



## Article

# Social and Cultural Hazards, from the 3.11 Disaster through Today's Global Warming: Shifting Conceptions of the Soma *Nomaoi* Cavalry Event in Fukushima, Japan

Nobuko Adachi

Department of Sociology and Anthropology, Illinois State University, Normal, IL 61761, USA; nadachi@ilstu.edu

**Abstract:** This case study is an anthropological reflection on the impact of multiple disaster events on the culture and economy of the Hamadōri coastal area of Fukushima, Japan. The 2011 Tōhoku earthquake, tsunami, and nuclear meltdown; the pandemic of 2020; and today's global warming have affected this area's economic, touristic, and cultural practices, such as the Soma *Nomaoi* Cavalry tradition. Outcomes exemplify the concept of punctuated entropy: a permanent decline in the adaptive flexibility of a human cultural system to the environment brought on by the cumulative impact of periodic disaster events. In the case of Fukushima, efforts to mitigate and recover from these closely occurring disaster events have been only partially successful, and the outcomes provide profound lessons learned regarding the complexity of the recovery process when deep-seated and sustaining cultural practices are disrupted or lost.

**Keywords:** natural disaster; nuclear disasters; 3.11; Intangible Cultural Assets; Soma *Nomaoi* Cavalry ceremony; Fukushima, Japan



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## 1. Introduction

Anthropological work on disasters goes back to at least to the late 1950s, when Anthony Wallace examined the psychological effects of a “disaster syndrome” among survivors of tornadoes in the United States in the twentieth century (Wallace 1956) and 15th-century Petun Native American survivors returning to massacred villages. Wallace reports that “The Petun warriors sat down in the snow, mute and motionless, and no one spoke or moved for half a day; no one even stirred to pursue the Iroquois in order to save the captives or to gain revenge” (Wallace 1957, p. 23). Fass and Barrios (2015, p. 287) believe this is the first time the term “disaster syndrome” was found in the literature. It might be noted that the numb shock associated with Wallace's disaster syndrome contrasts with other monikers in popular parlance, like PTSD (post-traumatic stress disorder), which involve more chronic and angry emotions.

In the 1960s and 1970s, disasters came to be intensively studied in fields like education, health, and medicine. In the last twenty years, when the current climate crises have been causing frequent world-wide natural disasters, social scientists—including anthropologists—have begun to examine the long-term social and cultural effects of disasters on communities across the globe. Erikson (1994, p. 229) and Gill (2007) both argue that these social effects need to be understood as “secondary traumas” and hazards in people's life experiences. Life experiences of survivors are formed by the collective trauma of the events they experienced. However, it is also important to look at the hazards formed by the official responses to these events, which are often lacking. This often results in demoralization, disorientation, and loss of connections with community, family, and self (Gill 2007, p. 624). Erikson (1994) also emphasizes the disconnection of survivors from their communities and communalities, which causes their demoralization. We might say a community is a geographically formed territory (like a village), while a “communality” is a social entity where

people are connected via social networks, neighbor relationships, and other elements of social capital (Erikson 1976, p. 187; Gill 2007, p. 624).

As another case in point, Dyer (2002) investigated the permanent damage done to the local fishing community, the failures of external assistance, and the post-disaster environmental issues in Prince William Sound after the worst oil spill in United States history, the Exxon Valdez disaster of 1989. He analyzed this tragedy using the theoretical construct of punctuated entropy, suggesting that a permanent decline in the adaptive flexibility of human cultural systems occurred in the environment brought on by the cumulative impact of the periodic disaster events that the oil spill caused.

In 2011, the Tōhoku area of northeast Japan was hit by a magnitude 9.0 earthquake, which triggered an extraordinarily large tsunami (Kingston 2012, p. 1). Furthermore, the Hamadōri coastal area of Fukushima was also impacted by a technological disaster: a nuclear powerplant meltdown that these natural disasters caused. Since then, in these communities, many cases of disaster syndrome and secondary trauma have been reported (e.g., Curtis 2012; Morris 2012; Parry 2018; Stradford 2016; Takano 2016; Umitsu 2016). However, when the Hamadōri area received unprecedented damages caused by this triple disaster, the area had already been suffering from many ongoing problems of increasing modernization and urbanization, such as the decreasing depopulation of young people. In this study, I look at how the acute and fast triple disasters of the earthquake, tsunami, and nuclear plant meltdown have interacted together with the chronologically slow disaster of a changing ecological environment and social structure in rural Japan. I examine how these interactions have affected the flexibility of this single human cultural and ecological system. However, I argue that this case is just an exemplary microcosm of the kinds of disasters climate change is increasing causing, and thus the lessons here have great theoretical and practical impact beyond Japan's northeast coast.

## 2. The Case Study

The Hamadōri area was hit by a strong earthquake and powerful tsunami, simultaneously causing radiation to leak from a nuclear plant accident, on 11 March 2011 (Okiwa 2016; Oshika 2013). Hereafter, I will refer to this catastrophe as the “3.11” event, as it is known in Japan. When they were still recovering from the disorientation caused by 3.11, the residents of Fukushima faced the restrictions of the pandemic and further problems caused by global warming. For example, at least three major aftershocks occurred in the area in the months following the initial upheaval, but there have also been earthquakes of magnitude 7.0 or above in 2011, 2019, and 2021, and in 2019, there was tremendous flooding. Routinely, magnitude 5 earthquakes occur every year, and some years have seen as many as ten significant aftershocks.

Here, I will ethnographically investigate some of the long-term effects of changes on the local people's lifestyles and cultural values, as social relations within the community become loosened under the contradictory policies of the national and local governments—like poorly thought-out and implemented revitalization plans by city officials—which leave residents lost and disoriented. I specifically look at some of the socio-cultural hazards in the Sōsō region (part of the Hamadōri coastal area of Fukushima, Japan). As a case in point, I particularly look at one local traditional cultural event, the annual Nomaoui horse festival. Traditionally, the Nomaoui event has been the symbol of the community, and it has allowed the local people to reestablish and reinvent themselves each time social, political, or natural disasters have struck.

## 3. Fieldwork and Methodology

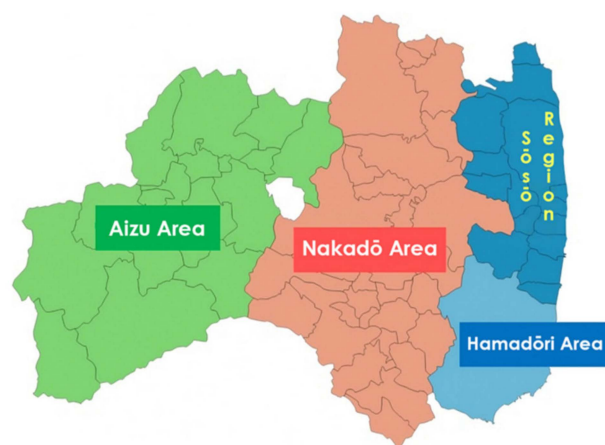
For this study, I observed and participated in the Nomaoui ceremony and related cultural events while living in Soma city in Fukushima from May to August of 2019. I rented an apartment during this time and participated in the preparation for the event, including helping to train horses. For example, I got up at 3:30 every morning and went to a horse farm to exercise horses with some of the riders who were participating the event.

