



**Japan's 2011 Tōhoku Disaster: Vulnerability, Trauma Persistence and Cultural
Frameworks Shaping Disaster Recovery Processes**

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Abstract:

In 2011, a series of catastrophic events, collectively referred to as the Tōhoku Disaster 東日本大震災, profoundly affected the northeastern coastal population of Japan and the nation as a whole, claiming over 18,500 lives. Triggered by a 9.0 magnitude earthquake, the ensuing tsunami and a subsequent nuclear reactor meltdown brought everyday life to a standstill and generated unprecedented social and psychological upheaval. Beyond the massive destruction of infrastructure and economic loss, survivors were confronted with the painful and protracted process of mourning, adaptation, and recovery. According to the Centre for Disaster Philanthropy, Washington D.C., persons with disabilities and elderly individuals are disproportionately vulnerable, facing mortality rates two to four times higher than the general population. Children, too, experienced distinctive forms of trauma shaped by both immediate exposure to devastation and long-term disruptions to socialization, education, and stability.

The analysis foregrounds two interrelated dimensions. First, it considers the persistence of trauma and grief, and the diverse coping strategies employed to render the incomprehensible more intelligible. Second, it investigates the community's collective resilience through networks, mutual aid and the cultural frameworks and other support mechanisms established in the wake of the catastrophe. In this context, the paper also engages with the adoption of paranormal beliefs and spiritual practices, as alternatives in coping. By situating the Tōhoku Disaster within broader discussions on vulnerability, resilience, and cultural responses to catastrophe, this study seeks to advance understanding how extreme events reshape human psychology, social life, and memory. Ultimately, it argues that the lived experiences of survivors illuminate not only the fragility of human existence in the face of natural and technological disasters but also the enduring capacity for communal recovery and re-imagining of life in the aftermath of profound rupture.

Key words: Tōhoku disaster; trauma studies; heightened vulnerability; cultural memory; coping strategies;



Introduction:

Natural disasters have persistently served as reminders of the transience of human existence, frequently resulting in destruction that surpasses human capacity of management. In Japan, the Great Kantō Earthquake (関東大地震) of 1923 registered a magnitude of 8.0, resulting in the loss of over 100,000 lives and displacing approximately 2.5 million individuals. (Iokibe, 2016) Similarly, the Great Hanshin-Awaji Earthquake (阪神淡路大震災) in 1995 caused substantial property damage and significant loss of life, severely disrupting daily life. In 2011, Japan, a nation both susceptible to earthquakes and well-prepared for such events, experienced a catastrophic one with a magnitude of 9.0. The centre of the earthquake was in Miyagi Prefecture, 宮城県. This seismic event precipitated a tsunami with waves reaching heights of 120 feet.

For any nation affected by such a catastrophe, the prioritization of destruction prevention through evacuation and immediate response is imperative. Consequently, Japan's northeastern coastal region prepared for the imminent disaster while issuing necessary warnings. This disaster resulted in the displacement of approximately half a million individuals and the meltdown of three nuclear reactors, resulting in the most severe nuclear incident since Chernobyl. (Richard, 2017) Despite the implementation of preventive measures by authorities, which involved relocating residents from disaster-prone areas to public emergency shelters such as gymnasiums, schools, and shrines, significant destruction ensued. An optimistic prediction of waves potentially reaching six meters in Miyagi prefecture and three meters in Iwate and Fukushima prefecture, led many individuals to erroneously assume that the calamity would not be as destructive as it ultimately proved to be, resulting in a false sense of security that remaining in their homes would be safe. Authorities utilized television and mobile phone networks to disseminate emergency alerts, warning coastal residents of an imminent tsunami. However, the interval between the issuance of these warnings and the occurrence of the disaster was short enough, leaving insufficient time for residents to implement necessary safety measures.

Young students at Okawa Primary School in Miyagi Prefecture experienced a severe catastrophe, despite the school's designation as an emergency shelter. Of the 108 students, 74 perished, along with 10 of the 11 teachers, leaving their families with profound and enduring

feelings of regret, guilt, and anger. Richard Lloyd Parry's book, *Ghosts of the Tsunami* (2017), explores various dimensions of personal loss, communal grief, flawed planning and policies, and the helplessness experienced by the displaced population. The abrupt and drastic alteration in life was unforeseen for many, as the bereaved families, particularly those who lost their young children, continued to grapple with unresolved questions regarding the circumstances and the accountability of those responsible for decision-making concerning the children.

