that to protect themselves from large-scale natural disasters, local governments, communities, and citizens must plan to ensure that resources are allocated

intensively in the immediate disaster response, such as personnel, materials, and funds (Ministry of Justice, 2013; Organisation for Economic Co-Operation and Development & The World Bank, 2019, p. 145). This means that within every prefecture, all municipalities must foster disaster resilience to mitigate the consequences of large-scale disasters (Ministry of Justice, 2013).

Local governments closest to the affected site can respond immediately after a disaster. Decisions taken early in the recovery process and local institutional capacity can significantly impact the whole recovery process within a community (institutional capacity entails a local-level measure, constituting resources to achieve social and economic goals). Once recovery is in process, these early actions can minimize vulnerability and inequality in the long run. As a result, recovery policies and governance should allow for transition while achieving long-term strategic goals without increasing community vulnerability and inequality (Briscoe & Burns, 2006, p. 3; Finucane et al., 2020, p. 14). Furthermore, research shows that increased involvement by local governments and communities benefits disaster management (Kamensky, 2021). Unfortunately, many communities lack a local disaster management plan incorporating disaster resilience and long-term restoration and recovery. Also, as Shinoda (2013) states, management plans in place do not necessarily apply to all disasters, as each disaster is inherently different by nature and requires different approaches (p. 244). The truth is that disasters continue to exist in the long run, even though media coverage stops; recovery is a time-consuming and costly process that lasts for years after national focus has been diverted. Thus, poorly conducted recovery can have disastrous implications for human-wellbeing (GovPilot, 2021).

It is delusional to think that local governments and communities contain all resources to survive and recover quickly from every disaster, especially in a region where disasters happen frequently. Therefore, delegating all responsibility illustrates weak governance aggravating disaster risk (United Nations Office for Disaster Risk Reduction, 2003). Instead, there needs to be close cooperation between central and local governments, as well as involvement and support of the central government to overcome bureaucratic problems and ensure local communities' human-wellbeing (Shinoda, 2013, pp. 255-257).

However, following the disaster resilience law pushed local governments to be more resilient and take care of disaster management plans, which is related to the white papers published by the Cabinet Office (Ogata, 2016, p. 27). The annual publishing of the white papers reflects the shift in responsibility of disaster response, and it mentions that both central and local governments are promoting public help concerning structural and non-structural measures (The Cabinet Office, 2016, p. 1).
Additionally, in response to the Great East Japan Earthquake, the Cabinet Office stressed in 2016 that there is a need to develop disaster management plans based on the premise of large-scale disasters. In particular, according to the central government, people and businesses still need to proactively confront disaster risk and be fully aware of disaster preparedness (The Cabinet Office, 2016, p. 26). Moreover, the central government emphasize the need for individuals to engage in volunteer activities that help with disaster risk reduction and support disaster victims and disaster-stricken areas in case of a disaster; in fact, the entire society may need to support such volunteer activities (The Cabinet Office, 2016, p. 52). Hence, the government urges individuals to prepare for and develop plans for future large-scale disasters, emphasizing *others* to be more proactive regarding disaster management. Meanwhile, the government is withholding their responsibility.

Finally, the literature shows that during and after the Great Hanshin Awaji Earthquake and the Great East Japan Earthquake, the Japanese government deals with disasters and crises in problematic ways. While the central government tries to learn from the grave consequences of both disasters, relinquishing responsibility to the local level to deal with crises is their solution. The central government promoted the concept of disaster resilience, consisting of several elements. The Cabinet Office's white papers reflect elements like disaster prevention, minimizing damage and loss of life through improving disaster preparedness and mitigation, mainly on the local level. The white papers dealing with disaster management portray how local governments should strengthen regional resilience. To achieve practical disaster response and recovery efforts by emphasizing the need for local governments to establish setting up and plan response systems. Since the Japanese government passed disaster resilience laws, more research should be conducted on how these laws play out at the local level while other disasters have occurred. Furthermore, the current literature emphasizes the need for local government's autonomy when dealing with

disaster response. However, research on local governments' overbearing autonomy and responsibility regarding disaster response and long-term recovery efforts is limited.

Therefore, the thesis will analyze two case studies after the implementation of the 2013 disaster resilience law. It allows the thesis to examine how local governments now carry the responsibility during and after disasters, and to what extent this disaster management approach benefits local communities and their well-being. Thus, the thesis will examine two case studies: the 2016 Kumamoto earthquakes and the 2020 Kumamoto floodings. Moreover, it will answer the following question: how has the disaster resilience law impacted the disaster response and recovery efforts concerning the human well-being of local people in Japan?

Chapter 3

Methodology

There is a necessity to have a disaster response system in place, as disasters are inherently unpredictable. The danger of any system is that it becomes rigid and hinders innovation. As with any disaster, innovation is needed (Miao & Popp, 2014, p. 281). Additionally, there appears to be a gap between the central and local governments in disaster response and recovery efforts exacerbating human well-being. Therefore, to examine if the disaster resilience law benefits local Japanese communities, the thesis will do qualitative research by conducting a case study analysis by examining two case studies (Fontain et al., 2020, p. 27).

Case study selection should not be random. The two cases the thesis will examine are the 2016 Kumamoto earthquakes and the 2020 Kyushu floods. On that account, both case studies are based on similarities (Seawright & Gerring, 2008, p. 294). The cases focus on natural disasters occurring in the same geographical areas after the Great East Japan Earthquake. In addition, the cases occur after implementing the 2013 disaster resilience law. Therefore, it allows the thesis to examine how the same local governments respond to disasters and crises at different times to see how the response has evolved, as local

governments on Kyushu Island frequently deal with various natural disasters (Crowe et al., 2011, p. 1; McElwain, 2020, p. 71).

Additionally, the thesis will be able to examine the progression of the role of central and local governments, local communities and volunteers, and the interaction between the central and local governments on the short- and long-term consequences concerning the disaster response and recovery efforts (Fontain et al., 2020, p. 5). Moreover, as the disaster response system has bureaucratic characteristics, the case study analysis allows the thesis to evaluate how the response plays out through its unadaptable system in the short and long term and its consequences on human-wellbeing (Fontain et al., 2020, p. 27). Because in contrast to previous disasters, the central government was faster to respond by dispatching the SDF, relief goods and medical care in the short term. The thesis will focus on funding, temporary housing, reconstruction, and mental health provision.

Furthermore, in the 2020 disaster, the COVID-19 pandemic meant specific policies were implemented, restricting access to key areas that hindered disaster response. Naturally, the damage is inherently inevitable with natural disasters, and in both cases, destruction makes access to the stricken areas challenging. In the case of the Fukushima disaster following the Great East Japan Earthquake and the 2020 Kyushu floods, the government had to deal with the same problems, combined with restrictions on areas because of radiation and the pandemic. Also, the central government considered both cases as large-scale disasters. It evoked the same acts, policies and measures, such as the 'Establishment of Major Disaster Management Headquarters', 'Ministerial Meeting', 'Invocation of Disaster Relief Act', 'Invocation of Act on Support for Reconstructing Livelihoods of Disaster Victims', 'Site inspection by Prime Minister', and 'Establishment of National On-site Disaster Management Office' (The Cabinet Office, pp. A-16-21). Therefore, the case studies have similar distinct representative aspects and characteristics that shed light on the developments regarding the disaster resilience law for local governments in the aftermath of the natural disaster dealing with disaster response and recovery efforts (Seawright & Gerring, 2008, p. 296; Okano, 2020, p. 81).

