

Materializing Memories of Disasters : Individual Experiences in Conflict Concerning Disaster Remains in the Affected Regions of the Great East Japan Earthquake and Tsunami

メタデータ	言語: eng 出版者: 公開日: 2017-04-13 キーワード (Ja): キーワード (En): 作成者: 林, 勲男 メールアドレス: 所属:
URL	https://doi.org/10.15021/00008472

Research Notes

**Materializing Memories of Disasters:
Individual Experiences in Conflict Concerning Disaster
Remains in the Affected Regions of the
Great East Japan Earthquake and Tsunami**

Isao Hayashi*

災害記憶の物象化

—東日本大震災被災地における災害遺構をめぐる
個人体験の対立・葛藤—

林 勲 男

In the aftermath of the Great East Japan Earthquake and consequent tsunamis, disaster remains and wreckage have attracted the attention of the general public, scholars, and mass media, with expectations that they preserve the situation of damage and that visitors can see with their own eyes the damage caused by energy radiated from nature, while simultaneously recalling the disaster victims and their bereaved. Conversely, there have been strong demands to demolish and remove such remains as debris, particularly from the bereaved of those killed in the disaster. The disaster remains evoke various memories, including of the disaster itself and of the days before it struck.

In this paper, I attempt to clarify the conflicts among the people and conflicts within individuals as processes of discussion of preserving disaster remains and of forming collective memories.

*National Museum of Ethnology 国立民族学博物館文化資源研究センター

Key Words : collective memory, experience, Great East Japan Earthquake, conflict, disaster remains

キーワード : 集合記憶, 体験, 東日本大震災, 対立・葛藤, 災害遺構

東日本大震災発生後の被災地では、災害遺構が研究者、マスメディアそして一般の注目を集めた。それらは自然のすさまじい破壊力を訪れる人びとに伝え、同時に犠牲者やその遺族への悲しみの念を抱かせるという期待があった。その一方では、一刻も早くそうした災害遺構を解体・撤去して欲しいとの要望も、とりわけ災害で亡くなった人たちの遺族を中心に表面化してきた。遺構は様々な記憶を喚起する。災害そのものの記憶であったり、災害発生前の生活であったりする。

この論文では、災害遺構をめぐる人びとの対立と一個人の中でも発生した葛藤について、集合記憶を形成していくプロセスとして明らかとしたい。

1 Introduction	3.1 Past Tsunami Disasters and their Records
2 Transferring Disaster Experience: Memory, Records and Lessons	3.2 Tsunami Stone Tablets
2.1 Social Scientific Approach to Memory	3.3 Disaster Remains
2.2 Lessons Learnt from Past Disasters	3.4 The Controversial Cases of Remains
2.3 Transferring Experiences	4 Disaster Monuments for Prayer, Education, Healing and Tourism
3 The Great East Japan Earthquake	5 Conclusion: for Future Disaster Reduction

1 Introduction

After the Great East Japan Earthquake on 11 March 2011, it became widely known that an earthquake of the same scale had occurred more than 1,100 years ago, during the Jogan Era. That information was noted in public records entitled the *Nihon Sandai Jitsuroku* (focusing on the latter half of the 9th century) by the government at the time. This fact offered two shocking revelations: first, that a massive earthquake of an estimated magnitude of 8.4 (possibly as high as 9), with an epicentre off the coast of the Tohoku area, occurred in the past and spawned giant tsunamis: second, that despite the public record of this event, the people, with the exception of a small number of historians, were unaware of its occurrence over the course of 1,100 years and failed to apply what was known to disaster preparedness.

In this paper, I try to clarify the issues which have appeared in terms of recording and transferring experiences, memories, and lessons after the elapse of five years since the Great East Japan Earthquake, focusing particularly on the narratives that have appeared in conversations with residents, newspapers, and other publications concerning disaster remains. These remains—particularly large structures, such as school and office buildings and ships—have been gathering the attention of

the general public and experts in disaster prevention. The remains are regarded as tools to remind of the past tragedy and to enhance public awareness of disaster risk and its reduction. They are also expected to potentially attract visitors from outside the region in the field of tourism.

While recognising their significance for the future, however, some residents are tired of seeing reminders of the disaster, and others insist that precious budgets should be spent on much-delayed reconstruction, rather than the preservation of destruction. In some places in the devastated region along the Pacific coast of Tohoku, some local municipalities took a long time to reach decisions about whether the remains should be officially, with public funds, preserved as reminders or demolished and processed as debris. The issue generated conflict among the citizens in some municipalities. I focus on the conflicts among people or within individual as processes of discussion on preserving disaster remains and of forming collective memories. Experts from various sectors advised preserving the remains for three principal purposes: future disaster education, by serving as reminders; future building structural analysis, to enhance robustness against earthquakes and tsunamis; and serving as tourism resources.

I begin by reviewing social scientific approach to memory, before examining the evaluation of transferring disaster experiences and lessons learnt from the past disasters in the field of disaster prevention/reduction research. The attempts to transfer experiences and lessons in the devastated regions of the Great East Japan Earthquake, both before and after the disaster, will be described with focus on materialisation of disaster memories. Description and analysis of some examples of disaster remains conflicts will be followed by conclusions, with some suggestions for further research.

The presence of the ruins of the disaster evokes both positive and negative emotions, as reminders of the tragedy and sorrow. At the same time, they might bring people to experience a warm nostalgia, such as that evoked by recalling one's school days. Moreover, the imagination or memory aroused by the remains could change with the lapse of time.

2 Transferring Disaster Experience: Memory, Records and Lessons

2.1 Social Scientific Approach to Memory

One of the significant contributions to the study of memory by social sciences is the viewpoint that the past is reconstructed in a present context. It is continuously recreated and reformulated into a different past from the standpoint of the emergent present. Memory is reconstructed in relation to the present (Halbwachs 1980; Olick 2007). Being influenced in part by Maurice Halbwachs (1980) and Pierre Nora (2001–2010), many social scientists have increasingly turned their attention to collective memory¹⁾, which they have approached from the perspectives of sociology,

history, literary criticism, anthropology, psychology, art history, and political science, among other disciplines. They have studied it in simple and complex societies across the geographical spectrum. For example, Evans-Pritchard (1940) developed a notion of 'structural amnesia' in his study of the Nuer, while Jennifer Jordan (2006) later conducted research into urban changes in Berlin. Recently, research has been carried out on the assumption that collective memories are not invariable, like data stored in a computer hard disc, but rather social practices that are continuously changeable over time (Olick 2007).

From this perspective, discussions on preservation of disaster remains totally depend on contemporary social processes at the time of recalling the past. Of course, the notion of the collective needs to be called into question²⁾. A collective memory shared by residents of a given place (local community, city, or country) inevitably varies significantly, in ways that problematise any direct correspondence between place of residence and shared connections to the past of a given place. Similarly, little attention has been given to the process of negotiation to form collective memories on a historical event. Olick and Levy (1997: 922) assert that 'collective memory...should be seen as an active process of sense-making through time'. In this paper, I deal with the so-called conflicts, both among community members and inside of individuals, to understand more precisely how remembered individual experiences influence the negotiation process of collective memory, focusing on disaster remains.

As we consider later, what actually happened in the past is not a sufficient condition for a plot of land or a building to be devoted to memorial use. Jordan (2006: 10–13) indicates four forces: advocates or memorial entrepreneurs, a broader public among whom the advocates resonate, land use, and land ownership. These factors play central roles in relation to the materiality of the building or landscape concerned. Memories need to be externalised and materialised to acquire temporal sustainability and communicability. The significance of a building or landscape appears through the interaction of the people who recall and commemorate the past. Social scientific research on memory focuses on interrelationships and interactions between people, objects, and places, and then describes the process of development and changing. Few studies adopting such a viewpoint have ever been carried out on disaster remains.

The means to pass on disaster experiences to the people of other areas and to unexperienced future generations vary according to the age and region. After the Great East Japan Earthquake, not only the mass-media but also researchers and even ordinary people recollected the tsunamis which hit the Sanriku area in the Meiji and Showa periods. Similarly, we have learnt from the newspapers of those periods that people referred to the tsunamis in the past in the same way as we do now. Besides, after the Great East Japan Earthquake, the Jogan Sanriku Earthquake of similar magnitude became widely known. In addition, there are many historical materials,

such as ancient documents, paintings/drawings, and historical records, which have handed down details of past disasters up to the present day³⁾. Despite these records, devastation was caused by the tsunamis again. This means that lessons from the past disasters have not been learnt by the following generations and transferred up to the present time.

2.2 Lessons Learnt from Past Disasters

In 2004, a magnitude 9.1 earthquake occurred with its epicentre in the Indian Ocean, off the northwestern coast of Sumatra Island, causing tsunamis to hit almost the whole coastal area of the Indian Ocean. Between 230,000 and 280,000 people were killed in the tragic catastrophe. On a small island called Simeulue, located off the west coast of Sumatra, almost 80 percent of the approximate 80,500 population lived in coastal areas at that time. Nevertheless, only seven of the islanders were killed by the tsunami since most of the inhabitants moved immediately following the earthquake to the uplands for safety. On Simeulue Island, there are lyric poems called '*Nandong*' which people sing to the rhythm of drums while farming and fishing and at all kinds of events. One of the *Nandong* poems is called '*Smong*' (literally 'a huge flood') in which are written the lessons from a tsunami in 1907. The poem tells the local residents to seek refuge in the uplands when hit by a huge earthquake. Since it is easy to remember, written in only four lines and with rhyming words⁴⁾, most of the islanders knew the poem and, consequently, proceeded quickly to the uplands for safety immediately after the earthquake occurred (Gaillard et al. 2008).