An elderly care home situated one kilometer inland from the innermost part of Okirai Bay, in the northern part of the city, experienced a tragic loss of 59 out of its 69 residents. Another nearby specialized care center for the disabled and elderly, faced the deaths of 53 elderly individuals despite the ten staff members' effort to evacuate sixty-seven residents to higher ground using wheelchairs. However, the tsunami overtook them as the thirty minutes available for evacuation were undoubtedly insufficient for the caretakers. This loss underscored the critical importance of situating hospitals and facilities for the elderly and disabled away from the coastal area and towards higher ground. (Iokibe, 2016) The evacuation of the elderly population with mobility impairments required significantly more time, thereby increasing their vulnerability to the disaster.

The processes of evacuation and moving into temporary housing led to the separation of many families, particularly those from rural areas of Fukushima, where extended family structures were prevalent. Middle-aged women exhibited increased levels of anxiety and trauma, which might have originated from a lack of social interaction and fewer opportunities for physical activities and participation in community events. This forced shift to temporary housing and new environments caused considerable physical and psychological burdens.

Another perspective on natural and anthropogenic disasters can be examined through the lens of the 'hyperobjects' theory, as proposed by the British philosopher Timothy Morton. Hyperobjects are power force of such vast scale and pervasive presence that they challenge conventional understandings of time and space. Disasters, whether natural or human-induced, are manifestations of hyperobjects such as climate change, capitalism, and pandemics. Dr. Timothy Morton explains the concept of hyperobjects with the assertion that "hyperobjects are viscous: we can't shake them off; they are stickier than oil and as heavy as grief," as articulated in his work, *Hyperobjects: Philosophy and Ecology after the End of the World* (2013). The

manifestations of hyperobjects exert profound and often unimaginable impacts on humanity, resulting in significant damage and trauma on individual and social levels. To look at the influence of disaster-related trauma on human beings and their textual representations, this paper is divided into four parts—namely, Surviving a natural disaster, Psychological trauma reflected through natural elements, Beliefs and faiths surrounding life lost in sudden disasters and Community comes together.

Surviving a Natural Disaster:

In the context of climate change, the incidence of natural hazards is increasing globally. However, the loss of life in such events has decreased compared to previous centuries, largely due to technological advancements and research in this field. Nonetheless, experiencing and surviving any form of large-scale natural disaster is invariably distressing and can have varying impacts on the conscious and subconscious mind, depending on individual circumstances. (Robert, 1994) Physical trauma often results in permanent damage, leading to disability and significantly altering an individual's life. Additionally, individuals with disabilities or impairments encounter numerous insurmountable challenges due to restricted mobility, which can impede prompt evacuation to safety. Communication barriers often obstruct their access to critical warnings and instructions in accessible formats. On the other hand, psychological trauma easily snowballs into multiple unresolved negative emotions, such as guilt, regret, anger, and helplessness, manifesting through conditions like PTSD, depression, insomnia, anxiety, and suicidal tendencies.

Despite experiencing profound negative emotions, wherein natural disasters reduce life to its fundamental elements and compel survivors to confront their deepest fears and vulnerabilities, individuals sometimes seen developing strength and resilience to overcome the adversity. Such experiences often transform individuals from a state of fear and uncertainty to one of courage and stability. While character development is often regarded as a literary trope employing various devices to enhance dramatic effect, it is a genuine aspect of life following the survival of any disaster. Richard Lloyd Perry's book, *The Ghosts of Tsunami*, illustrates this through the account of a young mother whose child went missing during the disaster. She faced this reality with bravery, undertaking the rescue process herself with significant measures, despite strong opposition from her in-laws. Extreme delay in recovering the deceased bodies, urged the

woman (namely Naomi) to gain license for operating heavy excavation machinery¹ to join the search of her missing daughter. In this process, she became one of the very few women in Japan possessing such a qualification.