Despite the disasters sharing similar aspects, these two cases still have different elements and aspects that should be noted (Fontain et al., 2020, p. 23). First, a difference would be

the kind of natural disaster occurring in the area—the 2016 disaster deals with an earthquake, and the 2020 disaster deals with heavy rain followed by flooding and mudslides. Second, the disasters are not similar regarding human fatalities and housing damage. The 2016 disaster had three times more human fatalities than the 2020 disaster. And third, in the 2020 disaster, fewer people were injured. In addition, more homes were destroyed in the 2016 disaster compared to the 2020 disaster, with approximately 7,000 more fully and partly 30,000 destroyed (The Cabinet Office, pp. A-16-21). Another difference would be the dispatching of volunteers. Volunteers are essential when it comes to disaster response. During the 2020 disaster, in contrast to the 2016 disaster, due to the pandemic and travel restrictions, various NGOs, NPOs, health professionals and individuals from other prefectures were not allowed to travel to the affected prefectures to provide aid.

Thus, the case study analysis will allow the thesis to answer the following questions: has the disaster resilience law contributed to improving local governments' disaster management? Is delegating to the local level beneficial to local communities and their human-wellbeing? Are similar issues concerning disaster management reoccurring regarding disaster management in the aftermath of both disasters?

The hypothesis of the thesis is: the Japanese central government relinquished its responsibility after implementing the 2013 disaster resilience law and called on local governments to be resilient and to deal with crises and disasters, undermining human well-being concerning disaster response and recovery efforts. The thesis will test the hypothesis by examining and comparing the mentioned case studies.
Several findings and criteria would indicate and prove the hypothesis to be incorrect. If the relinquished responsibility to the local governments to respond to crises does work, the immediate disaster response and the recovery efforts by the local governments are solid. The criteria include that the victim's health includes:

- Long-term provision of mental health services is vital, as research has shown that mental health post-disaster deteriorates over time, worsening after 12 months to 18 months (Hartley, 2021). Therefore, long-term mental health care is needed, especially after one year, with a mental health model in place, mental health

services and psychosocial support, and a medical team available to affected communities.

- Rapid delivery of disaster relief supplies to victims (within 72 hours) (Ministry of Justice, 2013).
- There are temporary facilities for victims to evacuate. Following the evacuation, victims are allocated to temporary housing (within two months) (Onuki, 2022; The Cabinet Office, 2017, p. 125; The Japan Times, 2022).
- 'The Disaster Relief Act' states that victims can reside in temporary housing for a maximum of two years. Simultaneously, the reconstruction of victims' homes takes place so that victims can allocate within two years. Notably, long-term (longer than four years) temporary housing is a risk factor for mental health distress after a disaster (Morishima et al., 2020, p. 7).
- Local officials are adequately trained and possess the accurate knowledge to respond effectively with a network that works during and after the disaster. They possess the knowledge (aware of disaster-related theories, methods, policies and programs), experience (knowledge attained through extensive practical experience), skills (aware of one's responsibilities and act accordingly) and the willingness to provide service to the public to ensure cooperative disaster management (Lee, 2020, p. 3).
- Funding for the reconstruction of buildings, homes, and infrastructure is provided for recovery.
- Local businesses receive subsidies and funding from local governments and NGOs to overcome crises long-term and avoid bankruptcy. Studies show that over 90 per cent of businesses fail to reopen within two years in the United States (US) (Access, 2020).
- Innovative disaster response systems are in place; if the disaster response system cannot be followed, other options and solutions are provided. For example, adequate information sharing and coordination among central and local governmental agencies and volunteers concerning disaster response positively impacts collective decision-making and actions (Bharosa et al., 2009, p. 50).

When all of the above are attained at the local level, the disaster response and recovery efforts are straightforward and supportive for human-wellbeing. Central and local governments, NGOs, NPOs and volunteers collaborate to respond and rebuild effectively. Furthermore, affected local governments have developed practical, effective and innovative systems regarding disaster response and relief support, such as providing care, including mental health care. Local businesses do not suffer economic damage and hold financial resources. Victims who lost their homes leave their temporary homes within two years. Thus, when the hypothesis is incorrect, the central government delegating to the local governments is a reliable method when dealing with disasters and crises.

The thesis will use data sources to prove the hypothesis correct or incorrect and answer the research question. Where the data sources come from is crucial when conducting case study analysis. The thesis will examine media reports, central government and local government documents, NGO, NPO and volunteer reports. By examining these documents and reports, the thesis can determine how local governments, NGOs, NPOs, volunteers, and the central government operated, responded and rebuilt in the immediate, short-term and long-term aftermath of both disasters (Okano, 2020, p. 79; Yazan, 2015, p. 143). Additionally, the data will measure if the implemented law has increased the local governments' resilience in disaster response and recovery efforts and to what extent the local governments were able to be resilient in both disasters. The white papers of the Cabinet Office deal with disaster management in Japan and publish extensive yearly reports on their website concerning policy changes, an overview of disasters and the central government's perspective and critiques on disaster management at the local level and how local governments deal with disaster response and recovery efforts. Therefore, the thesis will examine the white papers from 2015 to 2022. On their official website, the white papers have been available since 2015. After the implementation of the disaster resilience law in 2013, every report from 2015 to 2022 has a section dedicated to promoting national resilience. The government has reformulated the plans every year since 2014 (Cabinet Office, p.133). To examine how disaster response and recovery efforts have evolved locally, the thesis will examine the white papers regarding disaster resilience after the 2016 Kumamoto Earthquake and the 2020 Kyushu floods. In addition to central government documents, the thesis will look into local government documents. For example, on the website of Kumamoto prefecture, one

can find reports from local governments on proceedings with recovery and reconstruction from the 2016 Kumamoto earthquakes and the 2020 Kyushu floods and the main incentives and priorities to achieve recovery and reconstruction. Moreover, the local governments address what is lacking in the immediate aftermath of the disasters. Furthermore, the thesis uses news outlets, including *The Japan Times*, *Asahi Shimbun and The Mainichi*, to examine the conditions of the aftermath of both disasters, the process of recovery efforts at the local level, the disaster response at the local and central level, the living conditions of victims, and critiques from the local governments.

Theory

The focus of the thesis regarding the research question and hypothesis is the importance of protecting and securing humans during and after disasters. The Japanese political structures regarding disaster management undermine human-wellbeing. There is a critical need for a functioning body concerning disaster response and recovery efforts with close cooperation and involvement of actors like the central and local governments with the protection of human-wellbeing in mind. At this point, local governments must deal with disaster management structures that are not malleable and adaptable when disasters occur, while innovation and adaptability are needed. For example, there is a need for support from the central government in providing supplies and health practitioners from other parts of the country. Therefore, the thesis will examine the case studies from two theoretical perspectives to explain the central government's decision-making regarding disaster management: *neoliberalism* and *critical theory*. Academics such as Naomi Klein, Roberto Barrios, Kevin Gotham, Gabriela Vera-Cortés and Jesús Macías discuss disaster and crisis concerning the mentioned theories.

There are various principles of neoliberalism in politics, but some of the most essential are free trade, privatization, deregulation, and low taxes. These all aim to increase the private sector's role and help create a more efficient and competitive economy (Harvey, 2005, p. 1). They can also help increase economic freedom and allow individuals and businesses to create a favorable economy. Neoliberalism in its ideational form entails a framework of a belief in the market provision, with a lack of belief in state support, as a motto of the freer

the market, the freer the society (Hathaway, 2020, p. 317). The ideology refers to policies to liberalize the economy by abolishing price restrictions, deregulating capital markets, and decreasing trade barriers. Also, neoliberalism refers to the state not interfering in the market through privatization, deregulation, globalization, free trade, monetarism, austerity, and cuts to government expenditure, aiming to enhance the influence of the private sector in the economy and society (Boas & Gans-Morse, 2009, p. 143). As a result, interference of the central government in the economy is limited. The potential drawbacks of neoliberalism include increased inequality, austerity, and the possibility of businesses becoming too powerful (Hathaway, 2020, p. 332; Vera-Cortés & Macías-Medrano, 2020, p. 24).