In March 2015, at the Third World Conference on Disaster Risk Reduction held in Sendai City, Miyagi Prefecture, Japan declared its determination to enhance efforts to strengthen disaster risk reduction to reduce losses of lives and assets from disasters worldwide, for which purpose it adopted the Sendai Framework for Disaster Risk Reduction 2015–2030 (UNISDR 2015). It is mentioned therein that;

the steady growth of disaster risk, including the increase of people and assets exposure, combined with *the lessons learned from past disasters*, indicates the need to further strengthen disaster preparedness for response, take action in anticipation of events, integrate disaster risk reduction in response preparedness and ensure that capacities are in place for effective response and recovery at all levels (UNISDR 2015: 21, emphasis added).

The importance of lessons learned from past disasters is repeatedly mentioned in several other parts of the Framework. However, it does not mention the methods to draw lessons from experiences of past disasters, though admittedly the lessons applicable differ from one circumstance to another. Lessons are extracted from disaster experiences, which totally depend on memory.

The relationship between indigenous knowledge and natural disasters has attracted more interest in recent years. Recent discussions around indigenous knowledge highlight its potential to improve disaster risk reduction policies through

integration into disaster education and early warning systems, particularly in developing countries. Eighteen examples of such indigenous knowledge related to disaster risk reduction in the Asia-Pacific Region have been compiled by the United Nations International Strategy for Disaster Reduction (UNISDR 2008). These 18 indigenous practices have been developed over time in the communities of the Asia-Pacific Region. Types of disaster include earthquake, cyclone (typhoon), drought, landslides, river bank erosion, tsunami, and *zud*⁵⁾. According to this publication's preface written by Shaw, the cases were chosen based on the following criteria: origin of the knowledge, its relative level of adaptation over time, its relationship to local skills and materials, its success in surviving or coping with disasters over time, and its applicability to other societies facing similar situations (UNISDR 2008: v).

2.3 Transferring Experiences

In recent years, many Japanese have been actively writing notes of their experiences of the disaster, and many books and booklets have been compiled from collections of such writings and interviews. After the Great Hanshin-Awaji Earthquake, which occurred in 1995, very many notes and books of experiences have been compiled and published. Even in the small villages in hilly and mountainous areas afflicted by the Niigata Chuetsu Earthquake in 2004, booklets of earthquake disaster accounts were compiled with outside funds. Concerning the Great Hanshin-Awaji Earthquake, we can use the aforementioned publications to learn what actually happened at the scenes and what lessons have been learnt for disaster prevention in the future.

Ethnography is employed as one of the means for people with no experience of disasters to be aware of the reality of events in disaster areas. Interviews have been conducted with private citizens; disaster response professionals, such as firefighters and municipal officers; persons in charge of companies in afflicted areas, and central government officers. The interviewees discuss their experiences freely in chronological order which is far from the approach of structured interviews using questionnaires. Books on the internal struggles of firefighters who were engaged in their duties at the scenes of disasters have been compiled and used as textbooks or supplementary textbooks in training courses for new fire service recruits, ensuring they are aware of the real situations of a disaster (Kobe City Fire Department 2012). A study group at Kobe University ascertained the background of the victims who died in the 1995 earthquake through interviews with the bereaved families and related parties, with the purpose of reducing avoidable deaths in the future (Hyogo Earthquake Memorial 21st Century Research Institute 2008).

The ethnography of anthropology contributes to cross-cultural understanding by describing people's livelihood in a specific society. Conversely, the ethnography of a disaster delivers to people with no experience of disaster the victims' and disaster response professionals' observations of the conditions, judgements and actions

based on their observations, and later reflections. Moreover, it constructs the events that occurred under conditions of a non-predictable disaster scene as a universal science. Even if there is no one who could talk directly in a classroom or through a lecture, for example, about his/her own experience of a disaster, it is somewhat easier to understand the scene of a disaster by observing the process of decision-making accompanied by the dilemmas of people who encountered the disaster. Thereby, skills will be developed for conceiving the likely conditions if a disaster occurs, simultaneously for improving societies' response capabilities against disasters (Hayashi et al. 2009). The ethnography of disasters has been written to describe the circumstances preceding and how they changed at the time of past disasters.

'Storytellers' also work in disaster-stricken places, such as Kobe City and Ojiya City in the afflicted area of the Niigata Chuetsu Earthquake. They not only keep written records but also discuss their experiences face-to-face. In Ojiya City, a non-profit organisation (NPO) called 'Bosai Support Ojiya' dispatches storytellers to other areas, not only to pass on their direct experiences but also to share the activities of persons in charge of neighbourhood association, civic fire-fighters (*shobo-dan*), medical and other social services in the disaster's immediate aftermath and later steps to prepare for future disasters, and the lessons to be learnt from them⁶). In the afflicted area of the Great East Japan Earthquake, the activities of storytellers have also started in some places, such as Miyako, Kesenuma, Minami-sanriku, Ishinomaki, Natori and others⁷).

3 The Great East Japan Earthquake

On March 11, 2011, a mega-earthquake of magnitude 9.0 struck East Japan, followed by huge tsunamis. The earthquake and tsunamis damaged vast areas, particularly along the Pacific coast of the Tohoku region, and killed approximately 20,000 people, including the missing. The Japanese government estimated the cost of the damage at about 17 trillion Japanese yen. However, the damage is immeasurable if the breakdown of the Fukushima-Daiichi nuclear power plants is taken into consideration. This is a huge and complex disaster, caused by the triple factors of the earthquake, tsunamis, and nuclear power meltdown, which humans had never experienced before. Many books and articles have been published on the whole range of related social aspects, including politics, national and local economics, social welfare, policy making, cultural heritage, education, etc.

In this paper, I will focus geographically on the tsunami afflicted coastal regions in both Iwate and Miyagi Prefectures and thematically on the activities of transferring disaster experiences and memories. In terms of such transferring in connection with material objects in the aftermath of the Great East Japan Earthquake and tsunami disaster, there have only been a few prior attempts to discuss the relationship between damaged personal belongings, generally termed debris,

and memories of life before the disaster (Nakamura 2012; Hagami 2013; Yamauchi 2014). Instead, I will consider public space and buildings damaged by the disaster.

3.1 Past Tsunami Disasters and their Records

The Pacific coastal zones of the Tohoku area have, in fact, been hit by devastating tsunamis several times since the Jogan Earthquake and Tsunami of 869⁸⁾. Those who have experienced the tsunamis have endeavoured to convey the facts of these disasters, their personal experiences, and what they learned from those experiences that can benefit future generations. The means that people have used to convey their disaster experiences to other regions and generations who have never endured such tragedies vary widely between time periods and regions. There are folklore and legends about disasters, in addition to historical records, such as old documents, paintings, drawings, journals, and monuments. In recent years, photographs and videos have been added as recording media.

Regarding the Great East Japan Earthquake of 2011, various facets from the initial occurrence to the present situation have been captured and recorded in innumerable photographs, videos, and texts, and efforts have begun to catalogue and archive those records⁹⁾. Attempts are being made to record the overwhelming energy released as a natural phenomenon and the landscapes and townscapes that it destroyed, the lives of the people, the various aid activities, and the process of rebuilding homes and lives, as well as what the future holds for these people¹⁰⁾.

At the many kinds of events held concerning the March 11 disaster, many phrases are heard, such as ‘to transmit the memories’, ‘the memories shall not be forgotten’, and ‘lessons learnt from disaster experience should be handed down to the future’. Moreover, many books of the disaster experiences and photo books documenting the devastating situations, sorrow of the victims and their endeavours to return to normal, have been published, one after another. Their aim is to record the devastating situation and experiences in such circumstances and to pass them on to future generations to ensure steps are taken to avoid the same scale of damage being suffered again. They also intend to capture the solidarity of the local communities in disaster-affected circumstances and the assistance extended from people outside the affected areas. However, if we simply keep the situation and events in the aftermath of the disaster in our minds or in written records, they would become dead storage. It is our future-critical issue to find the best way to utilise these records and memories. The records are valuable not only for the Tohoku coastal areas repeatedly devastated by tsunamis but also for the rest of world. Particularly in Japan, large scale earthquakes are predicted to occur in the near future, such as the feared Nankai Trough Earthquake and an earthquake that could directly hit the Tokyo metropolitan area¹¹⁾.

Given that all disasters differ in scale and complexity, what should we learn from our direct and indirect experiences of disasters, how should we convey these

lessons, and to whom? At the same time, how should we convey the messages of our predecessors to the present and future generations? Telling others about experiences of a disaster is not always a practical advice to do, but there is undeniable value in talking about a particular episode in one's personal life, as it forces the individual to repeatedly confirm the meaning of his/her own life and the importance of those around him/her. Whatever the case, we need to strengthen our response capabilities to future disasters by passing down what we have learnt from past disasters and people's experiences of them in ways that lead to disaster prevention and reduction.