After cleaning horse stalls and riding horses, most riders went to their workplaces around 7:00 a.m. After they left, I rode more horses until lunch time. Then, I went to help in the local coffee shop, which was the de facto gathering place in this small close-knit community. There, I got to know local people, including customers and workers of the coffee shop. They helped me connect with more local people, allowing me to get data on the Nomaioi event and other traditional cultural practices, as well as to hear their personal stories of the 3.11 disaster as they experienced it.

Although I am a native Japanese speaker, since I was raised in Kanagawa Prefecture near Tokyo, the local Soma people immediately noticed the differences in my dialect. However, the majority of the local people accommodated me and spoke to me in standard casual Japanese. However, there was one man—the main horse farm owner—who was in his 70s and spoke with a heavy Fukushima accent. I sometimes needed people around me to rephrase what he had just said. For the most part, however, I did not have many problems understanding daily conversations. Even the farm owner took me under his wing and let me work with his horse team, clean the stalls, and ride his horses. This was probably because he had heard that I had ridden competitively as an event rider over the last fifteen years in the United States and have two horses at home myself.

#### 4. The Nomaioi Event

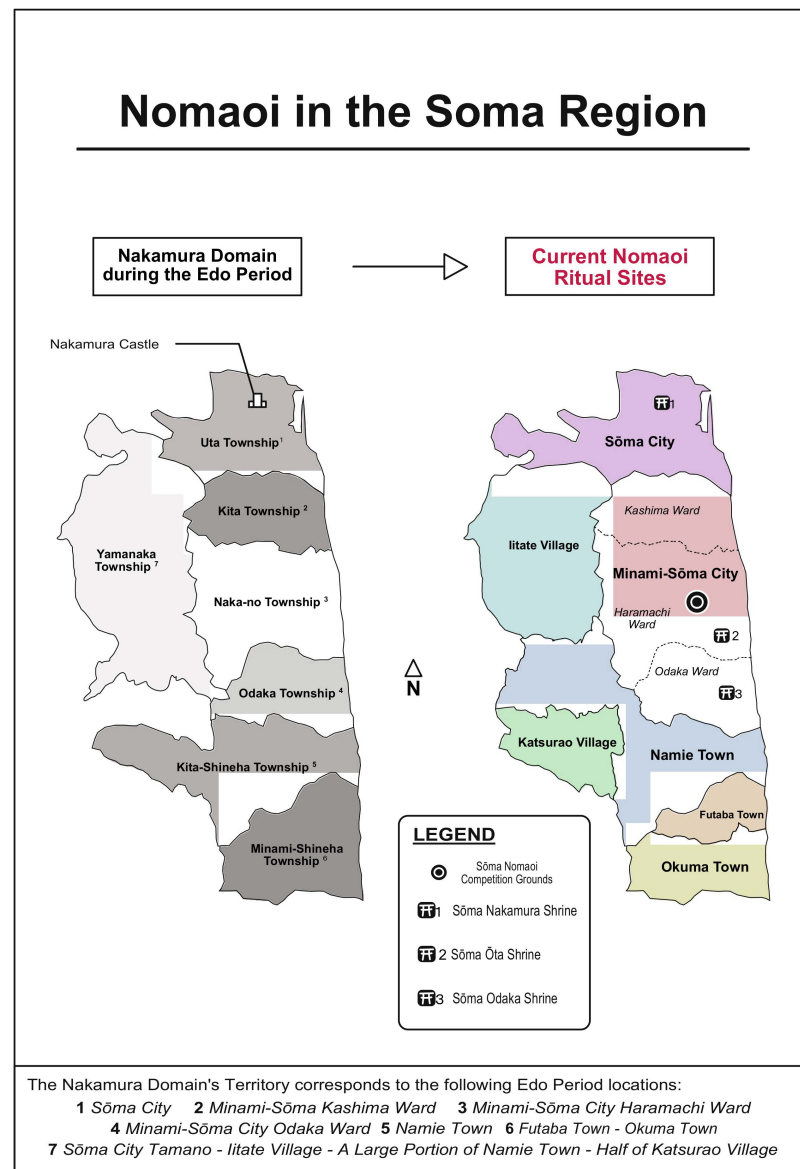
The Sōsō region (see Figure 1) was the ancestral territory of the Soma clan from 1189 to 1868, and the Nomaioi celebration has been held by the Soma clan since they moved into this Ōshū territory (the current Tōhoku area of northeast of Japan) from their hometown in Shimōsa (the current Chiba prefecture) in 1323. Even when the samurai period ended, and the Soma family lost actual political power in 1868, the locals continued holding the Nomaioi event with the Soma family, and it continues today. Although the social and political significance of the ceremony have been modified at least three times in its long history, its traditional cultural values have been passed on in the area to all the local residents. However, after 3.11, the local officials have shifted the focus of the event from its traditional cultural and philosophical values to a capitalistic attraction for tourists. In the following historical section, I look at how this event has evolved throughout its history. I will then consider the social and cultural roles of Nomaioi after 3.11.



**Figure 1.** The Sōsō region in the Hamadōri area in Fukushima (<https://www.pref.fukushima.lg.jp/sec/01260a/sousouchiiki-gaiyo.html>; accessed on 19 March 2024, translated by Noah Davison, 2024).

The Nomaioi has been a samurai cavalry event of the Soma clan for a millennium (Museum of Minami Soma 2015). It has been held the last 700 years in the Sōsō region, the former Soma clan territory, in Fukushima (See Figure 2). The event lasts for three days and during this period several horse trials are performed, mainly by the five cavalry troops of the former Soma clan (Museum of Minami Soma 2015; Asakawa and Kawasaki 2022). Some of these riders are direct descendants of the historical cavalry riders, but today the

majority of them are new members. In order to be a member of one of the troops of the Nomaoi, a new participant has to be approved by the elders of each troop. Depending on the troop, the regulations for becoming a member are different. However, every troop prefers to have local people who are well known to them. The event is held each year on the fourth weekend of July. Until recently, even until 3.11, about 700 cavalymen regularly attended Nomaoi every year.