Because the political structures concerning disaster management dismiss the focus on human well-being when dealing with disasters. Consequently, critical theorists, such as Naomi Klein, critique the neoliberal approach to disaster response, as the approach exacerbates human-wellbeing for profit. Her book emphasizes that disasters provide opportunities for economic profit and ultimately leave out the impact on human beings as to how their lives are impacted by disaster and how disaster response conditions the human experience (Klein, 2008, pp. 402-404). Thus, Barrios (2017) emphasizes that powerful actors perceive and seize post-disaster moments as opportunities to *rebuild better*. These actors transform local community grounds to *rebuild better* with neoliberal assumptions about the nature of people and the common good (p. 9). Furthermore, Vera-Cortés and Macías-Medrano (2020) stress that central governments encourage and demand local communities' involvement to establish resilient communities that can deal with the effects of disasters through mutual support to continue productive, economic and social activities. The government pursue these aims through actions that disconnect the communities' realities; as a result, the communities see these efforts with distrust (p. 305). Barrios, Vera-Cortés and Macías-Medrano illustrate the processes Klein critiques, as the political actors seek economic profit by leaving local communities responsible for disaster response and its long-standing consequences.

Furthermore, critical theorists use criticism to understand the foundations of collective struggles, conflicts, and contradictions that offer opportunities for social transformation (Gotham, 2007, p. 93). In the case of Japan, disasters exacerbate socio-political

vulnerabilities due to the neoliberal approach of the actors involved, making it challenging to change concerning human-wellbeing in disaster response (Gotham, 2007, p. 93). In fact, in the aftermath of the Fukushima disasters, the coming together of bureaucrats, politicians, businesses and media that formed the *nuclear village* (Japan's developmental state) was in charge of the decision-making process, as a result, shaped public opinion to encourage nuclear power for economic profit. Even though the public opposed nuclear energy, the *nuclear village* pushed its interests in nuclear policies for economic profit (Behling et al., 2019, pp. 315-316; Kingston, 2014, p. 104).
Therefore, businesses get away with undermining human-wellbeing and opinion, undermining victims' experiences, and how disasters impact their lives (Kingston, 2014, p. 114; Leach & Rivera, 2021, p. 343).

In conclusion, critical theory exposes the neoliberal government that aggravates the social and political vulnerability after disasters. Furthermore, the critical theory allows us to examine how disasters exacerbate the uninventive systems concerning disaster response, ignoring human-wellbeing. The central government is delegating to the local level due to a lack of a proper functioning system concerning disaster management. The government is being criticized for their problematic approach, resulting in an imbalance of responsibility and power relations as the focus is mainly on economic profit from the disaster. Additionally, delegating to the local level has neoliberal and critical theoretical characteristics as the damage of disasters costs significantly, and the government does not consider what affects the local communities in what they need. In the meantime, local governments critique the central government on how they handle disaster management. Critical theory criticizes neoliberalism for human well-being as being left out when dealing with disaster management.

The thesis argues from a critical theoretical viewpoint that Japan's government approach to disaster response and recovery efforts entails neoliberal characteristics through the implementation of the 2013 disaster resilience law. The neoliberal approach to disaster management drives the central government's resilience law, involving delegating to local governments by cutting government funds, healthcare, and subsidies and leaving it to the market. As a result, the central government's disaster prevention expenditure budget has

decreased enormously since implementing the law (Organisation for Economic Co-Operation and Development & The World Bank, 2019, p. 145). More local governments are forced to be responsible for sufficient resources, including personnel, funds, and materials (Ministry of Justice, 2013). Thus, from the neoliberal perspective, when dealing with disaster response, the government leaves it to the market to allocate its resources by cutting expenditures, social spending and ending subsidies. In the long term, the lack of financial aid from the central government leaves consequences for local governments and their communities. After examining the two case studies, the consequences of the law in the long term will be visible.

Limitations

The limitations of the research are mostly the analysis of the second case study concerning the 2020 Kyushu Floods. The disaster occurred in 2020 while the world was dealing with the COVID-19 pandemic. Thus, news coverage and media reports on the disaster were limited compared to the 2016 disaster. Moreover, the catastrophe was a recent disaster; therefore, there are limitations to the sources of the second analysis. Hence, central and local government reports and media coverage concerning the long-term recovery after the disaster are scarce. The first case study offers a better time frame to examine the long-term consequences. For that reason, the thesis uses the first case study as the primary research viewpoint. The second case study will, as a result, offer a limited timeframe concerning the long-term consequences of the disaster (up to two years). Nevertheless, the second case study is still necessary as the thesis can examine the response on the central and local levels for short-term to two years, especially as it concerns the same local communities in both disasters.

Another limitation is that the research analyzes two case studies regarding disaster response and perhaps needs more representation as every disaster is different. Many disasters occur in the Kumamoto prefecture, allowing more in-depth research representing the response concerning the same communities as these communities have to deal with various disasters regularly. However, only researching the Kumamoto prefecture may only be representative of some Japanese communities and local governments. Even so, all local

governments and communities must deal with disaster response as they are entirely responsible. Although it might only represent some of the local governments in Japan, the frequency of disasters would be significant enough to have well-established cooperation between local and central governments to achieve adequate disaster management for human well-being. There is limited research on how Japanese local governments deal with disaster management regarding human well-being in the aftermath of disasters after the 2013 disaster resilience law. While Japan is known for its effective disaster risk reduction, it often overshadows the human experience that academics should highlight more frequently.

Research on post-disaster governance is widely discussed. However, there needs to be a more practical understanding of its challenges and issues local communities have to deal with and its consequences on human-wellbeing (Tierney, 2012, pp. 341-342). Despite the topic's popularity, there may be limitations in applying the knowledge to actual situations. More research is needed to enable more robust and thorough research examining the long-term consequences of the disaster resilience law on human-wellbeing.

Chapter 4 – Disaster response after the 2016 Kumamoto Earthquakes

The central government's initial response

A magnitude 6.5 earthquake with a seismic intensity of 7 impacted the Kumamoto region on April 14, 2016. A second earthquake of magnitude 7.3, measuring an intensity of 7, struck the area two days later. Houses falling, liquefaction and sediment disasters contributed to the many fatalities brought on by these earthquakes in the Kumamoto Prefecture. The earthquakes significantly impacted residents' daily lives, causing severe destruction of buildings and landslides, resulting in officially 273 dead and 2736 injured. There was damage to about 198,000 houses (Takeda & Inaba, 2022, p. 3; The Cabinet Office, 2017, p. 8). As a result, Japan considered the earthquake a large-scale disaster (The Cabinet Office, 2021, p. 8). Following the Kumamoto Earthquake, the government formed a Major Disaster Management Headquarters on April 14, 2016, under the terms of the Basic Act on Disaster Management. The headquarters developed a policy to serve as the foundation for the prompt and proper deployment of disaster relief actions (The Cabinet Office, 2017, p. 6). It

subsequently carried out activities such as general coordination of emergency measures in various fields like rescue, first aid, and medical treatment, as well as information collecting and distribution and liaison with Kumamoto Prefecture and its impacted communities.