3.2 Tsunami Stone Tablets

One of the issues that has received attention in the afflicted area are the 'Tsunami Stone Tablets' (Photos 1 and 2), which record past tsunami disasters¹²⁾. According to previous research, the tsunami stone tablets of the Meiji-Sanriku Tsunami (1896) have a strong meaning in terms of memorial service. Many of the monuments were built at the junctures of sixth, twelfth, and thirty-second anniversaries, when a Buddhist anniversary service is supposed to be held. In contrast, those of the Showa Sanriku Tsunami (1933) were mostly built within the three years immediately after the disaster occurred. The Asahi Shimbun Newspaper Company asked for donations and distributed some of the donations among the three prefectures of Aomori, Iwate, and Miyagi to erect tsunami stone tablets. The company required phrases to be inscribed on the stone tablets to direct the residents towards a quick escape in case the area was struck by a tsunami in the future. This is because seismologists had recognised the educational effects of tsunami stone tablets for



Photo 1 Tsunami Stone Tablet at Oirase Town, Aomori Prefecture. 'Earthquake, Sea Roaring, then Tsunami' built in November 11, 1933 (December 2011, Hayashi).

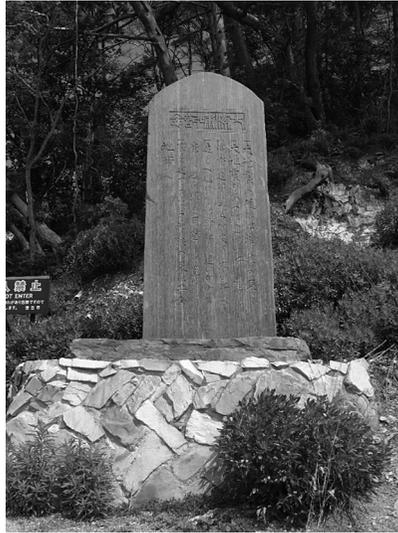


Photo 2 Tsunami Stone Tablet at Jodogahama, Miyako City, Iwate Prefecture, built in March 3, 1934 (June 2014, Hayashi).

disaster prevention/reduction; it is also inferred that the Showa Sanriku Tsunami occurred exactly ten years after the Great Kanto Earthquake which devastated the capital city of Tokyo in 1923, thus arousing public concern regarding disaster prevention (Good 2016; Kawashima 2012; Kitahara 2001; 2011; Kitahara et al. 2012; Metoki 2013).

Kawashima, a folklorist who has studied Tohoku Pacific coastal area for a long time, divided the monuments into two group types: ‘reposing the souls’, most of which were built after the Meiji Sanriku Tsunami as the focal point for memorial services for the victims, and ‘prayers for safety’, most of which were built after the Showa Sanriku Tsunami for the purpose of warning people to ensure safety should another tsunami strike in the future (Kawashima 2012). The stone tablets for reposing the souls are for the people killed by past tsunamis, while the stone tablets of prayer for safety convey a message for the future residents. It is also very interesting that memorial services are considered recursive to be repeated as annual events and anniversaries of death in the flow of time, from the past to today and into the future¹³⁾. Tsunamis are natural threats that occur not only once but many times repeatedly, both in the past and in the future. Though memorial services are held for past tsunami victims, considering the consciousness of those people attending who coexist with natural disaster risk, it is inevitable that they direct their consciousness to the ongoing risk of tsunamis which always underlies their lives, from the past to the future. What is important here is that, even though the monuments were built to

honour the dead, memories of tsunami disasters are passed on to future generations not by the monuments themselves but only when memorial services are repeatedly held at these sites.

3.3 Disaster Remains

In municipalities severely damaged by the 3. 11 tsunamis, there are quandaries over whether to preserve or demolish and process as debris some of the remaining wreckage. Even individual minds are caught in a dilemma: that between the need to convey the grievousness of disasters and lessons to the future, and the wish to avoid recalling sad and difficult experiences that they would rather to forget.

In those tsunami-devastated areas, the boats and ships washed ashore and destroyed buildings became, for some people, objects to demolish and remove as debris, while others assert they should be preserved as reminders of the catastrophe. There are many precedent examples of disaster remains/wreckages which are preserved after long discussions among the residents, sometimes including outsiders such as scholars and town planners.

Let us examine some of the examples here. Sixty metres of quay damaged in the 1995 Hanshin-Awaji Earthquake is preserved in the Port of Kobe Earthquake Memorial Park, Hyogo Prefecture. The scene of a landslide caused by the Niigata Chuetsu Earthquake is preserved in the Myoken Earthquake Memorial Park in Ojiya, Niigata Prefecture. From a car caught in this landslide, a two-year-old boy was miraculously rescued ninety two hours after becoming trapped, the only survivor as his mother and elder sister were killed. The site where this occurred has become a memorial spot; on October 23 every year, the day of the earthquake, many flowers are offered to the departed on an altar¹⁴). The old school building of Ohnokoba Primary School, which was scorched by the pyroclastic flow of the eruption of Unzen-Fugendake, and the Memorial Park of Houses Destroyed by Debris Flow, in which buried houses are preserved, are examples found in Minami-Shimabara, Nagasaki Prefecture. Regarding examples abroad, Banda Aceh in Indonesia suffered enormous damage in the 2004 Indian Ocean Tsunami disaster. A fishing boat remains on the roof of a house, and a 2,500-ton ship for generating electricity, washed ashore by the strength of the surge, remains 2.4 kilometres inland. They are now preserved as reminders of the disaster. Ninety-percent of the houses of Gibellina City, in the western area of Sicily (Italy), collapsed in the earthquake in January 1968, and more than four hundred citizens were killed. The survivors collectively relocated eleven kilometres west and built a new city named 'Gibellina Nuova'; they asked an artist to create a huge land art installation called '*Cretto*' ('crack') which covers the old town with white concrete.

In the afflicted area of the Great East Japan Earthquake, there have been several debates over whether to preserve the devastated building structures, ships, and other remains (Table 1, Map 1).

Table 1 Disaster Remains

【Tanohata Village】

No. 1

<p>Name: Coastal Levee in Aketo Area</p>	<p>Photo</p>
<p>Location: Aketo Area, Tanohata Village, Iwate Prefecture</p>	
<p>Decision: Preservation</p>	
<p>Reasons for Preservation, and Reasons for Demolishment:</p> <p>The national recovery grant system approved ¥172 million to fund the cost of construction to preserve the former coastal levee in the Aketo area. The former levee, which was significantly destroyed, is a magnificent testament to the immeasurable energy of the tsunami and the fragility of man-made structures. This is the second disaster remains in Iwate Prefecture to be preserved through national funding. (The first is Taro Kanko Hotel).</p> <p>The construction, originally scheduled for completion at the end of fiscal 2015, was delayed as a result of comments from the bereaved, who said, “It is hard for me to look at the scenery”.</p>	
<p>Outline:</p> <p>Tanohata village will develop a memorial park with the former coastal levee in the centre. They will build facilities with interpretive materials to help promote disaster prevention learning and lore activities around a recent event.</p> <p>The former levee will help to teach future generations about the fierceness of a tsunami and, at the same time, the awfulness of nature.</p>	

【Miyako City】

No. 2

<p>Name: Taro Kanko Hotel</p>	<p>Photo</p>  <p>© Hayashi, I.</p>
<p>Location: 80-1 Taro-nohara, Miyako City, Iwate Prefecture</p>	
<p>Decision: Preservation</p>	
<p>Reasons for Preservation, and Reasons for Demolishment:</p> <p>On 15 October 2013, Miyako City determined the hotel would be the first facility preserved under a grant from the national government in order to pass the horror of tsunami on to future generations. Miyako City obtained Taro Kanko Hotel and its land in March 2014. The city received ¥30 million in state reconstruction subsidies for research and ¥200 million for preservation; however, maintenance and operation costs are excluded from the subsidies. Miyako City estimates maintenance and operation costs will reach ¥78,440,000 through fiscal 2034. The city will cover these costs with donations and <i>furusato-nozei</i> (a hometown tax).</p> <p>On 1 April 2016, the preserved hotel opened to the public. The hotel ruins—distorted framework, wrecked elevators, and stairs—reminds people of the power of a tsunami. Now, <i>kataribe</i> (storytellers) with a desire to pass valuable lessons down to future generations, deliver talks on the disaster to visitors to the hotel.</p>	
<p>Outline:</p> <p>Taro Kanko Hotel, 200 metres from the coast by air, was built in 1986. The six-story building suffered horrible damage from the tsunami, particularly up to the third floor. All of the hotel guests and employees were able to escape the disaster by taking refuge.</p> <p>Only the skeletal framework remains on the first and the second floors. Part of the fourth floor and higher floors are preserved almost as they were. The fifth and sixth floors are used as a data room and venue where visitors may view a video of the tsunami recorded that day by the owner himself, at the hotel.</p>	

【Miyako City】

No. 3

<p>Name: Tsunami Memorial Park Nakanohama</p>	<p>Photo</p>
<p>Location: The remains of a camping site in Sakiyama, Miyako City, Iwate Prefecture</p>	
<p>Decision: Preservation Opening ceremony was held on 24 May 2014.</p>	<p>© Hayashi, I.</p>
<p>Reasons for Preservation, and Reasons for Demolishment: The memorial park was built by the Ministry of Environment at a cost of about ¥240 million. It is the first disaster remains to be preserved and opened to the public.</p>	
<p>Outline: The remains are located in the national park that spans the coastal area of the two prefectures, Aomori and Miyagi. Nakanohama used to be a clean and green camping site close to the shore. It was seriously damaged when hit by a tsunami over 15 metres high. Public restrooms and the camping site field kitchen are preserved as they were. The tsunami that hit the Nakanohama area is considered to have been up to 21 metres above sea level. This park is expected to teach the importance of seeking refuge upland at the time of a tsunami.</p>	