**Figure 2.** The five gō troops in the Sōsō region of Fukushima (Map by Denavious Hoover, 2019).

The Nomaoi ceremony—which includes several events, such as the “Chasing of the Battle Flags” (see Figure 3)—takes place over three days, in the fourth weekend of July. However, there are four other performances that take place on the Friday afternoon before the first day in Soma city. On Friday, the General and members of one of the five cavalry troops, the Uda-gō, gather in full samurai regalia at the Nakamura Shrine for a prayer for the safety of the event. Historically, the Nakamura Shrine has been the main guardian of the Soma clan. It is located next to Nakamura Castle in Soma. Until the shogunate ended in 1868, members of the Uda-gō consisted of samurai who served the Soma family directly and lived at the foot of Nakamura Castle (the residence of the Soma clan).

The Nomaoi cavalymen often say that they travel to a medieval samurai world during the event. People whose ancestors are not Soma samurai—but who became residents

of the Sōsō region after coming from other prefectures and started to participate in the Nomaai—also feel that same way. For instance, one of the Nakano-gō riders—a medical doctor who came to work at South Soma city hospital—told me that during the Nomaai period he becomes a “samurai” and forgets about his hard times taking care of his patients, who have not only physically but mentally suffered after 3.11. I was not a participant of Nomaai but still I understood what he said. In the early morning of the first day of the 2019 Nomaai event, I left a horse farm on horseback to take this horse to the Nakamura Shrine along with several cavalymen. I felt just like the samurai of old who left their own homes and families to go to the gathering places to participate in the Nomaai, or maybe even real battles. When we were passing people’s houses on route, local residents came out offering their prayers and greetings, saying “Thank you!” very devoutly and hoping for our safe return. This ritual has been done for many centuries in this region. Seeing these local people in this way, I started feeling a visceral awareness of the long history behind this activity. This reenactment event is an important annual milestone, not just for the participants, but for everyone in the region. Since horses are still a sacred animal to the people of the Nomaai, wild horses were caught through a ritual process—Nomakake—during the Nomaai ceremony. Because capturing horses by hand is dangerous, many rounders got injured, and some even died during this process. However, the local people believed that if they got injured, they would heal quickly, being purified by spring water from the Odaka Shrine. The Shinto religion believes that injuries are impure, but purification heals wounds.



**Figure 3.** *Shinki Sōdatsu-sen* (the “Chasing the Battle Flags”), part of the Nomaai event at the Skylark Battlefield (<https://souma-haramachi.com/nomaai/nomaai005/>, accessed 26 October 2021).

In 1868, the new Meiji government took over political power in Japan, replacing the old rules of the samurai and the shogunate with more democratic institutions. With the collapse of the shogunate, the locals feared the Nomaai ceremony would be seen as a celebration of the old samurai warlords and be forbidden, but the Soma locals requested the new government allow them to keep the Nomaai event as a Shinto ceremony, even though the majority of the clan’s horses were taken away by the Meiji military. Since the Emperor is thought to be a direct descendant of the Shinto gods, the Nomaai was presented as an event to worship the newly empowered Emperor. Thus, the newly established Meiji government accepted the request. In order to emphasize Nomakake as a ceremony of Shinto purification, since 1872, all rounders of wild horses must wear white loincloths—white being the symbolic color of purification in Shinto. Furthermore, in order to perform the Nomaai as a Shinto ceremony, a three-story *mikoshi* (a portable mini-shrine) was added to the parade in 1878.

### 5. The 3.11 Disaster and the Hamadōri Coast in 2011

On 11 March 2011, a magnitude 9 earthquake occurred in the Pacific Ocean about forty five miles east of the Oshika Peninsula in Miyagi Prefecture. It caused a strong tsunami with approximately fourteen-meter-high waves, which hit the coastal area of northeast Japan, including the Hamadōri coast. Furthermore, the powerful tsunami caused Reactors



No. 1 and No. 4 of the Fukushima Daiichi Nuclear Plant in the towns of Ōkuma and Futaba in Shineha-gō to melt down (see Figures 4 and 5a,b).

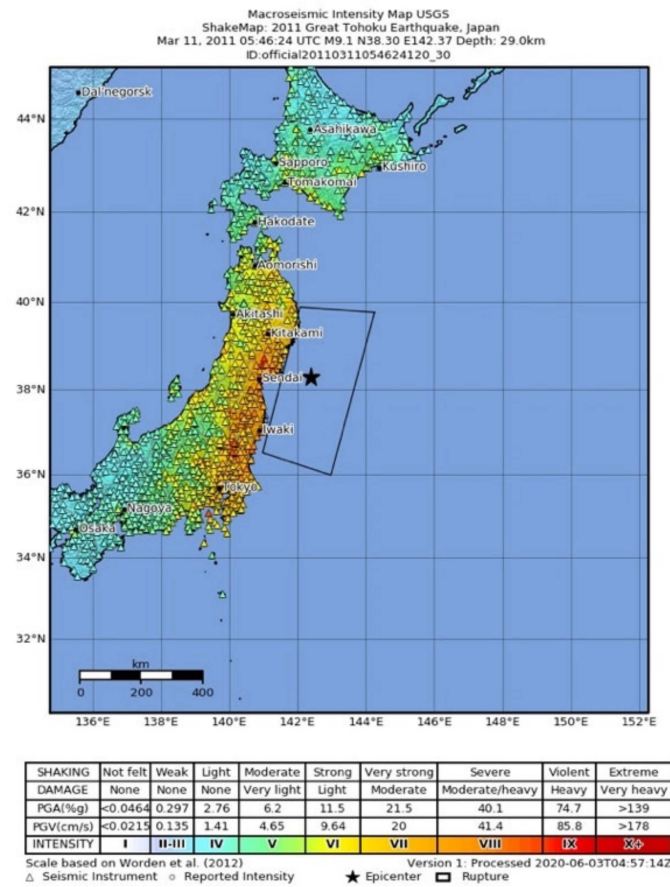


Figure 4. The area of the 3.11 natural disaster zone. From: [https://upload.wikimedia.org/wikipedia/commons/2/23/2011\\_Japan\\_shakemap.jpg](https://upload.wikimedia.org/wikipedia/commons/2/23/2011_Japan_shakemap.jpg); accessed 20 June 2023.