In the aftermath of the 2011 disaster, survivors experienced significant financial losses, having lost their homes and all possessions therein. More profoundly, they endured the loss of one or more loved ones, which engendered profound grief and a sense of helplessness. Despite these overwhelming losses occurring within a brief period, survivors were compelled to search for the remains of their deceased loved ones. The process of recovering bodies from debris and dense mud was highly time-consuming. The subsequent task of identifying their loved ones' bodies in temporary mortuaries and arranging funerals was exacerbated by the overburdened state of these facilities with the remains of numerous tsunami victims. Furthermore, organizing funerals presented additional challenges, as local facilities were overwhelmed, necessitating survivors to travel considerable distances to access available services in distant cities.

In times of crisis, families who themselves were survivors of the disaster, while simultaneously experiencing the loss of loved ones were compelled to confront additional challenges without the opportunity to properly mourn. Unresolved grief frequently leads to the accumulation of long-term trauma. The emotional intensity experienced by individuals, particularly those who faced the tragedy of losing young children in this catastrophe, was profound. These individuals reported enduring prolonged periods of distress, during which they frequently dreamt of their children pleading to be saved. Japan's handling of the disaster was exemplary, marked by advanced technological innovations, inclusive policy frameworks, and strong community solidarity. (Iokibe, 2016) Nonetheless, grieving parents often encountered societal insensitivity, as they were met with dismissive and hurtful responses from the relevant authorities, which denied their grief and loss.

Disasters affect people of all ages in many different ways, but children often face a distinct challenges during these events. Despite their vulnerability, children frequently find that their voices are ignored or dismissed when it comes to planning and carrying out preventive measures or evacuation procedures. Adults, who usually take charge in these situations, tend

¹ In Japan, the "license" for earthmoving machinery requires an individual to complete a training course and pass both of a comprehensive written and a practical test.

to overlook the constructive ideas and suggestions that children might offer. In many cases, overlooking the perspectives of younger individuals results in plans that are less effective or even harmful. The reasons given for disregarding children's contributions often revolve around the notion that they are too young or inexperienced to understand the complexities of disaster management. However, these criteria are vague and lack a solid foundation. Children, in fact, can provide valuable insights based on their experiences, intuition, and unique ways of seeing the world. By excluding their voices, communities miss out on potentially innovative and practical solutions that could improve safety measures and evacuation strategies for everyone involved.

Adult population of survivors altered their outlooks and daily behaviours, focusing less on the future and more on the present, which manifested through unnecessary risk-taking tendencies displayed by the survivors. (Daniel, 2019) Emergency shelters and services frequently fall short in providing the necessary accommodations for people with specific disabilities, leading to inadequate care and support for these individuals. The interruption of regular medical treatments and the lack of access to assistive devices presented considerable health risks to many in this group. Additionally, social isolation and dependence on caregivers can make disabled individuals more susceptible when disaster response systems do not cater to their unique needs. The particular incident of 2011 Tōhoku disaster, highlighted problems and brought up many questions regarding disability inclusive policies, prompting authorities to develop and create more effective policies².

Psychological Trauma Reflected through Natural Elements:

As the three primary texts focused on for this study, *Ghosts of the Tsunami* explores in depth the personal recollections and anecdotes of the survivors, *Black Waves* gives a comprehensive understanding of the disaster and its relief, as well as the governmental actions taken in this regard. *The Era of Great Disasters* on the other hand, goes deep into the history of natural disasters faced by the Japanese archipelago over the centuries. These texts are different from each other in the presentation of their narrative and three distinct elements can be identified as

² Changes were brought in for land use regulations, emergency management and reconstruction policy.

reflectors of the immense psychological trauma that emerges out of the narrative of the three texts.