Simultaneously, the government quickly dispatched an advanced information-gathering team from the Cabinet Office to the Kumamoto Prefectural Office. The next day, the Kumamoto Prefectural Office formed an On-site Major Disaster Management Headquarters led by the State Minister of the Cabinet Office (The Cabinet Office, 2017, p. 6). Every day, the on-site disaster management headquarters held joint meetings with the Disaster Response Headquarters, which Kumamoto Prefecture was established on April 14. As a result, the two governmental bodies attempted to maintain a tight partnership. On August 30, Kumamoto Prefecture dismantled its Disaster Response Headquarters since the hunt for missing individuals had concluded and the number of evacuees had decreased (The Cabinet Office, 2017, p. 6).

Following the meetings, the central government deployed the SDF for disaster relief operations, and the SDF typically deploys as a disaster-relief organization. The scale of deployment was quite extensive, with a total of 814,000 people. Furthermore, authorities sent 27,936 police organizations and 15,613 firefighters to the area to undertake rescue efforts (The Cabinet Office, 2017, p. 27). These first responders could not conduct rescue operations, but they were critical to any quick military reaction. The SDF collaborated with volunteering organizations to offer food and hygiene services. They were able to offer an accurate image of the damage on the ground by inspecting the roadways, government offices, and infrastructure.

Failed push-mode support

Nonetheless, The Cabinet Office's 2017 report highlights many issues regarding the disaster response. There were multiple instances where it was challenging to respond to the earthquake because of the disaster's immense scope. The assistance provided to the victims was in the form of initiatives built on the knowledge gained from previous disasters, such as

the provision of supplies through push-mode support, which was used for the first time during the Kumamoto earthquake (The Cabinet Office, 2017, p. 1). Push-mode support entails acquiring and transferring supplies without waiting for requests from impacted regions. The central government believes the push-mode support to be critical as it concentrates on evacuees in shelters, procures goods without waiting for explicit requests, and delivers them to shelters as soon as possible. However, the earthquake's damage left the prefectural administrative buildings and several designated evacuation centers uninhabitable and unreachable. There was a failure to respond to the massive influx of refugees and an inability to ensure the seamless distribution of relief goods to evacuees (The Cabinet Office, 2017, p. 1). At one point, there were more than 180,000 evacuees and about 900 active evacuation facilities at its peak. This illustrates that although improvements have been made since previous disasters, other issues have become visible. In this case, infrastructure was too severely damaged to provide victims with supplies at evacuation centers. The push-mode support was inadequate because many supplies did not arrive at the fully packed evacuation centers to provide victims with essential relief supplies.

Lack of knowledge and skills among government officials

Another explanation for the problematic response, according to the central government, is that local government authorities and individuals were not always prepared to respond to a disaster that produced such widespread devastation, mainly because unskilled and untrained citizens and government officials responding to the crisis did not know how to deal with such a large-scale disaster (The Cabinet Office, 2017, p. 15). Thus, this report makes it evident that the central government is critiquing the local government's capabilities concerning inadequate skills and training. Simultaneously, in practice, no funding for training is provided by the central government to establish disaster response-training courses for local governments. The central government argues that local governments should be responsible for establishing such training for citizens and governmental officials. However, the central government does not provide funding for local governments. Contradictory, the report states that since 2013, there has been training for national and local governments to follow; nevertheless, the central government is critiquing

locals for their unskilled response (The Cabinet Office, 2015, p. 15; The Cabinet Office, 2017, p. 54). Instead of critiquing local governments for their capabilities, innovating and adjusting their available training is overlooked. Instead, the central government decreased their disaster prevention budget (Organisation for Economic Co-Operation and Development & The World Bank, 2019, p. 145).

Organized plans equal a rigid system

Furthermore, the Cabinet Office constantly stresses the need for each organization to have accurate information in an organized manner to ensure smooth and effective disaster response activities carried out by various organizations. However, it was difficult for the affected local governments to determine the extent and scope of the damage and share relevant information with other administrative organizations as local government offices and equipment were damaged (Ishiwatari, 2021, pp. 1-2). The constant need to establish everything in an organized manner reflects Japan's bureaucratic nature, as systems, agreements and processes that are put in place effectively make decision-making slow and prevent local communities from being flexible in their disaster response (Takeda & Helms, 2006, p. 5). The following paragraph will provide examples concerning bureaucratic, ineffective processes.

Provision of relief supplies

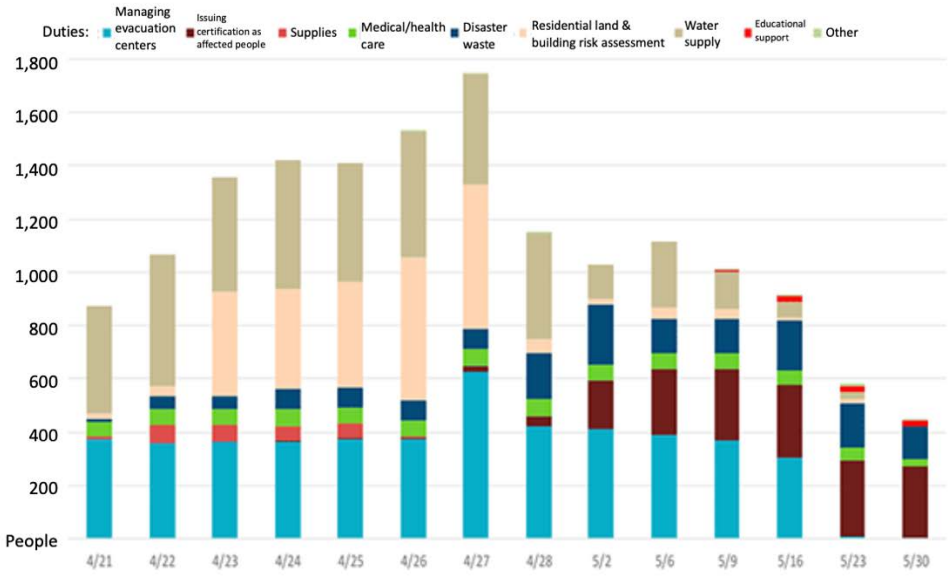
The central government urges local governments to have organized systems concerning procurement and supply of goods for adequate disaster response. Therefore, local governments and businesses developed agreements with other cities and prefectures support agreements before the earthquakes, as seen in Figures 1 and 2. The agreements entailed goods procurement and supply agreements in the prefecture and took place between April 21 and May 30 (The Cabinet Office, 2017, pp. 8-9).

The agreements consisted of the provision for evacuation centers, supplies, medical/health care, disaster waste, residential land, water supply, educational support and supplies (The Cabinet Office, 2017, pp. 8-9). Other activities entailed building risk assessment ascertaining the extent of damage, sorting supplies, caring for disaster victims, public-facing administrative duties, managing evacuation centers and issuing certification to affected people (The Cabinet Office, 2017, pp. 8-9). The figures reflect the agreements' outcomes between local governments in the following days after the disaster. On a positive note, local governments thrived while managing evacuation centers. However, the provision of supplies is low in both figures concerning human-wellbeing. Additionally, only a tiny portion of people are provisioned with medical health care and care for disaster victims.