【Otsuchi Town】

No. 4

<p>Name: Otsuchi Town Hall</p>	<p>Photo</p>  <p>© Abe, T.</p>
<p>Location: 1-3 Kamicho, Otsuchi Town, Iwate Prefecture</p>	
<p>Decision: Pending Otsuchi Town assembly passed a resolution to determine the value of the facility as disaster remains—not on the basis for demolishing it. The assembly also required the facility to be verified as evidence of the disaster.</p>	
<p>Reasons for Preservation, and Reasons for Demolishment: Vowing never to repeat the tragedy, then-Mayor Yutaka Ikarigawa announced his initiative to preserve the front part of the hall as disaster remains in March 2013. Demolition work began on 4th June 2014, with almost 70% of the building demolished by the end of July that same year. Now, the two-story central ward including the main entrance remains. Otsuchi Town is to determine whether to demolish or to preserve the town hall by December 2016.</p>	
<p>Outline: Some 40 people were tsunami victims, including the mayor and office staff. The town was split between bereaved families and townspeople on whether to preserve or to demolish the building. Citizens who want the building demolished are in agreement on the primary reason for tearing it down. “Every time I walk in front of the building, it reminds me of the tsunami”, they say. “I don’t want to come close to the building. Many people around me have the same thought. Please demolish the building as soon as possible”. Proponents for keeping the structure say, “The building should be preserved as disaster remains so that the future generation can study from our experience. They can learn the horror of natural disasters here”. This is why the building came down to being partly preserved.</p>	

【Otsuchi Town】

No. 5

<p>Name: Cruise Ship <i>Hamayuri</i></p>	<p>Photo</p>  <p>© Takezawa, S.</p>
<p>Location: Akahama, Otsuchi Town, Iwate Prefecture</p>	
<p>Decision: Scrap</p>	
<p>Reasons for Preservation, and Reasons for Demolishment: Since there was a danger that the <i>Hamayuri</i> might fall, Kamaishi City made the decision to scrap the cruise ship.</p>	
<p>Outline: Cruise Ship <i>Hamayuri</i> (the owner: Kamaishi City, 109t, 200-seater) used to be a high-speed catamaran with a comfortable ride that cruised the superb view of Kamaishi Bay. It was used for Sangan Island cruises. On the day of the disaster, <i>Hamayuri</i> was docked in Iwate Shipyard in Akahama area for regular testing. The ship was washed away by the tsunami and carried inland over the barrier by the secondary wave. The <i>Hamayuri</i> came to rest on the roof of a two-story inn, about 150 metres north of the shipyard, with almost no damage. Not to forget the terrible disaster, Otsuchi Town had raised contributions from the public to restore the <i>Hamayuri</i> and to build a memorial park as a place to pray for the victims of the Great East Japan Earthquake and tsunami. It was lowered to the ground by crane on 10 May 2011 and scrapped on the 11.</p>	

【Kamaishi City】

No. 6

<p>Name: Unosumai Disaster Control Center</p>	<p>Photo</p>  <p>© Abe, T.</p>
<p>Location: Unosumai-cho, Kamaishi City, Iwate Prefecture</p>	
<p>Decision: Demolition</p>	
<p>Reasons for Preservation, and Reasons for Demolishment: The centre was to be demolished in mid-October 2013, but the schedule was pushed back since some bereaved families wanted the centre to be preserved. However, there were some families who wanted the building demolished immediately for the new town development. The demolition got underway on 2 December 2013 and was completed by February 2014.</p>	
<p>Outline: Unosumai Disaster Control Center was not a designated evacuation centre in the event of a tsunami; however, a lot of citizens ran into the centre for help since the place was used for the emergency drill shortly before the disaster. The building was destroyed. An estimated 120 people died there. The site of the centre is planned to be reborn as a memorial park with a monument to the disaster and renamed <i>Inori no Park</i> (place to pray for the disaster victims). Also, a facility to convey the message of the disaster will be built by fiscal 2017. The memorial park has a basic philosophy of “To zero the number of victims of tsunami, to protect the people’s lives in the future”. Part of the wall with messages “Please do not forget” and “Please pass down the disaster” will be removed and preserved as a message of the tragedy, and passed down to future generations. A ceremony to reuse the debris of the centre for the groundwork of the park was held on April 11th, 2016. The mayor, citizens, and a group of reporters attended.</p>	

【Rikuzentakata City】

No. 7

<p>Name: Central Community Center and Gymnasium</p>	<p>Photo</p>  <p>© Abe, T.</p>
<p>Location: 61-1 Takata-cho, Aza Sunahata, Rikuzentakata City, Iwate Prefecture</p>	
<p>Decision: Demolition (Partially preserved: the wall of the Central Community Centre with the message from two daughters to their mother, who was killed there by the tsunami.)</p>	
<p>Reasons for Preservation, and Reasons for Demolishment: Demolition of the buildings began in October 2012. Only the messages left on the wall of the building will be preserved in the previous Oide Primary School, where the museum is conducting preservation work of cultural properties. The wall preservation operation was performed during 25 September and 1 October 2012.</p>	
<p>Outline: The Central Community Center is connected to the gymnasium, which used to be a designated evacuation centre. The buildings were hit by the tsunami and completely destroyed. The tsunami reached the ceiling of the second floor (up to 18 metres high). Since the gymnasium was designated as an evacuation centre, a large number of citizens took refuge in the gymnasium. Most of them became victims of the tsunami.</p>	

【Rikuzentakata City】

No. 8

<p>Name: Miracle <i>Ipponmatsu</i>, the Pine Tree</p>	<p>Photo</p>  <p>© Iisaka, M.</p>
<p>Location: Takatamatsubara, Rikuzentakata City, Iwate Prefecture</p>	
<p>Decision: Preservation</p>	
<p>Reasons for Preservation, and Reasons for Demolishment: The miracle pine tree branches and leaves were replicated and restored to their original configuration. The restoration work was finished on 3 June 2013.</p>	
<p>Outline: Miracle <i>Ipponmatsu</i> (the pine tree) has attracted widespread popularity as a symbol of reconstruction from the post-quake period. Since the tree suffered from the high salt content of sea water, it faced almost certain destruction. Rikuzentakata City, however, decided to preserve the pine tree by artificial means as a monument to pass down to future generations. It now stands at its original location. The only pine tree that miraculously survived has been popularly called ‘Pine Tree of Hope’, ‘<i>Ipponmatsu</i> of Hope’, ‘Pine Tree of Guts’, and ‘Miracle <i>Ipponmatsu</i>’. Since the city spent a huge amount of money on the tree’s preservation, it became a controversial matter.</p>	

【Kesenuma City】

No. 9

<p>Name: Kyotoku-maru No. 18</p>	<p>Photo</p>
<p>Location: Nakaminato-cho, Kesenuma City (Shishiori district), Miyagi Prefecture</p>	
<p>Decision: Scrap</p>	<p>© Hayashi, I.</p>
<p>Reasons for Preservation, and Reasons for Demolishment: Kesenuma City planned to preserve the ship as a monument in the memorial park, but since many of its citizens opposed saving the ship the city decided to scrap it in August 2013. They began to scrap Kyotoku-maru No. 18 on 9 September 2013 and finished on 28 October.</p>	
<p>Outline: Kyotoku-maru No. 18 belonged to Gisuke Fishery Co. Ltd. in Iwaki City, Fukushima Prefecture. At the time of the disaster, the ship was at a port for regular testing. The ship came to rest in front of Shishiori-karakuwa Station (already collapsed) of the JR Ofunato line, at the intersection of prefectural roads 210 and 34. Kyotoku-maru No. 18, with a purse seiner, was about 60 metres overall, with 330 tons total tonnage, and 500 to 800 tons gross weight. The ship owner had given consideration to the bereaved families. He said, “Kesenuma City showed intention to preserve the ship; however, quite a number of citizens were against preservation. As long as the figure of the ship afflicts people, I have the responsibility as an owner to scrap the ship”.</p>	

【Kesenuma City】

No. 10

<p>Name: Kesenuma Koyo High School</p>	<p>Photo</p>  <p>© Sato, S.</p>
<p>Location: Hajikamisemukai, Kesenuma City, Miyagi Prefecture</p>	
<p>Decision: Preservation</p>	<p>Reasons for Preservation, and Reasons for Demolishment: On 11 May 2015, Kesenuma City decided to preserve the school building using the Great East Japan Earthquake reconstruction grants. Only the school building on the south side will be preserved as it now stands. A passenger car carried by the tsunami remains on the third floor.</p>
<p>Outline: The inside of the school building on the south side will be open to the public to be passed down to future generations. This is meaningful because the building shows that the tsunami reached up to the fourth floor with impact scars and floating objects still left inside. A tourist facility in the district will be rebuilt on the same property to show documents of the Great East Japan Earthquake and the tsunami.</p>	