Water-

The devastation brought by the tsunami was extremely unsettling, as areas once familiar and residential were reduced to complete debris, reminiscent of the destruction following the nuclear bomb attack of 1945. The sheer power of the rushing waves obliterated homes, infrastructure, and entire communities within moments. Hydrological hazards like flood and tsunami, transforms into a relentless force of destruction, crushing through everything in its path. It's a brutal reminder that even the most vital resource can turn deadly when unleashed without warning. Water creates a significant influence on tsunami survivors, often evoking distressing memories associated with the catastrophe. The visual or auditory presence of water can abruptly trigger unconsciousness with images of devastation and loss, recreating their trauma acutely in the present. Individuals who witnessed the immense waves of the 2011 tsunami advancing at high speed frequently described it as resembling an 'enormous black mountain' rapidly approaching their neighbourhood. (Richard, 2017) Such an image, once perceived, remains indelibly imprinted in the mind, similar to that of an apocalyptic scene for those affected. For many, water serves as a persistent reminder of their experiences and the loved ones they lost during the disaster. This elemental association complicates the healing process, continually coming back as burdensome flashback memories. The receding tsunami waters left behind stagnant black water, laden with debris, personal belongings, and deceased bodies, presenting a scene of horror in every respect. From characterizing tsunamis as "monster" to portraying them as deadly forces with phrases like "The tsunami is not water but a lethal weapon," and other negative, terrifying and destructive qualities to these natural disasters, highlight human limitations. Despite all the progress humankind have made in science and technology, such descriptions reflect a deep-seated sense of vulnerability and powerlessness that people still experience when faced with the raw, uncontrollable forces of nature. Disaster narratives, articulated through essays, accounts, or notes (震災記・震災記録), puts forth the individual or collective trauma along with the personification of the elemental world on a pragmatic level, to create an appropriate or 'safe' environment for discussing traumatic events.

Mud-

After the tsunami a particularly distressing form of mud—thick, black, and adhesive—which is not commonly encountered in such abundance and unexpected locations, looked repulsive to many. This type of mud clings persistently to surfaces, much like the psychological trauma that lingers in the minds of those affected, resisting resolution. By merely coming across such mud can exacerbate emotional wounds, evoking memories of the chaos and helplessness experienced during the disaster. Naomi, the mother of a young victim who perished in the tsunami, characterizes the post-disaster landscape as 'Hell' or 'Jigoku' (地獄), describing it as possessing a 'bottomless darkness.' (Richard, 2017) She recounts how the sticky mud from the site of the rescue operation, where efforts were made to locate her daughter, clung to her clothing and shoes, symbolizing the similarly tenacious and burdensome grief she carried back to her home. For many, the mud was more than just earth—it was a tangible reminder of the nightmare they had endured. In the immediate aftermath of the tsunami, the landscape resembled a scene straight from a disaster film, with vast expanses of dark, heavy mud mingled with murky water stretching as far as the eye could see. What had once been lively neighborhoods and streets were now swallowed beneath thick, lifeless sludge, leaving behind a chilling and surreal wasteland. Through the eyes of grieving families waiting desperately for news of their missing loved ones, the mud seemed almost sinister—an eerie, hellish shroud that was foreshadowing a sense of impending death and horror. The foul stench left behind after floodwaters recede was a harsh reminder of the devastation survivors have endured. (Richard, 2017) It was a thick, choking mix of rot, mold, and stagnant water that clung to the air and skin alike. It was not just a smell; it was a sensory echo of destruction and grief that lingers long after the waters have gone. That lingering decay becomes a constant, painful reminder of what was lost and what still haunts their lives. As rescuers pulled bodies out from the depths of the muddy waters and scattered belongings floated aimlessly, the grim reality of loss sunk in. Amid this devastation, only the pine trees were seen standing resilient and unyielding, a symbol of endurance against the chaos. A man named Ryosuke Abe who lost his entire family to tsunami expressed that the sight of limbs protruding unsettlingly from beneath those very trees cast a shadow far darker than any comfort or hope their dependable presence could have offered and that he could never forget that horrible scene even if he tried to.



Psychological trauma of witnessing such visuals only kept coming back to him through flashback memories in nightmares.

Beliefs and Faths Surrounding Life Lost in Sudden Disasters:

Across various cultures, sudden disasters and the abrupt loss of life are frequently associated with religious and culturally specific beliefs. Such incidents challenge human comprehension; however, faith offers solace by providing a framework to make sense of unforeseen loss. In Japan, sudden disasters such as earthquakes and tsunamis are intricately linked with Shinto and Buddhist beliefs, which emphasize reverence for ancestral spirits and the transient nature of existence. Cultural concepts such as the impermanence of life (無常), pathos and sorrow (ものあわれ), along with religious notions of the afterlife/rebirth (流転輪廻) and karma (因果), facilitate discussions on coping with and accepting such calamitous events. These beliefs also contribute to understanding how communities mourn and honour those who perish in tragedies, offering hope amidst chaos. The concept of “mono no aware” (ものあわれ), a sensitivity to the impermanence of things, aids individuals in accepting loss with pathos. Rituals such as memorial services and offerings at shrines serve to honour the deceased and maintain a spiritual connection. The collective memory of disasters is preserved through cultural practices that blend mourning with resilience, reflecting a profound respect for life and nature’s power.