Many local governments and private sector companies were affected by the disaster, so it was complicated to adequately fulfil the commitments made in these agreements in some cases (The Cabinet Office, 2017, pp. 8-9). Therefore, the local governments had to rely on volunteers who could not provide adequate aid in every situation. Roughly 118,000 volunteered, mainly at evacuation centers (The Cabinet Office, 2020, p. 58; The Japan Times, 2016). For the people in regions that the earthquake struck the hardest, such as Mashiki town, it was challenging to receive aid due to aftershocks. Thus, the volunteers could only go for a few days to help clean up homes (The Japan Times, 2016).

Figure 1

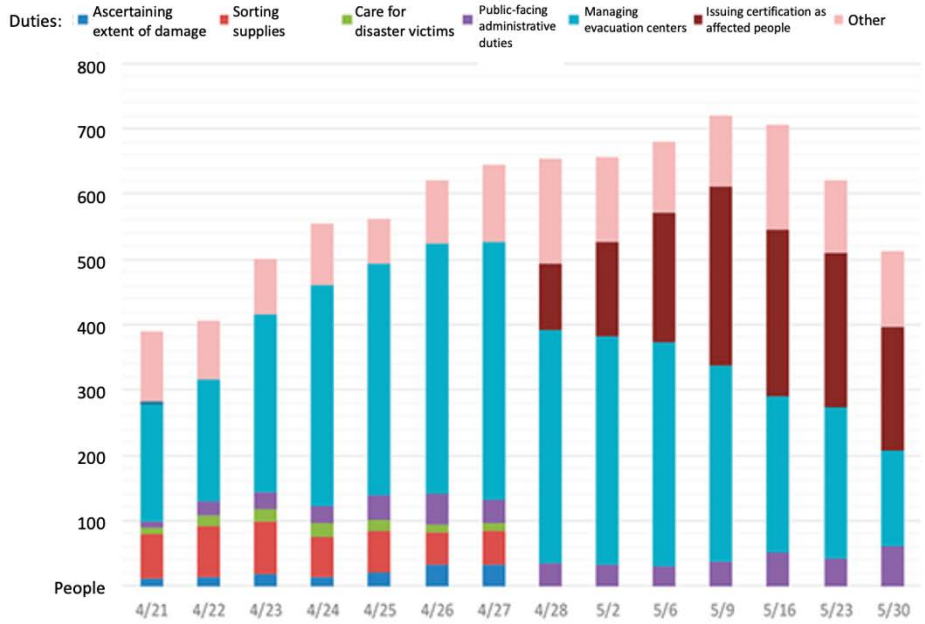
Distribution of goods procurement and supply agreements to Kumamoto prefecture from other prefectures from April 21st to May 30th.



Note: From "Disaster Management in Japan 2017," by The Cabinet Office, 2017, p. 8 (https://www.bousai.go.jp/kyoiku/panf/pdf/WP2017_DM_Full_Version.pdf).

Figure 2

Distribution of goods procurement and supply agreements to Kumamoto prefecture from other cities from April 21st to May 30th.



Note: From "Disaster Management in Japan 2017," by The Cabinet Office, 2017, p. 8 (https://www.bousai.go.jp/kyoiku/panf/pdf/WP2017_DM_Full_Version.pdf).

Provision of short-term mental health care

Next to the need for relief supplies is the importance of the provision of mental health care. After the disaster occurred, the Disaster Psychiatric Assistance Team (DPAT) were dispatched. DPAT provided mental support after disasters and was established in 2013. Patients were effectively evacuated in a safe and coordinated way, demonstrating that the DPAT system is a beneficial disaster mental health service in Japan during the acute period (Takahashi et al., 2020, p. 9). Although the DPAT were deployed after the Kumamoto earthquake, more support was needed due to the disaster's scale (Takahashi et al., 2020, p. 6). Figure 3 below illustrates how many consultations were provided for several days after the disaster. In addition to DPAT, the emergency response teams of the Japanese Red Cross are trained to provide psychosocial support to victims; however, because of the numerous injuries sustained by people due to these earthquakes, they prioritized medical relief and other life-saving services. However, there was an enormous need for psychosocial support, and their teams were deployed to assist children and adults who were traumatized by fear

and those who had lost loved ones and, in some cases, all of their belongings (Irish Red Cross, 2016).

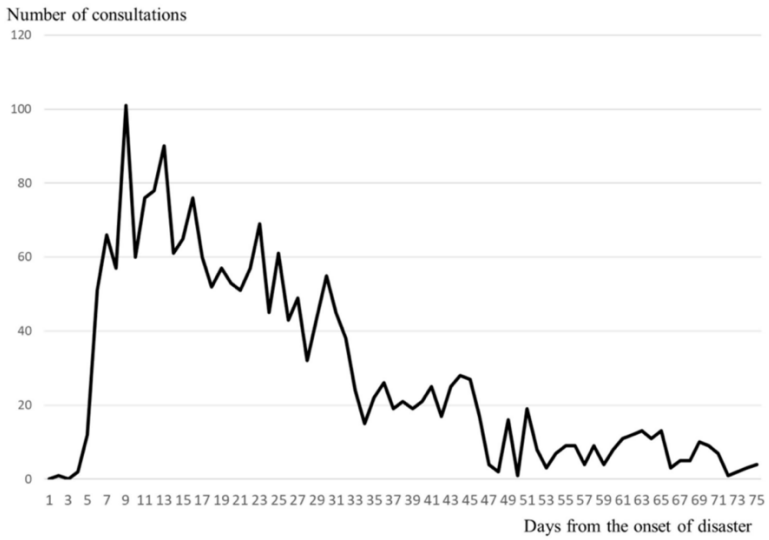
Provision of long-term mental health care

Despite immediate mental health care in place, long-term mental health care is also essential. Because it is critical to listen to the concerns of victims, community support centers have been created in each ward. A report from the Kumamoto prefecture in 2017 discusses the challenges they faced in retrospect. It was difficult to provide prompt mental health care after the disaster (Kumamoto Prefecture, 2016). Nevertheless, after some time, only one mental health care center was founded in only two municipalities, Nishihara village and Mashiki town, six months after the disaster (Health and Global Policy Institute, 2022, p. 7; Kumamoto Prefecture, 2022). The centers participated in meetings between the prefectural and municipal mental health and welfare centers four times a year. The meetings began with a report on the municipalities' status following the withdrawal of DPAT support. It was followed a month later by discussions on the mental health care center system, the system following the earthquake, and plans for a disaster mental health care training session (Health and Global Policy Institute, 2022, p. 7).

Victims require long-term mental health care, including those sent to temporary housing, because mental health problems exacerbate over time (Hartley, 2021). After a year of living in temporary accommodation, distinctions began to develop between those who could successfully repair their houses and those who could not. Some people felt abandoned, isolated, and despondent, while others saw a slight decrease in their physical condition (Health and Global Policy Institute, 2022, p. 18). Moreover, there were visible delays in restoring disaster victims' lives and lengthening their stays in temporary housing. Therefore, the prefecture dispatched counsellors to visit people living in temporary housing and victims living at home. Community support centers were required to continue providing care support to help the victims restore their lives. Nevertheless, it is unclear how and to what extent these mental health care systems in only two municipalities have contributed to the mental health of victims, especially long term (Health and Global Policy Institute, 2022, p. 9; Kumamoto Prefecture, 2022).

Figure 3

Number of consultations in the immediate disaster response of the 2016 Kumamoto earthquakes.



Note: From "Acute Mental Health Needs Duration during Major Disasters: A Phenomenological Experience of Disaster Psychiatric Assistance Teams (DPATs) in Japan," by Takahashi et al., 2020, p. 7 (https://doi.org/10.3390/ijerph17051530).