【Minamisanriku Town】

No. 11

<p>Name: Government Office Building for Disaster Prevention</p>	<p>Photo</p>
<p>Location: 77 Shizugawa Shioiri, Minami-sanriku Town, Miyagi Prefecture</p>	 <p>© Hayashi, I.</p>
<p>Decision: Pending It was determined that Miyagi Prefecture will maintain and preserve the building until the end of March 2031. Minami-sanriku Town clarified its policy to determine whether to demolish or to preserve the building as disaster remains, with time and care.</p>	
<p>Reasons for Preservation, and Reasons for Demolishment: There was considerable support for preserving the building of Government Office for Disaster Prevention. At first, Mayor Sato declared his intention of preserving the building. However, he mentioned that preservation of the building would become a huge burden for a small town. He reversed his earlier decision and decided to demolish the building. The building was to be demolished within the fiscal year 2013. In December 2013, the building became one of the 14 facilities in Miyagi Prefecture to be studied as disaster remains. This happened because the Prefectural Governor Murai suggested to Mayor Sato that he argue for preservation at the meeting of the experts of the prefecture. Since the mayor agreed to this, the town's resolution has been suspended. The meeting of experts of disaster remains in Miyagi Prefecture held a final meeting on 18 December 2014. They made a practical proposal that there was significant value in preserving the building as disaster remains. The building will be a prefectural building until 2031. Miyagi Prefecture will cover the maintenance and operation costs on behalf of the town in order to take time to argue over preservation or demolition of the building.</p>	
<p>Outline: The building was built in 1995 as a government facility of the former Shizugawa Town. The building was built about 500 metres inland from the coastline in the event of widespread damage equivalent to the Great Chilean Earthquake Tsunami in 1960. At about 15:25, 11 March 2011, the tsunami hit the building, interrupting a tsunami warning in progress. The female worker who persuaded people to take shelter became one of the victims of the tsunami. About 30 people took shelter on the roof; however, only 11 of them, including the mayor, survived. A 15.5-metre high tsunami hit the three-story, 12-metre-high steel frame building. Forty-three people, including 33 office staffers, became victims. Afterward, only the framework of the building remained. This became a monument to the disaster. Ever since, many people have visited the place to pray for the victims. In September 2013, the mayor supported demolishing the building on the grounds of the expenses required for preservation. In December of the same year, Miyagi Prefecture added the building to the list of candidates for disaster remains and the demolition work was suspended. Minami-sanriku Town owns the facility and the land. The area of the building location is under construction for recovery. During fiscal years 2016 and 2017, the building and the site will be off-limits to visitors for safety reasons.</p>	

【Minamisanriku Town】

No. 12

<p>Name: Takano Bridal Center</p>	<p>Photo</p>  <p>© Sato, S.</p>
<p>Location: Shizugawa, Minami-sanriku Town, Miyagi Prefecture</p>	
<p>Decision: Pending</p>	
<p>Reasons for Preservation, and Reasons for Demolishment:</p> <p>The centre was not listed as a target candidate at the third discussion session with disaster remains experts; however, the owner of the building, Abecho Shoten Co. Ltd. (Kesenuma City), intends to preserve the building as one of the disaster remains. Since there are many problems to overcome, they have not made a determination on whether the building will be preserved or destroyed.</p>	
<p>Outline:</p> <p>Takano Bridal Center is a total wedding centre in Minami-sanriku Town, Miyagi Prefecture, which stands on flat land about 300 metres from Shizugawa Bay. On the day of the disaster, about 330 hotel guests and employees remained in the centre. Quick thinking by the employees saved their lives. Since so many people survived such a big disaster, Takano Bridal Center maintains a high profile, along with the Government Office for Disaster Prevention, as one of the disaster remains. Working staffs of Minami-sanriku Hotel Kanyo, one of the group businesses of Abecho Shoten Co. Ltd., share in activities as storytellers to hand down the horror of the disaster to posterity.</p>	

【Onagawa Town】

No. 13

<p>Name: Onagawa Police Box</p>	<p>Photo</p>  <p>© Sato, S.</p>
<p>Location: Onagawahama, Onagawa Town, Miyagi Prefecture</p>	
<p>Decision: Preservation</p>	
<p>Reasons for Preservation, and Reasons for Demolishment: On 27 November 2013, Onagawa Town decided to preserve the former Onagawa Police Box for disaster remains. The town made the decision based on the restoration work schedule, durability of the building, and preservation cost. Onagawa Supplement and Eshima Kyosai-Kaikan already were demolished.</p>	
<p>Outline: Out of 10,000 townspeople in Onagawa Town, 827 died or were reported missing. Seventy percent of residential houses in town were destroyed. Judging from the situation, Onagawa Town is designated as one of the most damaged municipalities. Onagawa Town organized the Recovery Master Program through fiscal year 2018. The central part of town will be raised on a large scale and will be utilized for central functions and residences.</p>	

【Onagawa Town】

No. 14

<p>Name: Onagawa Supplement (pharmacy)</p>	<p>Photo</p> <div style="border: 1px solid black; width: 100%; height: 100%; text-align: center; vertical-align: middle;"> <p>No Photo</p> </div>
<p>Location: Onagawahama, Onagawa Town, Miyagi Prefecture</p>	
<p>Decision: Demolition</p>	
<p>Reasons for Preservation, and Reasons for Demolishment: Demolition of Onagawa Supplement began on 3 March 2014. The work was supposed to be completed by 27 March. Since Onagawa Supplement and Kyosai-Kaikan were very close to the pier, these two buildings were considered to interfere with bank protection work and also affect the area's rehabilitation project. Judging from the level of damage, these two were to be demolished.</p>	
<p>Outline: Onagawa Supplement was built in 1967. It was a four-story building with a pharmacy on the first floor. The destroyed building showed the power of a tsunami, with a car left inside that had been swept up by the wave. The owner disposed of the building to the town and moved to another prefecture.</p>	

【Onagawa Town】

No. 15

<p>Name: Eshima Kyosai-Kaikan (accommodation)</p>	<p>Photo</p> <div style="border: 1px solid black; width: 100%; height: 100%; text-align: center; vertical-align: middle;"> <p>No Photo</p> </div>
<p>Location: Onagawahama, Onagawa Town, Miyagi Prefecture</p>	
<p>Decision: Demolition</p>	
<p>Reasons for Preservation, and Reasons for Demolishment: Demolition began on 15 December 2014 and is scheduled to be finished by the end of January 2015. Demolition cost is about ¥15 million. Onagawa Town at first considered preserving the building, but was forced to give up since the work was high in cost and would affect embankment work in the area nearby. The town decided to preserve only the Onagawa Police Box as disaster remains among the three reinforced concrete structure buildings that collapsed in the Onagawa area.</p>	
<p>Outline: The central part of Onagawa Town was hit by a 20-metre tsunami. Kyosai-Kaikan, a four-story steel frame building of reinforced concrete (16.8 metres tall) was swept away by the tsunami. The building was used as an accommodation for people in Onagawa Town and Eshima, a remote island. These three buildings were at first to be preserved as research materials, since the damage circumstances differed. After the embankment work (up to 5.4 metres above sea level), the area will be used as a building lot for commercial facilities. A number of people have visited Eshima Kyosai-Kaikan disaster remains to study the power of the tsunami.</p>	

【Ishinomaki City】

No. 16

<p>Name: Okawa Primary School</p>	<p>Photo</p>  <p>© Hayashi, I.</p>
<p>Location: 1 Kamaya Yamane, Ishinomaki City, Miyagi Prefecture</p>	
<p>Decision: Preservation</p>	
<p>Reasons for Preservation, and Reasons for Demolishment:</p> <p>Okawa Primary School was not initially listed as disaster remains; however, many people supported its preservation. The graduates of the school took part in a signature-collecting campaign for preserving the school as disaster remains.</p> <p>On 26 March 2016, the mayor of Ishinomaki City expressed his intention to preserve the school building as disaster remains. He stressed that it would help in disaster prevention education and also in handing on the experiences of the disaster to the next generation.</p> <p>The school building of Okawa Primary School is to be entirely preserved and the site will be developed into a park.</p>	
<p>Outline:</p> <p>The tsunami rolled up from the mouth of the Kitakami River for 5 kilometres and crossed over the roof of the two-story school building. Seventy-four students and 10 teachers of Okawa Primary School became victims of the disaster. The school building was severely damaged.</p> <p>Before then, the Kamaya area had never been hit by a tsunami. Many people in the area recognized the school to be their place of refuge in case of emergency. The school was blocked between a mountain and the bank, so they all failed to grasp the movement of the tsunami. Most of the people who took shelter in Okawa Primary School lacked crisis awareness and therefore they did not choose the option of running up to the hill behind the school. This all contributed to the delay in taking shelter.</p> <p>The citizens of the city were equally divided over whether to preserve or demolish the school building. Since many people can hardly bear to look at the building, the city will carefully consider how to preserve it by getting local residents involved in the discussion.</p>	

【Ishinomaki City】

No. 17

<p>Name: Giant Can (drifted can of a whale meat cannery)</p>	<p>Photo</p>  <p>© Ishinomaki Future Support Association</p>
<p>Location: 2-1-26 Yoshino-cho, Ishinomaki City, Miyagi Prefecture</p>	
<p>Decision: Removal</p>	
<p>Reasons for Preservation, and Reasons for Demolishment:</p> <p>The removal action began on 30 June 2011.</p> <p>The location was a popular photo spot among people who visited Ishinomaki after the disaster. Many argued for the need to preserve the Giant Can to pass down the risk of a tsunami to future generations. However, considering the feelings of the local people and giving much thought to those afflicted by the tsunami, the company determined to remove the Giant Can.</p>	
<p>Outline:</p> <p>Kinoya Seafood Co. Ltd. in Ishinomai City was a local fishery processing company whose symbol was a giant red whale meat can that stood on company property. The Giant Can was swept up by the tsunami for about 300 metres and tumbled over on its side on the median of the prefectural highway.</p>	