Japan, as a nation characterized by meaningfully gentle spiritual practices and expressions, regards traditional rituals as both a duty and an aspect of rational ethics. These practices encompass visits to shrines and temples on special occasions, prayers at household altars or 'butsudan' (仏壇) for ancestral worship (祖先崇拜), and observances on days marking significant personal achievements. The interconnection between nature and humanity is prominently depicted and practiced in both Shintoism and Buddhism, which conceptualize humans as existing within the embrace of nature, perceived as divine or sacred. While nature is often equated with prosperity, well-being, and abundance, the occurrence of calamities and disasters highlights the duality or ambiguous nature of humans as well as malevolent deities, some cultures believe in. Specific deities or spirits, referred to as Yōkai (妖怪), are sometimes culturally and spiritually believed to be linked with natural calamities. Yōkai such as Onamazu³

³ Onamazu or Namazu (鯰) is believed to be a Yōkai with the figure of a giant catfish and movements caused by this spirit, creates earthquake as it holds the power to move

(お鮫) and Umibōzu⁴ (海坊主) are associated with earthquakes, severe storms, and formidable waves.

A common belief in Japanese culture is that individuals who perish violently or prematurely in sudden, tragic circumstances may have their souls become ensnared in Gakidou (餓鬼道), or the 'realm of hungry ghosts.' This state is characterized by unrest, where spirits, burdened by anger, resentment, and unfulfilled desires, remain in the mortal realm rather than transitioning onward. Wandering souls are believed to cause disturbances, occasionally possessing the living and disrupting their tranquility. Particularly, in the aftermath of the Great Tōhoku disaster, where a substantial number of lives were abruptly lost, the manifestation of those cultural beliefs were prominent. The suddenness and magnitude of the tragedy left an indelible impact on the survivors, many of whom openly discussed the profound pain of bereavement and eerie encounters with supernatural phenomena. Accounts of sightings—spirits of neighbors, friends, loved ones, and even strangers appearing along with cases of possessions that blurred the boundary between the living and the deceased. These narratives captured the interest of scholars at Tōhoku University, who commenced systematic documentation of these experiences to better comprehend its cultural and psychological significance. (Takahashi, 2016) While academic debates persist regarding the factual accuracy of these supernatural claims, the profound imprint of trauma on the collective consciousness of local communities remains undeniable. For many, those visions and stories served as a mechanism for coping with overwhelming grief, anchoring their sorrow in something tangible. Psychological theories like complex bereavement⁵, the meaning-maintenance model⁶, and the dissociative experience model⁷ explore how survivors process intense emotions after loss. Feelings of guilt and trauma

landmasses.

⁴ Umibōzu is a mythical sea-spirit creature with the figure sometimes described as human monk or as a giant black turtle, that can create gigantic waves and sudden weather changes.

⁵ Complex bereavement or complex grief is the psychological model, that explains a specific grief condition that is intense and long lasting, which becomes complicated because of internal feeling of guilt, depression and trauma.

⁶ Meaning -maintenance model (MMM) proposes the human tendency of the unavoidable urge of looking for meanings or attaching meanings to incidents while trying to fill the emotional void.

⁷ Dissociative Experience Model explains the post-traumatic condition where individuals experience dissociation between reality and imagination or present and past while going through episodes of amnesia and depersonalization.

can deeply affect survivors, influencing their mental state. Such emotional struggles increase the vulnerability of survivors and makes them experience phenomena that are considered supernatural. Those who experienced such phenomena, the presence of the spirits felt undeniably real, weaving a spiritual and cultural memory that resonates across generations. Within Buddhist teachings, it is articulated that liberation from earthly attachments and desires is a profound challenge, exacerbated for spirits who have departed the physical realm prematurely, engulfed in the turmoil of unfinished business and unresolved emotions. This understanding adds a layer of compassion and pathos to the narratives of those who remain tethered between worlds, their restless souls serving as a reminder of the human struggle to find peace beyond tragedy.