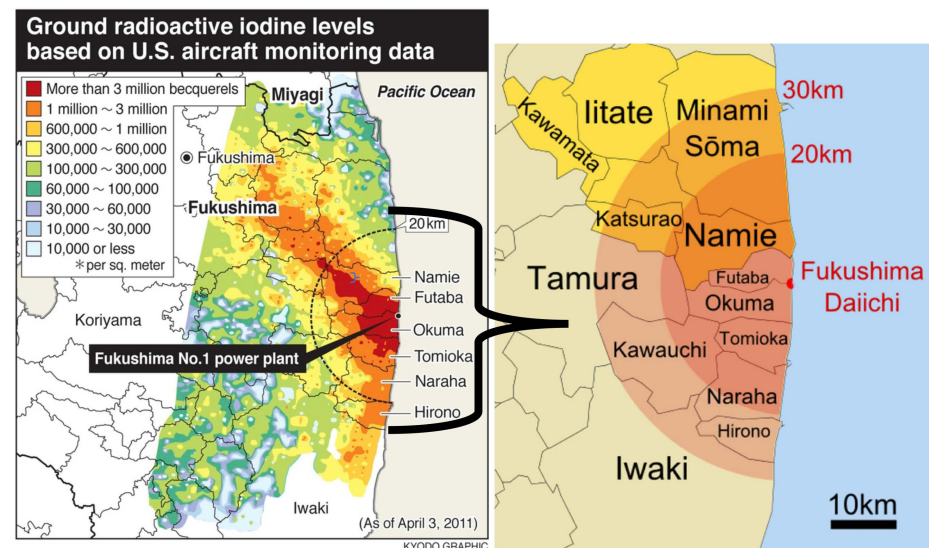


Figure 5. (a) The area of the 3.11 nuclear disaster zone (<https://apjff.org/2021/17/jacobs>; accessed on 29 May 2024). (b) The evacuation zones ([https://commons.wikimedia.org/wiki/File:Towns\\_evacuated\\_around\\_Fukushima\\_on\\_April\\_11th,\\_2011.png](https://commons.wikimedia.org/wiki/File:Towns_evacuated_around_Fukushima_on_April_11th,_2011.png); accessed on 26 October 2021).

According to the FDMA (the Fire and Disaster Management Agency of the Ministry of Internal Affairs and Communications), on March 11, the natural disasters left more than 18,131 people dead, 2829 missing, and 6194 injured ([https://www.fdma.go.jp/disaster/higashinihon/item/higashinihon001\\_12\\_03-01\\_02.pdf](https://www.fdma.go.jp/disaster/higashinihon/item/higashinihon001_12_03-01_02.pdf); accessed on 25 June 2023). In Fukushima, 15,469 houses were destroyed, 83,323 half-destroyed, and 141,057 partially damaged (*Hamadōri-chihō no Fukkyū-Fukkō 2023*, p. 3). (See Figures 6 and 7). The categorization of the damage reflected the kind of compensation the insurance companies offered to their clients, although from the victim's point of view, the differences between these categories are often slight. For example, according to Kozo Yashiki (2019, pp. 42–47), a worker at a real estate firm in Iwaki City when the 3.11 tsunami hit, at the time the disaster occurred, if even just several pillars of a house were standing, the house was categorized as only half- or partially destroyed. Regardless, these standing pillars did nothing to prevent salt water and mud from entering the house. Even when the house was rebuilt, these same pillars usually needed to be replaced. Almost all “partially destroyed” houses eventually needed to be completely rebuilt (Yashiki 2019, pp. 42–47).



**Figure 6.** Tsunami swallowing a town on 11 March 2011 (<https://earthsky.org/upl/2021/12/tsunami-area-earthquake-Natori-Miyagi-prefecture-Honshu-March-11-2011-e1641311161825.jpg>; accessed 22 June 2023).



**Figure 7.** A family grave: four family members died in the tsunami on 3.11 in Soma (photo courtesy of Nobuko Adachi, 14 June 2019).

Most survivors in the area lost everything they had, including not only their houses but irreplaceable personal belongings like ancestors' armor and their family pictures. Because salt water permeated their farmlands (which had been passed down from generation to generation), they were not able to grow any crops. The victims near the nuclear plant lost their whole hometowns, where their families had lived for generations. Even though the government told residents they could return to part of the town of Futaba after 30 August 2022, the Fukushima plants in the towns of Ōkuma and Futaba are still contaminated and inoperable. According to newspaper reports (*Tokyo Newspaper*, 31 August 2022; accessed

5 July 2023), on 31 August 2022, after hearing this government announcement, about 60% of the residents decided not to return at all. By February, 2023, only 36 people returned had to the town of Ōkuma, and 60 people had returned to Futaba (*Tokyo Newspaper*, 6 July 2023; accessed 5 July 2023). The populations of Ōkuma and Futaba were 11,515 and 6932, respectively, in 2010, prior to 3.11 (Narita 2011).

Some evacuees mentioned that they had made new lives for themselves in their relocated areas, so it was not easy for them to move back. Others said that they were not sure of their safety—especially for their children—due to lingering radiation (Samuels 2014; Novikova et al. 2023). Thus, they are not returning, at least not in the immediate future. Regardless of government assurances for the safety of those returning, most former residents do not trust the government for several reasons. One of the major reasons is that when evacuation areas were announced right after the Fukushima Daiichi meltdown, Iitate village (a part of Nakano-gō township in the Soma area) was not included. On March 11th, the government based evacuation zones on geographic distances from ground zero, i.e., the towns of Okuma and Futaba. Those living within a 20 km radius of the nuclear power plant were subject to mandatory evacuation; those living between a 20 km and 30 km radius were suggested to evacuate but not ordered to (see Figure 5b). A month later, however, the government and the Tokyo Electric Power Company (TEPCO) re-evaluated their criteria, saying that even though Iitate village was over 30 km away, and therefore not in an evacuation zone, the residents had to evacuate immediately because the direction of the wind brought radiation to this mountain area directly from the Ōkuma and the Fukushima Daiichi nuclear power plants (See Figure 5b) (Owatari 2016; Nagadokoro Kirokushi Editorial Board 2016).

Another reason for them distrusting the government's claim that it was safe for them to return to the area is rooted in the history of the area. After World War II, in 1961, while Japan was rushing to rebuild the nation, the Japanese government and TEPCO were looking for places to build nuclear plants. The then-governor of Fukushima Prefecture (from 1957 to 1964), Zen'ishiro Sato (b.1898–d.1964), proposed the building of nuclear plants at the previous military airport in Futaba County (which includes the towns of Ōkuma and Futaba). Sato was from the city of Fukushima, in the interior of the prefecture. He was also not a horseback rider. Thus, he had little connection to local Futaba people or the No-maoi ceremony in the Sōsō region. As Futaba County had been an economically depressed farming area, and TEPCO promised it would hire local people to operate the plants, this seemed like a win-win for everyone. Furthermore, Sato and TEPCO convinced the local leaders that new businesses related to the plant would also bring much-needed economic benefits to the whole county (Nakase 2016). However, many local residents resisted the building of a nuclear plant in their local area by TEPCO, which would supply electricity to the Kantō region (i.e., Gunma, Tochigi, Ibaraki, Saitama, Tokyo, Chiba, and Kanagawa prefectures) but not to Fukushima Prefecture itself. However, even after meeting strong resistance from the residents, TEPCO started building the plant with local officials' approval in 1967, and commercial operation began in 1971 (Shimizu 2017).