Volunteering activities

Furthermore, the help of volunteers helped the local communities considerably. Volunteer centers were established after the earthquake, and although some disaster volunteer centers received more volunteers than they could handle, others battled with a volunteer shortage. As a result, excess volunteers were directed to disaster volunteer centers with insufficient volunteers. Therefore, activities involving many volunteers aimed at assisting people's daily recuperation ended. Consequently, the catastrophe volunteer centers resorted to recruiting volunteers for weekend activities. Since the end of 2016, there have been hardly any volunteer activities targeted at reacting to the disaster.

Additionally, NPOs from all over the country with disaster response experience took part in support operations in impacted areas (The Cabinet Office, 2017, p. 22). at least 300 NPOs and other support groups from Kumamoto and elsewhere carried out a variety of activities, including running evacuation centers and making improvements to the living environment that government bodies would have found difficult to carry out on their own, as well as

preparing meals for evacuees; conducting surveys of evacuees centered in their own damaged homes or cars and supporting them; managing, transporting, and distributing donated goods; and supporting the management of disaster volunteer centers (The Cabinet Office, 2017, p. 17). Thus, local governments could rely on volunteers. However, there was a need for more volunteering.

Recovery and reconstruction

On September 16, five months after the initial disaster, the national government dissolved its local disaster management headquarters. Almost all evacuees had moved to temporary housing (Public Relations Office of the Government of Japan, 2016; The Cabinet Office, 2017, p. 6). NGOs, NPOs and local governments made the construction of temporary housing possible (Peace Winds Japan, 2016). However, after one year, the Kumamoto prefecture was slowly making headway with restoration, especially in areas with damaged public infrastructure. At the same time, the shelters closed in September 2016. More than 40,000 people were still living in temporary housing after the earthquakes destroyed their homes; this demonstrates the necessity for ongoing public assistance to support them as they rebuild their lives, even after dissolving the disaster management headquarters (The Japan Times, 2017). The decrease in the Japanese government's disaster management expenditures became visible in the reconstruction efforts. Local governments did not get sufficient funding; thus, the reconstruction time of homes and infrastructure gets extended. The Mainichi and local governments stressed that finding construction workers stagnated the rebuilding processes concerning victims' homes and permanent public housing, as it was challenging to find construction companies (The Mainichi, 2017, 2018). Consequently, the temporary housing facilities were stuck due to the Disaster Relief Act, which specifies a limit of up to two years for victims to stay in temporary housing (The Mainichi, 2017). Therefore, the rebuilding process took longer than anticipated. Consequently, after four years, more than 3,120 individuals were still residing in temporary housing due to the earthquakes damaging more than 200,000 homes. Additionally, 1,715 public housing units for those impacted by the disaster were finished (The Japan Times, 2020). Victims that stay in temporary homes have a higher risk of mental health problems (Morishima et al., 2020, p. 7). Despite counsellors consulting these victims short-term, the circumstances and the

uncertainty of prospects did not contribute to their human-wellbeing (Morishima et al., 2020, p. 7).

The slow development to reconstruct homes, no long-term mental health services and move victims out of temporary homes within two years shows that the central government's emphasis on local governments' inability to be resilient is problematic**.** The neoliberal approach on part of the Japanese government concerning disaster management results in detrimental consequences for local governments, who cannot bear sole responsibility after the disaster and to bounce back completely on their own account.

Consequences for the local economy

The consequences of the earthquake disrupted not only the infrastructure and homes of victims but also the economic activities of small and medium-sized businesses, including the agriculture, forestry and fishery, and tourism businesses (The Cabinet Office, 2017, p. 26). The government stated that their aid concerning subsidies contributed to the recovery of the local economy and prevented bankruptcy (Public Relations Office of the Government of Japan, 2016). Despite these government statements, local businesses deal with many problems in the long run, as the earthquake caused direct economic losses of an estimation of 24 between 46 billion dollars (Asian Disaster Reduction Center, 2016).

Local governments from Kumamoto show how the recovery and reconstruction three years after the disaster have impacted the region. In the video, local businesses describe how volunteers have helped them build back their businesses. Because of local governments, a local rice farmer was able to resume farming three years after the earthquake (熊本県イマコレニュース, 2019). Also, a dairy farm was able to recover due to the national and prefectural subsidies to restore agriculture (熊本県イマコレニュース, 2019).

Thus, local businesses have sustained inevitable damage due to the earthquake. Nevertheless, the businesses needed help to thrive on their account. Subsidies from the national governments were needed to become resilient. Although some received aid from various governments, they still took a long time to recover (three years).

Local governments perspective in retrospect

Local governments recognized the struggle to bounce back. A report from the Kumamoto prefecture in 2017 stressed several points with the challenges they faced in retrospect. The report discusses that there were cases in which initial responses, such as requesting aid from NPOs and volunteers to support the operation of evacuation centers were carried out after several days, while immediate aid and decision-making are crucial. Therefore, there needed to be more volunteers among municipal disaster volunteer centers. Furthermore, they also mention a request to the government to secure financial resources for dispatching emergency counselors in times of disaster, as there is a flawed system for mental health care. They also stress the need for financial resources and continue asking the government to secure long-term financial resources so that affected local governments can work on recovery and reconstruction (Kumamoto Prefecture, 2017, p. 4).

Conclusion

After analyzing the aftermath of the Kumamoto earthquake, the central government and local governments cooperated by establishing two bodies and holding meetings regularly to assess the conditions. The government deployed the SDF to rescue victims and clear out the rubble. The destroyed infrastructure and the local government's failed systems prevented the local governments from adequately responding to improve the decision-making process. Therefore, it was difficult for NPOs and volunteers to provide aid at evacuation centers immediately. Short-term mental health care was in place to provide victims with consultations; however, no long-term mental health care was in place for every municipality. Simultaneously, victims resided in temporary housing after the allowed legal period, and the local governments could not rebuild their homes quickly.

Thus, there were visible delays and flaws in various disaster response and recovery efforts, such as developing mental health care systems, reconstruction of homes, and, therefore, the inability to move victims from temporary housing to new homes. Businesses relied on the central government for subsidies. The central government's implementation of the disaster resilience law is problematic in several ways, making it challenging for local governments to react adequately in times of crisis. Local communities are left to deal with hardships without any support in the long term. The central government's immediate

disaster response comes as they go and lay its priorities elsewhere, such as cutting disaster management budgets. Instead, close cooperation and innovative systems would benefit the local governments. Nevertheless, the rigid disaster management system prevents them from doing so. It exacerbates human-wellbeing because any aspect the thesis has discussed at this point altogether leaves out the effects on local communities.
Ironically, the reports from the central government also stress the need to establish systems to be more resilient and cooperation between NGOs, NPOs, central and local governments and enterprises. However, the incremental bureaucratic systems and establishing everything beforehand in an 'organized manner' prevented Japan's disaster management from establishing effective disaster management in the first place.

Chapter 5 – Japan's first large-scale disaster during the 2020 pandemic

The central government's initial response

Heavy rain reoccurred in the last few years, resulting in floods and extensive damage, especially in the Kumamoto region. In July 2020, the seasonal rain resulted in another large-scale disaster for Japan. While a pandemic was happening worldwide due to the COVID-19 crisis, The Japan Meteorological Agency issued heavy rain warnings to seven prefectures, including Kumamoto, Kagoshima, Nagasaki, Saga and Fukuoka (The Cabinet Office, 2021, p. 13). The heavy rain lasted from the beginning to the end of July. The heavy rain triggered flooding and landslides (The Cabinet Office, 2021, p. 8). As a result, the disaster struck Kumamoto prefecture and experienced the gravest consequences of all affected areas. The Ministry of Land reported 52 mudslide disasters in Kumamoto prefecture (Siripala, 2020). Consequently, around 1,5 million people had to evacuate (Ministry of the Environment Japan, 2021, p. 16). They took shelter in schools, community centers, and other emergency shelters (Ryall, 2020; Yamaguchi, 2020). Nevertheless, only some were able to evacuate in time. Ultimately, the disaster led to 88 fatalities, of which 65 were in the Kumamoto prefecture (The Cabinet Office, 2022, pp. 18-20).