Community Coming Together:

After a natural disaster, communities often pull together through sharing resources, relevant information, and support. Cultural traditions provide a backbone for this healing, offering social rituals that honour those lost and mark the devastation. At the same time, cultural frameworks encourage renewal, inspiring people to rebuild not just physical structures but the social bonds that make a community whole. Festivals, ceremonies, and storytelling become tools for resilience, reminding everyone that life goes on despite hardships. In Japan, people come together quickly after natural disasters, offering practical help like sharing food, clearing debris, and providing shelter. All Japanese residents experience dozens of earthquakes in their lifetime and as a homogenous country with characteristics of a deep-rooted sense of community and responsibility drives neighbours to look out for one another without hesitation. Traditional values like mutual aid and respect for collective well-being shape how communities organize relief efforts and support vulnerable members.

Following the initial violent shake of the 3/11 earthquake, power outages and network disruptions significantly restricted the dissemination of information. Elderly individuals, who found themselves in such circumstances or were confined to their homes due to debris, received assistance from their neighbours. A retired gentleman (Namely Mr. Tanaka) residing in a coastal village of Miyagi Prefecture, was rescued by his landlord from his vehicle, where he was trapped amidst floodwaters. His family, on other hand, was rescued from their residence by an attentive neighbour who returned to the area after failing to locate them in the designated

flood shelter (Daniel, 2019). In numerous regions, individuals responsible for neighbourhood associations conducted patrols before and after the tsunami to ensure no one was left behind. Prior to the arrival of Japan's Self-Defense Force (SDF) for assistance, neighbours and community associations played a crucial role in rescuing and supporting those in distress. Post-evacuation, many individuals were assigned to temporary and cramped housing, which led to the fragmentation of extended families into smaller units. Elderly individuals, who previously resided with their grandchildren, experienced separation, resulting in a psychological impact characterized by a sense of isolation. Simultaneously, those who continued to receive care or, at the very least, companionship from new neighbours found some emotional support amidst the crisis. The nuclear disaster too, made the evacuation and relocation processes complicated for the residents of Fukushima. After the disaster, individuals were engulfed by uncertainty. Concerns encompassed the fear of potential future health issues due to radiation exposure and the loss of income source, which exacerbated anxiety among the population. Volunteer organizations and non-governmental organizations (NGOs) intervened to support the survivors by organizing engaging activities, thereby providing essential social interactions for those who had been displaced. In the initial two months following the triple disasters, approximately 300,000 volunteers arrived in the region to offer help through disaster volunteer centers. By the fourth month, the number of registered volunteers had grown to nearly 500,000. (Daniel, 2019) These efforts clearly highlight the importance and benefits of communities staying united to create a safe and healthy environment for survivors and to improve the overall well-being of society.

Conclusion:

The Tōhoku disaster offers a compelling framework for examining themes of jeopardy, strength, cultural responses to catastrophe, and how trauma affects human consciousness and subconsciousness. In Japan, the communal nature of disaster response is seen to be assertively prompt, with individuals rapidly uniting through rational acts. It is quite evident that such preparedness is rooted in the frequent experience of earthquakes by all Japanese residents throughout their lives. The largely homogenous population of Japan cultivates a strong sense of community and shared responsibility, where neighbours instinctively support one another without hesitation. This collective ethos is fundamental in confronting the formidable forces of nature. Beyond immediate assistance, the cultural memory of disasters is preserved through

rituals that integrate mourning with resilience. These practices reflect a profound respect for life and the power of nature, honouring those who faced challenges. Such acts of remembrance extend beyond mere commemoration of the past; they establish a communal space for shared grief, healing, and understanding. Through these cultural expressions, the people of Japan continually renew their connection to one another and to the environment, demonstrating not only survival but also a deep ecological awareness. This equilibrium between acknowledging vulnerability and fostering resilience informs how communities rebuild and prepare for future challenges.

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