In addition, on 24 August 2023, without consulting with locals or considering international opinion, the Japanese government and TEPCO released radioactive wastewater into the Pacific Ocean (Kroo 2024). Regardless of Japanese citizens' demonstrations (See Figure 8), the government and TEPCO have insisted that the wastewater is safe and was treated to a level of 1500 becquerel per liter—which is far less than the 60,000 becquerel per liter that is the international safety standard. They are planning to release more than a million tons of this possibly irradiated water over the next 30 years (Couzens 2023). Because of this action, China—which is a major buyer of Japanese fish—announced that it would stop purchasing fish from Japan.<sup>1</sup>

The locals of the Shineha-gō townships have always been victims of hegemonic powers throughout their history. They lost their clan rights (the Shineha clan) to the Soma clan in 1492, and now the government and TEPCO are taking away their ancestors' occupations, as well as their hometowns. The other residents of other townships of the former Soma clan



territory experienced 3.11 differently: the Uda-gō and the Kita-gō townships were badly hit by the tsunami and earthquake, and the people of Odaka-gō township and the Shinehagō township lost their *furusato* (ancestral hometowns) due to being at ground zero of the nuclear power plant meltdown. Those in Nakano-gō township were suggested to evacuate as well. They received heavy damage from the tsunami and earthquake—except the Iitate villagers, who survived the natural disasters (as the village is in the mountains) but because of wind currents had to evacuate due to the radiation (Hasegawa and Hasegawa 2014). In other words, each Nomaoui community has been affected by 3.11, though in different ways.



**Figure 8.** Japanese demonstration against wastewater release in the ocean (<https://www.bloomberg.co.jp/news/articles/2023-08-22/RZRM12T1UM0W01>; accessed 10 March 2024).

## 6. The 3.11 Impact on Nomaoui Culture Loss

Right after 3.11, some local people organized the 2011 Nomaoui event—previously scheduled to take place at the end of July, only four months later—in spite of the chaos caused by the earthquake, tsunami, and nuclear plant meltdown. Many people were still waiting to move into temporary shelters and residences. Nonetheless, 82 riders and horses gathered in the Nakamura Shrine and marched a part of the usual route that was located outside the radiation risk zone. People had mixed feelings about holding the event. One of the participants from the Kita-gō troop, Chōhachi Kan’no, who lost all his family members—his wife, two children, and mother—said that he was not sure if he should participate in the event that year. He did not leave his home, which was part of the voluntary evacuation zone, immediately after 3.11. According to his account, he thought that if his family members were still alive, they would come back home, so he could not move. However, his friends put him on a bus to take him to one of the temporary shelters. In this demoralized period, he thought about how his family supported his participation every year. He decided to come back and join the others, as he felt that the spirits of the departed would cheer him on from the street, as they usually did in the past (Ishimura 2013, pp. 141–63; my interviews May–July, 2019). Because he lost all his horses due to the tsunami, he rented a horse and held a picture of his son that was discovered in the rubble while they marched (see Figure 9).

In 2019, when I conducted fieldwork in the Sōsō region, almost 500 horses and riders returned to the participate in the Nomaoui event. However, many of the participants I talked to from the Uda-gō township who participated had rented horses from nearby horse farms or high school and university equestrian teams. This rent-a-horse trend started around the 1960s, when the society in the area changed from relying on farm horses to mechanization. Furthermore, due to the post-war industrialization of Japan, the occupations of Sōsō residents began to change as well, from farming to wage work. Seeing the limited types of jobs available, young people started to leave the region to receive a higher education and get jobs in the cities, like Sendai or even Tokyo. Nonetheless, most older people kept on

farming, and they—especially those who participated the Nomaoui event every year—kept their horses at their farms. In 2011, though, many of these horses died in the tsunami. Even the horses that survived the natural disasters died because they could not get food or water when their owners had to immediately evacuate and left them in their stalls or pastures. Other horses and cattle that did survive on their farms, and remained until their owners returned, were killed by the government due to the possibility of being contaminated by radiation.



**Figure 9.** Kan’no’s Nomaoui picture discovered in the rubble in Minami Soma (picture courtesy of Nobuko Adachi, 3 June 2019).

I ran into a five-year-old horse who was a former racehorse in Tokyo, who had previously broken his hind leg in a race and had to be retired from the sport. As a result, he was sold to a farm in the city of Soma to be used for the Nomaoui for that year, and afterwards he was scheduled to be slaughtered for meat. By the time I met him in May, 2019 (see Figure 10), his leg was completely healed, and he could run and jump normally. This horse also had an excellent temperament, and even in the hectic environment of many visitors watching the parade and fireworks being lit during the Nomaoui activity, he let even a beginner rider ride him without incident and marched with the other horses despite not being gelded.<sup>2</sup> Feeling sorry for him and his fate, I bought him and neutered him so he could be adopted. Since the culture of the Sōsō region is to live with horses (Abe 2014)—there is even a saying, “Horses are our Family” (<https://mirai-work.life/magazine/1071>; accessed 10 March 2024)—I was certain that he would be taken by someone.



**Figure 10.** A horse who had been scheduled to be slaughtered in 2019 (photo courtesy of Nobuko Adachi, 15 June 2019).

However, when I asked many people if they wanted this free horse, including people who were training him with me for the 2019 Nomaoui, most said that keeping a horse is very

expensive and that they would rather rent horses for the event. It looks like the area has been urbanized, and especially after 3.11, many do not have farms anymore to keep horses. The relationship between horses and people in the Sōsō region is now drastically changing. People in the Sōsō region now enjoy an easier life without taking care of high-maintenance animals like horses. Furthermore, some locals also informed me that even among those who still wanted to have their own horses, it was likely that no one would adopt this horse because it had been scheduled to be slaughtered. Instead, if people can afford new horses, they prefer to have a now-prestigious breed, like one Shineha-gō member who bought a horse all the way from Holland. Today, horses are becoming objects of social status, rather than an integral part of the daily life experiences of those living in the Sōsō region. They used to own farm horses, and indeed horses were literally family members (<https://mirai-work.life/magazine/1071>; accessed 10 March 2024). However, owing a horse is now an expensive privilege and a marker of social status, just as in other parts of Japan. This change has been accelerating after 3.11, with corresponding changing lifestyles.

### 7. The 3.11 Impacts on Traditional Foods and Social Customs

The 3.11 nuclear plant meltdown also affected Sōsō traditional foods and food-related cultural practices. Traditionally, the evening before Nomaoui, horse riders and their neighbors hold a get-together dinner at one of their homes. After 3.11, Shineha-gō and Odaka-gō residents have been scattered around different places, like the cities of Iwaki, Koriyama, and Aizu Wakamatsu in Fukushima, or even to other prefectures. As a result, they are not able to attend the traditional get-together dinners anymore. Under these new geographic realities, Shineha-gō and Odaka-gō riders are not bonding with each other as much as they used to or sharing their daily experiences. Instead, they contact each other over cell phones, text messages, and e-mail to reunite at Nomaoui once a year and to foster the *furusato* (hometown) sentiment. Since Shineha-gō and Odaka-gō riders have changed from being geographic neighborhood communities to largely digital social communities, their experiences with each other are changing. They do not practice their traditional customs, like these dinners for formally exchanging *sake* (rice wine).