【Ishinomaki City】

No. 18

<p>Name: Kadonowaki Primary School</p>	<p>Photo</p>  <p>© Ishinomaki Future Support Association</p>
<p>Location: 4-2 Kadonowaki-cho, Ishinomaki City, Miyagi Prefecture</p>	
<p>Decision: Preservation</p>	
<p>Reasons for Preservation, and Reasons for Demolishment: On 25 March 2016, Ishinomaki City announced that they would preserve Kadonowaki Primary School as one of the disaster remains. The school building is to be partially preserved. Relocation is also considerable.</p>	
<p>Outline: Teachers led 275 students (some of them were already back home) to Hiyoriyama Park upland soon after they heard the tsunami warning. All survived. The school building was hit by the tsunami and burned after gasoline from cars that were washed away by the tsunami caught on fire. According to the results of the questionnaire survey on potential locations for disaster remains, Kadonowaki Primary School obtained 60 percent of the votes. Whether to preserve the whole building or hide it from the citizens is yet to be determined. The refugees at Kadonowaki Primary School all safely escaped to Hiyoriyama Park. This experience is considered to be a perfect subject for future generations working hand in hand with the memorial park that is organised nearby. The school building was evaluated to become valuable disaster remains, given the lasting scars of the fire disaster caused by the tsunami. It will be used as an educational resource to foster consciousness for disaster reduction and disaster prevention education.</p>	

【Higashimatsushima City】

No. 19

<p>Name: Nobiru Station Platform (JR Senseki-line)</p>	<p>Photo</p>  <p>© Sato, S.</p>
<p>Location: 81-1 Nobiru Kita-yokei, Higashi-matsushima City, Miyagi Prefecture</p>	
<p>Decision: Preservation</p>	
<p>Reasons for Preservation, and Reasons for Demolishment:</p> <p>Higashi-matsushima City announced on 4 August 2015 plans to preserve the former Nobiru station platform as disaster remains. The total project cost is about ¥260 million. The city will utilize the national grant system for recovery. The city has an agreement to buy the platform from JR East Japan Railway Company by 2017.</p> <p>The railway tracks and signboards are unspoiled, but the station building has been renovated. The city has not only preserved the platform, but also created a space for local people to socialize. There also is space for a convenience store in the building and a parking lot outside.</p>	
<p>Outline:</p> <p>About 500 people died in the Nobiru area, which is the largest number of fatalities in Higashi-matsushima City. The JR Senseki line suffered great damages—railways and train cars were washed away by the tsunami, which was up to 3.7 metres high.</p> <p>A new Nobiru Station was relocated 22 metres inland and began operation on 30 May 2015, when the JR Senseki line was open to traffic on the whole rail line.</p> <p>A projector and a 160-inch wide screen were placed in a room on the second floor of the station building. There, visitors may view videotapes taken at the time of the disaster and interviews with the citizens. There are plans to display panels of the affected areas in Higashi-matsushima City and reports of their reconstruction on the first floor, beginning on 1 October 2016. The memorial park was opened on 1 August 2016.</p> <p>Disaster remains and a memorial square are to be built, with an opening ceremony planned for April 2017.</p>	

【Sendai City】

No. 20

<p>Name: Arahama Primary School</p>	<p>Photo</p>  <p>© Hayashi, I.</p>
<p>Location: 32-1 Arahaka, Shin-Horibata, Wakabayashi-Ward, Sendai City, Miyagi Prefecture</p>	
<p>Decision: Preservation</p>	
<p>Reasons for Preservation, and Reasons for Demolishment:</p> <p>On 30 April 2015, Sendai City announced that they would preserve the Arahama Primary School building as disaster remains.</p> <p>They will hold the building in status quo as long as they can, provide seismic strengthening works, and implement thorough safety precautions to prevent the collapse of ceilings and walls. They will build a rooftop deck for visitors.</p> <p>The school building will be opened to the public beginning in fiscal year 2017.</p>	
<p>Outline:</p> <p>The school building of Arahama Primary School stood 700 metres inland from the seacoast. The four-story building suffered damage up to the second floor when it was hit by the tsunami. Many people who lived in that area had taken refuge in the school.</p> <p>They rented a school building to continue lessons; however, they were forced to combine with another school near the Arahama area.</p> <p>Giving consideration to its safety and convenience, Sendai City will move the swimming pool of Arahama Primary School toward the west side of the school building. The city received ¥182.8 million for the cost from state subsidies for reconstruction.</p>	

【Natori City】

No. 21

<p>Name: Yuriage Primary School and Yuriage Junior High School</p> <p>Location: Primary School: 52 Tsuruzuka, Junior High School: 1 Gojugari, Yuriage, Natori City, Miyagi Prefecture</p> <p>Decision: Demolition</p>	<p>Photo</p>  <p>Yuriage Primary School © Boret, S.</p>  <p>Yuriage Junior High School © Hayashi, I.</p>
<p>Reasons for Preservation, and Reasons for Demolishment:</p> <p>In consideration of the feelings of bereaved families, Yuriage Primary School and Yuriage Junior High School were omitted from the list of candidate sites for disaster remains. Demolition of Yuriage Primary School began on 6 May 2016.</p> <p>Also, another reason for demolishing the school buildings was that they would interfere with the recovery and reconstruction of the Yuriage area.</p> <p>Many students of Yuriage Primary School were unwilling to part with their school building. Messages from those students, such as “We won’t forget” and “Thank you” filled the blackboards in the classrooms. Natori City will preserve these blackboards.</p> <p>Both schools stood close to each other, within 200 metres. Considering that these two buildings have the possibility to become obstacles for redevelopment, the Natori City determined to demolish both school buildings. Therefore, the two schools are numbered 21 and are shown in the list and on the map.</p>	
<p>Outline:</p> <p>Yuriage Primary School, a three-story reinforced concrete building, survived the quake. The tsunami swamped the first floor of the school building. Everyone who took refuge in the school building was safe after spending a night on the roof; however, the school yard was reduced to piles of rubble. The school reopened on 21 April 2011, renting classrooms in Fujigaoka Primary School in Natori City.</p> <p>Some 753 people became victims of the disaster in the Yuriage area. Yuriage Junior High School was engulfed by the tsunami and 14 students became victims.</p> <p>A monument was erected at the front entrance of the school listing all of the names of the students who were victims of the disaster. Reconstruction planning of the Yuriage area was drawn up in November 2013 and elevation work began in the autumn of 2014.</p> <p>Yuriage Primary School and Junior High School will be combined in one building and are scheduled to operation in April 2018.</p>	

【Natori City】

No. 22

<p>Name: Sasanao Factory (factory of fish minced and steamed)</p>	<p>Photo</p>  <p>© Sato, S.</p>
<p>Location: Yuriage District, Natori City, Miyagi Prefecture</p>	
<p>Decision: Demolition</p>	
<p>Reasons for Preservation, and Reasons for Demolishment:</p> <p>On 11 September 2014, Natori City decided to preserve the former Sasanao factory as disaster remains. Since a memorial park was being consolidated in the Yuriage district, the city believed the former factory would be proximally appropriate disaster remains that would pass down the threats and lessons of the disaster.</p> <p>However, on 18 June 2015, Natori City announced giving up its plans to preserve the factory. The city council questioned the necessity of preserving the factory, saying they had made a hasty decision and needed to consider residents' wishes.</p>	
<p>Outline:</p> <p>The former Sasanao factory is a two-story reinforced concrete building that stands on the south side of Hiyoriyama. A tsunami of more than 8 metres above sea level devastated the factory. The first floor was destroyed; however, the exterior wall remained.</p> <p>The factory was selected as disaster remains since it stands in the dangerous disaster zone, where no residences will be built. It also is located in the district where the memorial park is to be consolidated. Natori City found the factory to be of relevance as disaster remains that would teach the height and destructive power of a tsunami; however, the plan was taken back to the drawing board.</p> <p>Outdoor stairs were to be constructed for visitors. Panels displaying pictures of the day of the disaster were to be placed on the first floor of the building. The factory was expected to become a symbolic place that would pass down the lessons from the disaster to succeeding generations.</p>	

【Yamamoto Town】

No. 23

<p>Name: Nakahama Primary School</p>	<p>Photo</p>
<p>Location: 22-2 Sakamoto Kune, Yamamoto Town, Miyagi Prefecture</p>	
<p>Decision: Preservation</p>	<p>© Boret, S.</p>
<p>Reasons for Preservation, and Reasons for Demolishment:</p>	
<p>The Reconstruction Agency appropriated a budget of ¥11 million from the disaster grant system for investigative costs and determined that Nakahama Primary School building should be preserved as disaster remains.</p> <p>On 15 January 2015, a proposal was submitted stating that Yamamoto Town would preserve the school building of Nakahama Primary School as much as possible as it stands now as disaster remains.</p> <p>The town’s board of education announced a plan to enclose the school building and open the building to the public escorted with a paid guide.</p> <p>Period of preservation was to be more than 50 years.</p>	
<p>Outline:</p>	
<p>The tsunami devastated the two-story school building to the ceiling of the top floor. Almost all windows and doors were forced out by the tsunami; however, pillars and walls remained. The gymnasium that stood next to the school building had already been demolished in April 2013.</p> <p>About 90 of the students and teachers quickly took refuge in a small space called “the Attic” and all of them escaped the disaster. The following day, everyone was rescued by the self-defence force helicopter.</p> <p>On 1 April 2013, Nakahama and Sakamoto Primary Schools were brought together and became one big school.</p> <p>In March-April 2014, Yamamoto Town distributed a questionnaire to 4,944 families in town. About 1,900 answered, of which 70 percent approved of preserving the school building in order to pass down their lessons from the disaster to future generations.</p>	



Map 1 Locations of the Remains

Note: Numbers are the same as those given to each of the remains in Table 1

Most of the disaster remains mentioned above were also subject to the process from controversy to reconciliation before it was determined they should be kept and preserved. Of course, quite a lot of buildings have ultimately been demolished, even though they were nominated as disaster reminders. The same applies to the afflicted area of the Great East Japan Earthquake.