Following the disaster, the Japanese government responded similarly as the Kumamoto earthquakes in 2016. The government announced the highest emergency level possible

following the disaster. The government established a 'Major Disaster Management Headquarters', 'On-site Major Disaster Management Headquarters', held joint meetings daily, and dispatched approximately 500 governmental officials from several prefectures to assist in the disaster response in the affected municipalities of Kumamoto prefecture (The Cabinet Office, 2021, p. 12). As expected, the central government's immediate response was quick and similar to the 2016 disaster. Nonetheless, in reality, the weather conditions and the consequences of the disaster, alongside the pandemic, made it challenging to respond adequately to the disaster.

The damage and disruption caused by the flooding consisted of housing damage, communication systems, infrastructure and the local economy. Communication systems and transportation infrastructure are critical for emergency response and recovery efforts, so these systems significantly impeded the ability of first responders and aid workers to help those affected. The damage to local businesses also impacted the economy (The Cabinet Office, 2021, p. 10).
The housing damage in Kumamoto prefecture alone was approximately 7,200 (The Cabinet Office, 2021, p. 10; The Cabinet Office, 2022, p. 20; The Japan Times, 2020d; 日テレ NEWS, 2022). Therefore, thousands of households have lost communication services, water, and electricity (Ryall, 2020). In addition, the heavy rain disrupted the infrastructure, such as the destruction of two iron bridges, railways and stations significantly impacted transportation infrastructure in the Kumamoto prefecture. Several tracks and transportation systems were blocked and instead used as emergency roads to help alleviate some disruptions (Inui, 2022; Onuki, 2022).

In the first week following the disaster, the central government emphasized their aim to spend roughly 2 billion yen in fiscal 2020 to provide emergency funds to support the local government's agriculture, forestry, fishing industries, and small companies in the Kumamoto prefecture(The Japan Times, 2020d). Subsequently, Finance Minister Taro Aso stated to use the funds for push-mode support to provide victims with necessities such as water, food, emergency beds, and face masks to shelters without waiting for local municipalities to request such assistance. Abe assigned government officials to put together a rescue plan for

affected areas worth more than 400 billion yen by the end of July month to speed up rehabilitation (The Japan Times, 2020d).

Meanwhile, the SDF and fire department operated and contributed to rescuing operations and searching for missing people. Nevertheless, the heavy rain hindered the relief efforts and struggled to reach isolated communities on higher ground (FloodList News, 2020; Ryall, 2020). Also, the dispatched helicopters struggled to conduct practical rescue efforts due to the heavy rain (Cappucci & Samenow, 2020; Wakatsuki & Westcott, 2020).
Moreover, because of the flooding, several evacuation centers were unattainable (The Japan Times, 2020c). According to government regulations, evacuation centers must be outside the possible flooding areas. Nonetheless, due to a shortage of public evacuation facilities, municipalities had no choice but to evacuate people in high-risk flooding areas (The Japan Times, 2020c). Additionally, many citizens objected to evacuating at shelters due to COVID-19, forcing them to seek refuge in destroyed houses or vehicles. Simultaneously, the capacity of evacuation shelters decreased because of social distancing (Lee, 2020). Therefore, local governments advised citizens to evacuate to family and acquaintances' homes instead (Lee, 2020).

Lack of volunteers

In addition to a shortage of evacuation facilities, affected areas relied on aid from volunteers (The Japan Times, 2020b). As seen in previous disasters, local governments rely heavily on volunteers, crucial for disaster response and recovery. In this case, volunteers from surrounding prefectures could not assist due to the pandemic, and therefore, travel restrictions refrained volunteers from travelling (Das et al., 2021, p. 26; Haraoka et al., 2012, p. 1; Iizuka & Aldrich, 2021, pp. 526-527; The National Bureau of Asian Research, 2022). Therefore, local communities encountered difficulties concerning disaster response as they could only rely on outnumbered local volunteering (Give2Asia, 2022; Lee, 2020).
The local volunteers helped in various ways, also in terms of mental health. At evacuation facilities, volunteers provided supplies and talked to the affected people, giving victims a sense of relief. However, the limited number of volunteers and people restricted to travel

impacted victims negatively, resulting in symptoms such as insomnia or physical symptoms due to stress (Health and Global Policy Institute, 2022, p. 9; Japan Platform, 2022).

Provision of mental health

Similarly, because of the restricted human contact due to the virus, victims emphasized experiencing isolation, loneliness and anxiety (Health and Global Policy Institute, 2022, p. 10; Ministry of the Environment Japan, 2021, p. 17). As for other mental health services, the DPAT was dispatched to the affected areas to provide consultations at evacuation facilities and conducted surveys to determine what symptoms and care victims required. Additionally, local health workers, such as public health nurses, could provide health care to victims, as there was a sufficient number at the time in the prefectures, which was beneficial (Health and Global Policy Institute, 2022, p. 9). Public health nurses and medical teams initially provided immediate health care at evacuation facilities. After several weeks, when evacuation facilities closed, medical teams conducted home visits to victims. Simultaneously, insufficient volunteers to talk to victims negatively impacted their mental health at the evacuation facilities. Additionally, long-term mental health care was only provided to victims who urgently needed care or those appointed to particular care. Those who required particular care (37 people) were provisioned for terms of long-term support from welfare facilities or assigned public health nurses (Health and Global Policy Institute, 2022, p. 18).

Reconstruction and recovery efforts through NGO units

The strained help from volunteers also halted post-disaster reconstruction and recovery efforts. An essential component of recovery and reconstruction is temporary housing for displaced victims while their houses are restored and rebuilt. The affected victims' relocation process to temporary housing started at the end of August. The local government of Kumamoto emphasized that temporary housing was constructed from July to December to build around 800 temporary housing in seven cities. The construction process moved forward rapidly compared to the earthquake in the same prefecture in 2016, when evacuees took around six months to move into temporary housing (Das et al., 2021, p. 34). The government intended to provide subsidies to households, of which houses were totally

destroyed to rebuild their homes. However, local governments requested more extensive subsidies for home reconstruction as most homes were partly destroyed (The Japan Times, 2020d).

Therefore, the local communities mainly relied on The Japan Platform (JPF). The JPF is an NGO unit that consists of 45 NGOs which involve in aid and recovery efforts after disasters. The limited volunteers of NGOs offered their services in the affected areas of Kumamoto prefecture in various ways, such as emergency construction of buildings, provision of transportation within the prefecture, equipment to community centers and other welfare facilities, repairs to flooded homes and activities such as tea gatherings to reduce anxiety among victims (Japan Platform, 2021, 2022). In 2021 the NGOs continued their services by repairing community centers, delivering household appliances and other daily requirements to more than 700 households for temporary housing tenants and home-based evacuees, repairing community centers, communal activities and provision for equipment (Japan Platform, 2022).