When Japanese people get together with close friends and neighbors for a celebration, they usually bring a celebratory bottle of sake. However, since urbanization began in the mid-1970s in Japan, neighbors hardly get together anymore, at least in cities. Being brought up near Tokyo, I never had a chance to attend these get-together with neighbors. I did not even know the price of a bottle of sake to bring with me for an evening party held with neighbors, so I asked local people what kind of sake I should bring to a Nomaoui riders' dinner. One of them told me that the price was not so important, but I needed to know the Sōsō custom that people bring two bottles of sake instead of one. The reason for this is that one bottle is for celebrating departure for the Nomaoui and the other bottle is for wishing for a safe return. This two bottles of sake tradition is unique to this region, and it is related to the Nomaoui being a stylized cavalry battle. Although the emphasis of the event had changed over the course of its history—from military training, to a celebration of samurai philosophy, to a Shinto ceremony—the event has always been a “battle” for the clan, and participants do actually face some risks. In discontinuing the supper with neighbors and these gift-giving practices, the traditional concepts of the relation between individuals and families, and the relationship among families in the township are not the same as they used to be even a few years earlier.

Furthermore, some food traditions related to the event are simply being lost ([Koyama and Komatsu 2013](#)). Fukushima has been producing great sake from locally grown rice for generations. The sake made in the Sōsō region is known to be especially good with seafood. At the dinner party get-togethers, people served sashimi and sushi and their local Sōsō sake. However, after the 3.11 meltdown, many of crops and seafood of the area have disappeared from tables ([Sternsdorff-Cisterna 2020](#)). Although today, some farmers set becquerel-counting machines around their farm fields to let people know their products are safe to eat (see [Figure 11](#)), a comparison between the agricultural revenue of 2010 and



2019 shows a marked decline for Fukushima farmers. The net loss was ¥250,000,000,000 (about \$2.1 billion; (Koyama 2020), p. 490). Furthermore, after the release of nuclear wastewater by the government and TEPCO, the local fishing industry might close down again, perhaps this time forever (Takashashi 2023).



**Figure 11.** A becquerel-counting machine in front of a farm field (photos courtesy of Nobuko Adachi, 12 July 2019).

People in South Soma used to pick *inohana* mushrooms<sup>3</sup>—which have a great flavor, like tricholoma mushrooms—and cook them for special occasions (Soma-shi-shi Editorial Board 2017, pp. 139–40). According to local women of Nakano-gō township, they used to cook *inohana* for dinner parties with their neighbors and for lunch at the Skylark Battlefield on the second day of the Nomaoui festival. However, since mushrooms absorb radiation easily, after the meltdown, local people are afraid to eat locally grown mushrooms (Sternsdorff-Cisterna 2020). Since it is very expensive to purchase mushrooms<sup>4</sup> from outside the area, local people have stopped cooking them even as a traditional Nomaoui food.

Another dish that used to be very common for lunch at the Skylark field on the second day was chestnuts mixed with rice. In the Warring States Period (1467–1615), Japanese warriors brought dried chestnuts to the battlefield, since they are dried and therefore keep for a long time and are highly nutritious. They are also a symbol of victory in Japan. Dried chestnuts were pounded with a mortar, and the shells and astringent skin were removed. The word for “pounded with a mortar” in ancient Japanese was “*katsu*”, and this word is a homophone for the infinitive “to win”. Chestnuts have often been called *kachi-guri* (“victory chestnuts”) and brought by samurai to battle. However, many people in Japan today have forgotten this etymology or do not even remember this practice. Instead, *kachi-guri* today is now associated with the loanword “cutlets” (*katsu* being a truncated form of the English word, “cutlet” meat), which is also a homophone with “to win”. Thus, for example, mothers of youngsters taking entrance examinations or competing in sports can be served cutlets to insure victory. This custom of eating cutlets was not seen before the Meiji Period (1868–1912).

In previous times, due to the influence of East Asian Buddhism, Japanese people were largely vegetarian and did not eat four-legged animals. However, when the Meiji government encouraged westernization, such proscriptions vanished in Japan. Since the locals of the Sōsō region who participate in Nomaoui are supposed to be pre-Meiji samurai, they have kept the *kachi-guri* custom and make chestnut-mixed rice for their Nomaoui lunches and dinner parties on Nomaoui eve. However, in 2019, I did not see any *kachi-guri* mixed-rice dishes on the tables of the riders I visited. According to them, they gradually stopped serving *kachi-guri*, but especially after 3.11, this dish has been gone from the tables of the Nomaoui riders.



Many dishes I had at this evening were ready-made food items purchased at grocery stores. Urbanization lets people purchase convenience foods more easily than before, but local women still get together and cook Nomaoui dinners and lunches. However, after 3.11, people started preparing dinners at each individual's house, and more people started purchasing ready-made packaged food or take-out foods like sushi. As a result, traditional dishes are going out of favor.

Another food that is disappearing from the Nomaoui table is tofu. In the encyclopedia of the city of Soma's history, tofu is said to be a common dish for Nomaoui organizers to have at evening dinners because the color of tofu is white, which symbolizes purity (Soma-shi-shi Editorial Board 2017, p. 688). One of the samurai moral canons is *seiren keppaku* ("To be clean and honest"). We often hear about the *seppuku/hara-kiri* tradition, whereby samurai accused of disloyalty or dishonesty demonstrate their sincerity by committing suicide by cutting their stomach to show their inner cleanness (i.e., honesty). The first time Uda-gō people get together for the start of the Nomaoui season, they have a *kampai*-cheer at the meeting with beer and tofu to purify themselves and to transform themselves into samurai. Even after this meeting, tofu was served at the meeting of Uda-gō. However, because the majority of Shineha-gō people are still in relocated places, they did not get together with all the members until a couple of weeks before the Nomaoui event. The meeting was held at a party hall in a hotel, and I did not see tofu at the Shineha-gō dinner party.

Many of people who are attending Nomaoui from their new locales where they have been evacuated to are not able to bring lunch. As a result, such people purchase lunch boxes at convenience stores. Japanese people seem to value local ingredients and tastes more so than most Americans. Japanese people often prefer to maintain unique local dishes rather than trying to expand them into global markets. Instead, they maintain localized dishes using local tastes as a means to attract people to an area. In this way, they can not only provide the best culinary experiences using combinations of local food and drink (like Sōsō sake and local fish), but also facilitate community business and solidarity. However, this is changing, and modern global foods like lunch boxes and convenience store food are becoming more common. These cultural losses have been accelerated after 3.11. Today, local Sōsō officials are looking to the Nomaoui to both attract tourists to revitalize the area and facilitate local business before chain markets start taking over, but also to call people back to their hometowns.