Data for this paper were collected from national and local newspapers and online news-sites from the beginning of May 2011 until the end of September 2016¹⁵⁾. Furthermore, news related to local governments has been crosschecked with the websites provided and managed by the concerned local governments. Sato and Imamura collected and attempted quantitative analysis of data on disaster remains in the affected area of the disaster, including Iwate, Miyagi, and Fukushima Prefectures (Sato and Imamura 2016). They listed 80 remains candidates for preservation from five newspaper online databases.

Of these 80 remains, 16 were addressed in newspaper articles more than 30 times each, and these are listed Table 1 and marked on Map 1, and I selected the seven others according to their uniqueness and popularity, which are also elements to trigger debates among residents¹⁶⁾.

It is possible to classify these remains according to social functions; education (Nos 10, 16, 18, 20, 21, 23); environmental and human life protection (Nos 1, 8); public security (Nos 6, 11, 13); social services (Nos 3, 4, 7); transportation infrastructure (Nos 5, 19); and private business (Nos 2, 9, 12, 14, 15, 17, 22). Whether to demolish or preserve those remains seems to depend on whether the tsunami death toll was high at their locations. In such cases, discussions among the residents as to whether to preserve the remains became too complicated to reach conclusions (Nos 4, 6, 7, 11, 16, 21). If the remains stand outside a residential area and nobody was killed there in the disaster, agreement on their preservation is more easily reached (Nos 1, 3). Furthermore, some scientists in the architectural and civil fields of engineering started, as early as April 2011, to mould public opinion in favour of remains preservation by emphasising their importance for future disaster mitigation research: for example, in the case of the reinforced-concrete buildings in Onagawa Town (Nos 13, 14, 15). Conversely, municipalities with strong mayoral leadership decided to demolish and remove the damaged buildings in which many deaths and casualties had been reported (Nos 6, 7). Kamaishi City, the owner of the sightseeing ship ‘*Hamayuri*’, decided to dismantle the ship stranded on the rooftop of a private inn in neighbouring Otsuchi Town, despite the public of Otsuchi Town having raised contributions to restore the ship, so as not to forget the terrible disaster (No 5). Even after some municipalities decided to demolish certain buildings, some residents who had lost their loved ones voiced their opinions on the necessity to preserve the remains for future disaster educational purposes and as intimate contact spots with the family members killed there (Nos 6, 7, 11). The Mayor of Rikuzentakata City showed strong leadership in preserving the ‘Miracle Pine Tree’ (No 8) with huge

amounts of public donations (exceeding 150 million yen by the end of June 2013). The fates of remains belonging to private companies were left to their executives' strong wishes and decisions (Nos 9, 17).

Where public opinions have been invited in the process of reaching final decisions on the remains, the issues have become complicated and entangled (Nos 11, 16, 18). Opinions among citizens have been divided over whether to preserve or to demolish remains, even among the bereaved of those who died in the buildings (Nos 11, 16). Some of the bereaved initially desired these remains immediate demolition and removal, but have since changed their minds and come to desire the preservation of such buildings (No 11, Case 4 below). Needless to say, it is one of the themes to discuss sensitively with the residents in those municipalities, particularly with and among the bereaved.

3.4 The Controversial Cases of Remains

The opinions I quote here were collected in conversations with residents in the course of my field research on damaged intangible cultural heritages, focused mostly on folk performing arts, in Kamaishi and Minami-sanriku municipalities (Hayashi 2012), and during my visits as a disaster reduction project member working on the tsunami evacuation sign system in Ishinomaki City (2016). The four cases considered below are examples of the most intense discussions (some ongoing) among the residents in deciding whether to demolish or preserve remains, and which have attracted much wider interest and concerns from the public through media reports¹⁷). Characteristics of the other remains and the process of discussions about fate of each of them are noted in Table 1 above.

[Case 1: Unosumai Disaster Control Center, No. 6]

Unosumai Disaster Control Center in Kamaishi City, Iwate Prefecture, was one such example. Though not a designated evacuation centre for tsunamis, many citizens ran into the centre for help since the building was used for an emergency drill shortly before the disaster. After the tsunami waters receded, 34 survivors were rescued from the inside the building and 69 bodies were also recovered. The city municipal government decided in August 2013 that the building would be demolished from the middle of October 2013; however, the schedule was pushed back since the bereaved families wanted the building to be preserved. Simultaneously, other families argued that the building should be demolished immediately to facilitate development of the new town or to avoid dredging up memories they would rather forget. Of course, no matter how quickly the damaged building was removed, nobody could easily erase the memory of the terrible accident.

After the municipal government decided to demolish the centre and planned to redevelop the site into a memorial park, a disaster-bereaved association set up an altar at the corner of the former evacuation hall on the second floor, in tribute

to the people killed in the building. A message was written on the wall by a mother who lost her pregnant daughter, who had been working at a nearby kindergarten. The message began by directing discontent toward the local government, which had decided to demolish the building without consulting the bereaved, and proceeded to strongly demand an explanation of the whole process followed by the government to reach that conclusion. It then requested that the building be preserved.

I'm a one of the bereaved and come here every month on the 11th.

We lost our daughter and her unborn baby here.

We cannot express how terrible we feel here.

But, at the same time, this is the place where we feel as if we were with our daughter and the grandchild.

We are opposed to the decision for this building to be demolished and removed as debris.

We wish this building to be preserved as a storyteller without a word.

Many people have been visiting here and when they leave here they have learnt a lot about the importance of education for disaster prevention/reduction.

The altar bearing this message and other offerings to the victims was later moved to the first floor (Photo 3). By the end of February 2014, the building had been demolished and removed completely. N (Male, 41 years old) used to visit the building quite often and prayed at the altar for the dead until the demolition work started. He felt that he could meet his mother (then 62 years old), younger sister (then 29 years old), and two young nephews here, all of whom had been killed in this building. Conversely, A (Female) said that every time she drove near the building, she felt suffocated and her tears would overflow; with the building demolished, she felt that she could move forward without that burden on her mind. However, K



Photo 3 The altar set up inside of the Unosumai Disaster Control Center, Kamaishi City (October 2013, Hayashi).

(Male, 45 years old), who lost his wife and daughter in this building, insisted on its preservation to transfer his experience of sorrow. He perceives that, since the building's demolition, visitors to the area seem less concerned with the disaster than before.

After the demolition, Kamaishi's municipal government uploaded to its website both internal and external photos of the building and its surrounding environment, including 360 degree photos captured inside on the 1st and 2nd floors, showing the prayer altar. The photos were shot on 21 November 2013¹⁸⁾.

[Case 2: Rikuzentakata Central Community Center and Gymnasium, No. 7]

The Central Community Center was connected to a neighbouring gymnasium which was a designated evacuation centre. On the very day of the disaster, both buildings were hit by tsunamis of up to 18 m in height. Since the gymnasium had been designated as an evacuation centre, many citizens took refuge there and most of them became victims to the tsunamis, as the internal structure of the building was completely destroyed. Two young women wrote messages to their lost mother, who used to work at the Community Centre, on the inside wall of the remains.

Dear mom,

I always thank you for everything	How glad I am to see you in my dream
You're always keeping your nice smile	How sweet and wonderful you are
Even if this gymnasium is demolished,	I will never ever forget this place!
I really thank you, mom	I love you so much, mom
Please watch us from heaven!	I promise to keep working hard!

Mom in my dream is smiling, bright and kind forever

I am relieved to imagine that you get along well with others in heaven

You were always thinking of the family first, and always did your best on whatever you did

Please watch over us forever in heaven

A petition with 1,723 signatures was sent to the Rikuzentakata City authorities, and the local government decided to preserve the messages at the end of August 2012. The wall bearing the messages was removed to be preserved, following which the buildings were demolished completely and processed as debris. The messages are now stored with other cultural properties of city museums in a classroom of closed school inland (Photos 4 and 5).

In both Cases 1 and 2, the respective mayors showed strong leadership in deciding to demolish the buildings in which the lives of many people had been claimed. There were some objections and demands to have the buildings preserved as 'monuments' to remember the disaster and its victims. Furthermore, future functionality for disaster education was expected by some local residents and scholars from outside the area. In both cases, without holding a public hearing on the issue, the respective municipal governments decided to demolish and remove the build-

ings, and then to clean up the sites.

Most people voiced their memories of the disaster in the dispute over whether the remaining wreckage should be demolished or preserved. It was then and remains today almost impossible for the people to drive away all unpleasant memories, even after five years. Sometimes, a memory of the disaster experience brings them back to the very situation of disaster.



Photo 4 Rikuzentakata Civic Gymnasium connected to the Central Community Center (May 2011, Hayashi).

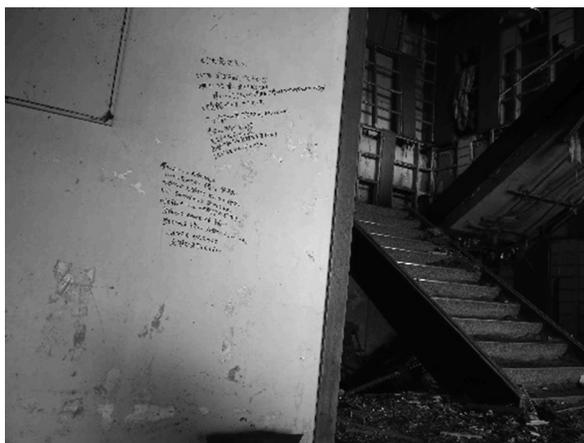


Photo 5 Message written on the wall of the Central Community Center, Rikuzentakata (June 2012, Hayashi).