Long term recovery efforts

In 2021, one year after the disaster, a community center spokesperson emphasized the help of NGOs' and stated that he was worried about restoring its center due to a lack of funds and money. However, as volunteers did help with cleaning out the rubble, he had hope for a better future (Japan Platform, 2022). In addition, until June 2022, the NGOs proceeded with community center restorations, equipment deliveries and gatherings. In short, several NGOs located in Kumamoto prefecture were able to aid some communities. Mainly through delivering equipment, conducting restorations and organizing activities at the community centers. The spokesperson's statement, however, reflects the slow recovery process. Furthermore, the pandemic and limited funding reduced the provision of aid. In the Kumamoto prefecture, the number of people living in temporary housing has decreased by 40 per cent since 2021 (日テレ NEWS, 2022). After two years, local communities in the Kumamoto prefecture commemorate the loss of loved ones due to the damage caused by the floods. Despite victims moving into temporary housing rapidly after the disaster (within two months), in 2022, local governments in Kumamoto stated that around 2,500 individuals

and 1,200 households still reside in temporary housing, which is problematic (Onuki, 2022; The Japan Times, 2022). Additionally, there are around 670 households receiving support from the government while living in their damaged homes or the homes of relatives and acquaintances.

As for the reconstruction of the affected bridges, stations and railways, the central government, the Kumamoto prefecture and JR Kyushu held a meeting and discussed future recovery. Nevertheless, no further measures have been taken following the meeting, and there is no prospect of recovery (Onuki, 2022). Moreover, due to the disaster, the economy, especially tourism, has not yet fully recovered in several municipalities in 2022. Because the flood damage to the infrastructure remained visible. Local governments are not able to rebuild and recover on their own with limited support (Surya Satria Ridwan et al., 2022, p. 8)

Conclusion

At first, the central government's rapid response to the disaster seemed promising, providing funds for local governments and dispatching supplies through push-mode support. However, several actions were contradicting and problematic:

1. The SDF and the fire department had difficulties reaching damaged and flooded buildings and infrastructure to rescue communities, evacuation shelters, and other welfare facilities.
2. Funds provided by the government only concerned the local economy (neoliberal response). The financial aim does not focus on human-wellbeing, such as rebuilding homes and mental health. Instead, NGOs deal with humanitarian issues as local governments lack funds to accomplish adequate recovery efforts.
3. Although the government emphasizes the existence and use of the push-mode support system, as expressed earlier, reaching evacuation facilities was challenging. Additionally, many victims resided in partly damaged homes or cars or stayed with family and acquaintances. Thus, how did essential supplies reach those victims? Luckily, most NGOs offered aid door-to-door. Still, the central government's system failed to step up.

Additionally, the weather conditions and the pandemic hindered immediate support:

1. The pandemic caused fear of contracting the virus, which made people hesitant to seek shelter in evacuation facilities, putting them at risk.
2. The need for social distancing decreased the capacity of evacuation shelters, making it difficult for everyone to find a safe place to stay. Consequently, it exacerbated the challenges of providing adequate shelter, support and supplies to those affected.
3. Travel restrictions suspended volunteers from travelling to the affected areas to offer their services, which limited the number of volunteers available at the local level to respond to the disaster, which further strained the resources of organizations that assist.
4. Local communities relied mainly on volunteering regarding their human-wellbeing; again, their aid was limited due to travel restrictions, resulting in anxiety among victims.

It needs to be clarified, however, what precisely happened with all the money offered by the central government. It does reflect that the money provided by the government does not stimulate its recovery regarding human-wellbeing. Similarly, with the 2016 disaster, reconstruction and rebuilding took a long time as more funding was needed. Despite the recent disaster, recovery efforts have yet to progress accordingly. As of 2022, many victims' relocation to new homes progresses slowly. There is a need for alternative solutions to consider human-wellbeing. The government and other organizations must consider these challenges and devise solutions to help people stay safe while still providing them with the necessary support and assistance. The neoliberal approach to disaster response appears to be the dominant factor.

Chapter 6

Conclusion

The disaster resilience law has contributed to problematic disaster management in Japan. The rigid governmental structures with a neoliberal perspective deal with disaster

management in ways that aggravate its socio-political vulnerabilities affecting human-wellbeing. In times of crisis, it is challenging for local governments to bear the responsibility to react adequately. The local communities are significantly impacted in the long term. After analyzing the aftermath of the 2016 Kumamoto earthquakes and the 2020 Kyushu Floods, the central government and local governments initially cooperated by establishing two bodies. The local governments had to deal with both disasters in similar and different ways in terms of disaster response and recovery efforts under the guise of being 'resilient'.

In the 2016 disaster, the SDF was able to clear out the rubble and aid victims in need. The central government responded quickly by dispatching the SDF and using push-mode support to allocate necessary supplies to victims. The destruction of infrastructure and buildings made it difficult for local governments and private sector companies with disaster plans to reach specific shelters to provide relevant supplies. However, the organized disaster management system did not allow local governments to cooperate effectively to adapt to the consequences accordingly. For example, so-called push-mode support did not successfully deliver the supplies to shelters because of the destruction.

Similarly, the 2020 disaster made it difficult for the SDF to rescue several communities due to the flooding and heavy rain. The disaster management system could not adapt to reach local communities in different ways. As a result, in some cases, reaching victims was impossible, and they had to wait several days. Additionally, the shelters where victims had to go were dangerous due to the flooding; therefore, they had no place to go if they had no family or acquaintances to stay with.

In both cases, there were visible delays and flaws in various disaster response and recovery efforts, such as developing mental health care systems, reconstruction of homes, and, therefore, the inability to move victims from temporary housing to new homes. Furthermore, the government's financial aims concerning disaster management do not focus on and contribute to human-wellbeing. Local governments relied on NGOs dealing with humanitarian issues as local governments lacked funds to accomplish adequate recovery efforts. In 2020, however, there were some visible improvements concerning mental health care, but still, access to care was limited to specific people.

The Japanese government has decreased disaster recovery expenditures, which is visible in the reconstruction and recovery efforts. Local governments did not receive proper funding

from the government. Therefore, the reconstruction of homes and infrastructure extended.

Slow reconstruction efforts were visible in both disasters regarding infrastructure and homes as the central government cut on disaster management expenditures and lacked clarity in allocating money. The subsidies provided to local governments by the central government did not help in any visible way to help local communities.

Thus, the bureaucratic, obstinate and dominant political discourse concerning disaster response and recovery efforts inherently relinquishes the responsibility to deal with the crisis without long-term involvement of the government's guidance, support and funding. The government's response repeats itself as they are too focused on providing emergency relief rather than addressing the long-term needs of affected communities. Consequently, local governments have no choice but to survive on their own, as it is a long shot for them to strengthen, defend and recover from disasters and damage on all fronts without any beneficial aid from the central government in the long term, not benefitting to human-wellbeing in different areas. However, further research should be conducted to examine how the 2020 Kyushu floods have affected human-wellbeing in the long-term as the thesis could only do so up to 2022. Even though the 2020 disaster was smaller than the 2016 disasters in fatalities and destruction, the response was as problematic. One would expect that when dealing with a 'less' destructive disaster, the local governments would be able to bounce back more quickly and would be able to improve human-wellbeing. Nevertheless, more conclusions can already be drawn shortly after the second case study.

The approach to disaster management is more problematic than before, and the central government has its priorities elsewhere. However, it is far less from the truth, as the patterns are reoccurring, and local governments cannot deal with crises independently, as they should not. Human-wellbeing is left out entirely. If the central government proceeds with a neoliberal system, no improvements will occur to human-wellbeing, and Japanese societies will remain to suffer. Therefore, drastic changes in Japan's disaster management need to happen. Nonetheless, that will not be feasible while its political system remains unchanged.

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