## 8. More Obstacles Facing Nomaoui

Urbanization started in the Tohoku area in the 1960s, and at first, young people who did not have farms moved out. Today, it is quite normal for young people to leave to receive a higher education and obtain white-collar jobs outside their hometowns. However, 3.11 pushed out more than students. Likewise, the recent COVID pandemic of 2020 and 2021 created another obstacle for the Nomaoui event—it could not be held regularly as people could not get together in person. Locals did hold a Nomaoui event in 2020, but they only visited the Nakamura Shrine for the *anzen kigan* ("praying for the safety of the region") ritual, without an audience. In the following year, 2021, the city allowed them to add a half-day horse parade, but even then, no audience could gather to see it. In 2022, the Nomaoui was allowed to return to normal, with full events and an audience. That year, about 400 riders attended, similar to the numbers of the pre-pandemic event of 2019 (Uda-gō Association personal communication). Right after the restrictions were lifted, people were excited to gather for the 2022 event, and attendance matched pre-pandemic numbers. However, in 2023, the number of horses and riders became a little smaller: only 361 participants took part (Fukushima TV<sup>5</sup>). When I was in Soma, locals told me that because many riders are getting older, some of them are having trouble participating. After 3.11, many young couples moved out from the Sōsō region with their children, since it was thought that small children are more easily affected by radioactivity than older people. These couples are establishing their new lives outside the Sōsō region, and they have not returned

to their hometowns, even after evacuation orders have been lifted. For over ten years now, these children have been growing up in places where people find it very difficult to practice horseback riding.

The longer these children are away, the more they lose their cultural connection to horses, making it harder for them to come back to join the Nomaoui event. As the local officials and community leaders in the Sōsō realized this, they made a concerted effort to market the Nomaoui as a tourist attraction, hoping that people will visit and watch the event and stay for other sight-seeing activities. However, these civic leaders are often not necessarily culturally attuned to the event's traditions or the cultural pride held by the participants. The following is a letter posted on the city of South Soma's home page on December 25, 2018, when the towns were still recovering, and while even some local rail service was absent:

I am from Haramachi township of South Soma city and have some suggestions for improving Nomaoui tourism. I have summarized my opinion as follows and my suggestions have already been sent to the governor of Fukushima Prefecture ... I suggest that we should apply for Intangible World Cultural Heritage status for the Nomaoui celebration, and market this event both overseas and all over Japan in order to change the negative image that was created after the Fukushima nuclear power plant accident, and to revitalize South Soma city. Even if it only we [local residents] who push for nomination for Intangible World Cultural Heritage status, it would draw from people not only in Japan but in the whole world. Regardless, it would be better than things are right now. Furthermore, by applying for Intangible World Cultural Heritage status—we shall have more tourists. (<http://www.city.minamisoma.lg.jp/portal/sections/11/1110/11103/7/1/1374.html>; accessed on 9 August 2023).

South Soma and Soma city officials have indeed been trying to use the Nomaoui event to reinvigorate the towns; they have been providing 100,000 yen (about US \$1000) to each Nomaoui rider each time they participated to cover some of their expenses in an effort to encourage more riders to join in the Nomaoui, even prior to 3.11.<sup>6</sup> The cities also use media to advertise the Nomaoui with catch phrases like “*A thousand years of tradition*” and “*It looks like a Sengoku Emaki* (traditional Japanese “picture scroll”) *of the Warring States Period*”.

In yet another setback, the 2023 Nomaoui event faced another natural hazard, i.e., global warming. Global warming has affected the landscape in the last several years, impacting bystanders with heat stress along parade routes and at the horse-race venues. In addition, as the horses and riders wear armor, heat exhaustion in July is an increasing threat. In 2019, the last year of the pre-pandemic Nomaoui, the three-day audience was 163,200 (Fukushima Minyū Newspaper, 8 Aug.; accessed on 9 August 2023). In 2023, the audience was estimated to be about 121,400 in total for the three days. This was a sizable decrease: almost 42,000 fewer visitors. Furthermore, some of those who bought tickets to watch the Shinki Sōdatsu-sen (the “Chasing the Battle Flags”) requested refunds in order to watch the events at the Skylark Battlefield due to the very hot weather on that day. Thus, the actual number of attendees was much smaller than 121,400. In fact, on Nomaoui event days, the temperature was up well over 95 degrees Fahrenheit; in total, 11 people were sent to the emergency room by ambulance, and 111 horses were treated by veterinarians for heat-related ailments. One horse even died by heatstroke, and another horse died by unknown causes (Fukushima Minyū Newspaper, 8 Aug; accessed on 9 August 2023; *Japan Times*, Aug. 8; accessed on 12 August 2023).

One of my interviewees who is a member of the Shineha-gō troop wrote a message to me saying that “Eight horses went to the event this year (2023) from my farm but only three made it to the Skylark Battlefield ...” He added, “I came back without a dying from the battles (with heat and the competition)!!” Some riders (like my friend) take this hot weather as part of the “risk of battle”; however, the organizers of the Nomaoui have “a responsibility for people's and animals' safety”.

The elders and organizers of Nomaoui held a meeting on August 10, ten days after the event, and announced that although the specific dates would be determined later, in 2024 the Nomaoui festival would be held from around the end of May to early June (Yahoo News Japan, 10 Aug.; accessed on 12 August 2023)<sup>7</sup>. This date change is the first since the Tokugawa samurai period (1603–1868). Since the Tokugawa period, the Nomaoui has been always held in July<sup>8</sup> (Haramachi-shi-shi Editorial Board 2004, p. 498). This is because this is after the rainy season in Japan (at the end of May to mid-July) and also a time when farming is on hiatus (and as mentioned, many Soma clan samurai engaged in farming). Thus, late July has always been the preferable time for locals to hold the event. Furthermore, ever since the new mandatory education system was established in 1881 by the new Ministry of Education—which proposed a summer break—Fukushima Prefecture starts its summer break around July 20th. The Nomaoui event has been held on the fourth weekend of July, from Saturday through Monday, so that even school children can attend without it affecting their schoolwork. This period, then, is not only convenient for Nomaoui participants, but also attracts visitors to come (Haramachi-shi-shi Editorial Board 2004, p. 498).

Since the local people have held Nomaoui in late July for several centuries, this change is not easy for some people to accept, regardless of the health benefits. It would be like moving American Christmas to March in order to avoid snowstorms or holding July 4th celebrations on October 4th in order to avoid heat waves. The people who are selected to blow conch shells start practicing every evening beginning in May for the Uda-gō. In the case of the city of Soma, local people hear the sounds of conch shell practicing in the evenings for the next three months. Then, the feeling of summer peaks when neighbors get together on the last Friday evening of July and eat sushi, drink sake, and laugh and talk. Then, for the following three days, locals hear the clap of the horses' hooves all over the Sōsō region. This sound has signaled the peak of summer for the last several centuries in the Sōsō region; simply put, the Nomaoui event is the harbinger of summer. One city hall worker in his thirties told me that although he left Soma for the larger Sendai metropolis to get a higher education, he missed the smell, the sounds, and the feelings of summer of the Nomaoui. Thus, the Nomaoui has been the symbol of summer for over 400 years now, since the ending of the long civil war by the Tokugawa shoguns.

## 9. Impacts of Natural and Human Disasters on Community Revitalization Efforts

The TEPCO electric company and the central Japanese government thought that the Hamadōri coast was the best natural, and social-geographic, area for a powerplant. Thus, the Fukushima Nuclear Plant was completed in 1982 (Nakase 2016, p. 170). Thirty years later, due to the changing climate, Hamadōri residents faced not only a tremendous natural disaster, but also a technological disaster caused by a nuclear plant meltdown. This state of punctuated entropy has been continuously affecting the local people; not only had many instantly lost family members, friends, homes, and belongings, but most survivors were tremendously negatively economically impacted due to the loss of farms, fish, and fields. Furthermore, even locals' diets have been changed. For the last several centuries, regardless of globalization, the Fukushima people have prepared their local food for their traditional dishes for both daily and special occasions, like the Nomaoui event, but some ingredients are no longer available due to contamination restrictions. Thus, they have started replacing these local dishes with food from the global food chain. Furthermore, being separated from a community, some people are even disconnected from their cultural practices and symbols, like exchanging gifts.

Previously, greater national political changes caused local political changes in the Sōsō area—as well some essential changes to local cultural beliefs and social structure. This has often caused demoralization, and it has greatly affected the Nomaoui event and its community. For instance, the new modern Meiji government (1868–1912) took away their wild horses, which the locals had worshiped. However, the residents have been resilient in their perseverance in the face of disasters. For example, the Nomaoui members overcame the loss of wild horses by using domesticated horses for the ceremony. Like-

wise, the participants shifted the meaning of Nomaoui from battle training, to the practice of samurai philosophy, to a celebration of a Shinto rite. Even after the Second World War, some acceptance of female participation was granted, albeit limited, taking into account new social changes.

However, 3.11 created not only acute natural hazards, but also social demoralization, disorientation, and disintegration. This was due to the loss of connection with community and family. Today, however, the long-term effects of these disasters are causing the loss of traditional cultural values that people have kept for centuries. Local officials again abandoned the traditional cultural values that the participants have passed on from generation to generation in favor of national economic expediency through such things as the careless and premature advocacy of tourism. In order to help with the town's recovery and to make the Nomaoui event an Intangible World Cultural Heritage candidate, the organizers and Japanese government officials are now looking at it as a form of cultural capital to be utilized in the quest to satisfy global public markets and consumption. Much of this hype is created by the media. There is less attention being paid to what is authentic Japanese beauty or the traditions of Sōsō residents.

## 10. Conclusions

The natural disasters, the technological disaster, and the string of human-imposed disasters (like the government mishandling the needs of the communities) have immediately and directly affected the lives and lifestyles of many local residents in Fukushima. Even in the ten years since 3.11, local residents have had their physical safety constantly threatened due to aftershocks, as well as lingering radiation risks. Furthermore, since the acute and fast disasters occurred during ongoing hazards caused by urbanization, globalization, and climate change, the rural Sōsō region had already been impacted by the stress of social, cultural, and economic structural changes. Regardless, the Nomaoui traditional cultural event helped many to deal with loss, PTSD, and disaster syndromes. We saw this in the case of Chōhachi Kan'no, a rider in the Uda-gō troop, who continued to participate in spite of losing almost everyone in his family. However, the area has remained under tremendous pressure. A continued decline in population will eventually decimate the region. The damage done to local food production continues. It is becoming impossible to sustain some cultural practices. As I mentioned previously, they cannot have local mushrooms for their lunch on the Nomaoui event-days anymore. Furthermore, in losing their neighbors, local people cannot hold the traditional dinner parties a night before the Nomaoui event anymore. Thus, they are losing their communality and unique local traditional cultural practices (like the bringing of two bottles of sake). Depopulation has been threatening the sustainability of the traditional Nomaoui cultural event itself. Throughout this study, I saw a permanent decline in the adaptive flexibility of the human cultural system of the Sōsō region caused by the cumulative impact of multilayered disasters and punctuated entropy.

Finally, we must reflect on how revitalization can negatively diminish the social and cultural significance of long-practiced and adaptive traditions. Even if revitalization seems economically feasible, it can ultimately act as a double-edged sword as it contributes to the decline of social structure and communal identity and the loss of sustaining local culture. This is not an isolated Japanese social or cultural problem; it might well apply to the cases of many other disaster areas, such as those of today's wildfires of Lahaina in Hawaii, as well as wildfires in California, Canada, and Europe; floods in the United States' East Coast and parts of Asia; drought in China and the American West; and any number of other catastrophic disasters caused by global warming.

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**Institutional Review Board Statement:** The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board of Illinois State University (protocol code IRB 2018-433, in 2018).

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study. No publicly available data set is provided.

**Data Availability Statement:** No new data were created or analyzed in this study. Data sharing is not applicable to this article.

**Conflicts of Interest:** The author declares no conflict of interest.

## Notes

- <sup>1</sup> See CNN New for the Chinese reaction to the wastewater issue: <https://www.cnn.com/videos/world/2023/09/05/china-reaction-fukushima-wastewater-watson-pkg-ovn-hnk-vpx.cnn> (accessed on 11 March 2024).
- <sup>2</sup> Until a stallion is gelded, he is often dangerous for amateurs to ride.
- <sup>3</sup> It is generally known as the *kōtake* mushroom in other areas of Japan.
- <sup>4</sup> About \$70 dollars for 300g dried *kōtake* in 2023 in Japan.
- <sup>5</sup> Fukushima TV 7 August 2023 at 19:07 p.m., <https://www.fukushima-tv.co.jp/localnews/2023/08/2023080700000013.html> (accessed 8 August 2023).
- <sup>6</sup> I observed this amount when I was in Soma in 2019.
- <sup>7</sup> The association officially announced in early 2024 that Nomaoui is going to be held on 25–26 May 2024.
- <sup>8</sup> Since 1 January 1873 the Japanese started to use the solar calendar. Before that, they used lunar calendars. In this article I use dates that appeared in historical documents written before 1873 as translated into solar calendar dates.

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