[Case 3: Minami-sanriku Government Office Building for Disaster Prevention, No. 11]

At first, it was considered that the Government Office Building for Disaster Prevention in Minami-sanriku (Photos 6 and 7) should be preserved, pursuant to the mayor's wishes; however, in September 2011, a decision was made to demolish and remove the building.



Photo 6 The Government Office Building for Disaster Prevention in Minami-sanriku Town (July 2012, Hayashi).



Photo 7 The altar set up in front of the building (July 2012, Hayashi).

Behind this change were the pleas of the bereaved, contending that the building raised the painful memories of the disaster. In total, 43 people died in this building, including officials, residents, and visitors from outside the town. Subsequently, however, many people from within and outside the town visited the building, and the place became a spot to place hands together and pray for the victims. Some people among the bereaved came to accept the necessity of preservation in order to hand down disaster memories to future generations, and support grew to postpone the demolition and seek further discussion on the matter, to include people from outside the town.

In August 2012, volunteers in the town who act as earthquake storytelling guides formed the ‘Society for Preserving the Government Office Building for Disaster Prevention’. In collaboration with the Taisho-suji Shopping District Promotion Association in Nagata Ward, Kobe City, the afflicted area of the Great Hanshin Earthquake in 1995, they submitted a petition with 2,078 signatures requesting preservation of the town office building. The Special Committee for the Great East Japan Earthquake of Minami-sanriku Congress had been deliberating on three petitions: ‘early demolition’, ‘temporary postponement of the demolition’, and ‘preservation’; at the end of September 2012, they adopted the petition for ‘early demolition’ and rejected the other two. However, since this adoption was not legally binding, the final decision on whether to preserve or to demolish had not been made. In December 2013, the building became one of the fourteen facilities in Miyagi Prefecture to be studied as disaster remains, after the mayor, following the prefectural governor’s suggestion to argue for preservation at the meeting of the prefecture’s experts, suspended the town’s resolution. The expert committee of disaster remains in Miyagi Prefecture held its final meeting on 18 December 2014, at which they made the practical proposal that there is significant value in preserving the building as one of the disaster remains. It was determined that the building will be a prefectural building until 2031, twenty years after being damaged by the tsunami. Miyagi Prefecture will cover the maintenance and operational costs on behalf of the town to allow further time for discussions within the municipality over whether to preserve or demolish the building after 2031.

Some opinions regarding the building structure are as follows:

‘I have experienced three tsunamis in my life, but I was unable to do anything this time. We should not forget this experience with something obvious’. (Male, 55 years old)

‘I was against its preservation at first. But the issue is not only for the bereaved. We need time to think with other citizens’. (Male, 30 years old, lost his father)

‘I’ll never use the road in front of the building. I make a detour when I have to drive there’. (Female, 35 years old)

‘I hate the visitors taking photos of the building. Some of them smile with a peace sign. Why is it intact?’ (Male, 50 years old, lost his sister)

It is said that the history of the Hiroshima Peace Memorial (Genbaku Dome) appealed to the expert committee and the prefectural governor. The Product Exhibition Hall building was the only structure left standing in the large business district in Hiroshima City and near the atomic bomb's hypocentre. The structure was scheduled to be demolished with the rest of the ruins, but the majority of the building was intact, thus delaying the demolition plans. The Dome became a subject of controversy, with some locals wanting it to be torn down, while others wanted to preserve it as a memorial of the bombing and a symbol of peace. Ultimately, when the reconstruction of Hiroshima began, the skeletal remains of the building were preserved. The Hiroshima Peace Memorial Park was constructed around the Dome from 1950 through 1964. The Hiroshima City Council adopted a resolution in 1966 on the permanent preservation of the Dome, officially named the Hiroshima Peace Memorial. According to a newspaper article, the expert committee and the governor seem to have followed the precedent case of the Genbaku Dome, considering the unsettled situation in Minami-sanriku (Kahoku-shinpo 1 January 2015, Sankei News 28 January 2015).

The memorial ceremony of the 5th anniversary was held at the office building on 11 March 2016 after which the area was scheduled to be closed and entry limited from April 2016 due to construction work, elevating the surrounding land by about 10 metres for redevelopment.

[Case 4: Ishinomaki Okawa Primary School, No.16]

There have been many requests from within and outside the city over the preservation of Okawa Primary School building (Photo 8) in Ishinomaki City, in which seventy-four pupils and ten teachers were killed or rendered missing by the mas-



Photo 8 Okawa Primary School (May 2012, Hayashi).

sive tsunami that struck on 11 March 2011. Having assembled after the earthquake struck at 2:46 p.m., they dithered for about 50 minutes. Acting promptly, they could easily have reached safety in the wooded hillside, but they only began evacuating to the river bridge just as the tsunami swelled over the river embankment toward them. Why they stayed in the schoolyard for such a long time is the mystery of the disaster.

There were strong objections to preservation from the bereaved families in particular, and the building's fate remained inconclusive for a long time. Some graduates of the school, however, coordinated a signature-collection campaign and publicly voiced their wish to preserve the school building as disaster remains. The city government held a public hearing on 13 February 2016, attended by about 70 citizens, including both opponents to and supporter of preservation from among the bereaved who had lost their children at the school. Among the speakers, ex-pupils stated their opinions in support of preservation of the school building as a medium to transfer memories of the tragedy for future generations. Those pupils held several meetings before this public hearing to develop a collective opinion for this occasion. One of the few pupil survivors had an educational purpose in mind and sent his opinion to the meeting in a recorded message. While acknowledging the views of bereaved parents who wanted it demolished, he believed its preservation would be 'absolutely indispensable in order to pass down unforgettable memories of 11 March, so that even one life out of many can be saved in a future disaster'. He and several other pupils also asserted that more time was necessary to discuss the fate of the school. At the end of February 2016, Ishinomaki City disclosed the result of questionnaire research conducted among those who had been school children at the time of the disaster. Only 6 of 32 children answered the questionnaire: four in favour of preservation and two preferring demolition. At the end of March 2016, Ishinomaki Municipal government decided to preserve the school building.

In March 2014, the families of 23 deceased children, killed when they were swept away from the school by the tsunami, filed a class-action suit against Ishinomaki municipal government and Miyagi prefectural government, claiming they were responsible for the children's deaths. The plaintiffs argued that the school staff should have acted much faster to evacuate children from the school. The family members were seeking 100 million yen in damages per child. However, the local and prefectural governments and school officials countered that there was no way to predict the size of the tsunami, nor that it would come so far inland and reach the school.

On 26 October 2016, the Sendai District Court ordered the city of Ishinomaki and Miyagi Prefecture to pay roughly 1.4 billion yen (US\$13.4 million as of 26 October 2016) in damages to the families of the 23 primary school pupils killed in the tsunami. Both the city and prefectural governments have appealed the ruling to a higher court. The school building seems to have assumed great significance

to transfer the tragedy as a fact, to summon one's school days' reminiscences, and to teach lessons learnt from the tragedy for future disaster prevention/reduction, particularly for future safety at school.

4 Disaster Monuments for Prayer, Education, Healing and Tourism

As we have seen, tsunami stone tablets have changed their function through history along the Pacific coastal regions in Tohoku. We know the purpose or expected function of building those stone tablets from the inscriptions upon them: the inscriptions have changed from religious sutras, to detailed accounts of the disaster, and then to instructive simple messages. This could be related to the spread of scientific knowledge over time about natural hazards such as earthquakes and tsunamis. The message inscribed on the stone tablet located at Aneyoshi in Miyako City reads:

‘Happy and safe life is on high ground. Remember the devastating tsunami and never build a house underneath. Tsunamis reached up to here in both the Meiji and Showa disasters and completely destroyed the village with only two survivors.’

Since the erection of this stone tablet after the Showa Sanriku Tsunami Disaster (1933), the village's residents have never built any houses below the level of the tablet; subsequently, there were no deaths or casualties there at the time of the Great East Japan Earthquake Disaster (2011). The wording can be attributed to seismologists at the time of this inscription discussing the disaster reduction role of tsunami stone tablets; simultaneously, it is inferred that as the Showa Sanriku Tsunami occurred ten years after the Great Kanto Earthquake in 1923, public concern regarding disaster prevention was aroused. Moreover, in the case of Iwate Prefecture, placing the stone tablets at the 1933 Showa Sanriku Tsunami's inundation height in affected communities was instructed by the prefectural government (Morimoto, Kawashima and Taguchi 2011). However, no matter how strong the hopes of the builders and the supporters of the stone tablets, their messages and the stones' existence, as well as the terror of the tsunami, was gradually forgotten with the passing of time, with some exceptions including the case of Aneyoshi mentioned above.

Despite Japan's National General Association for Stone Shops (*Zenyuseki*) having begun to erect more than 500 stone monuments, resembling the past stone tablets and bearing inscriptions of the incidents of disaster and educational messages for future generations, there have been demands for many of the tsunami ruins to be preserved and utilised for disaster education. Needless to say, many events have affected individuals, families, communities, and the entire nation, including the devastating famines of 1930–1934 (due to cold weather) and wars since the tsunami disasters of 1896 and 1933, and these events might have erased some memories of the tragedy. With some exceptions, in surveying the devastating damage of the 3.11

Tsunami, it seems that neither the traditional tsunami stone tablets nor any kind of stone monuments remain effective to encourage most people to prepare for future tsunamis. Huge ruins or remains, such as buildings and ships, attracted people's attention in the aftermath of the 2011 tsunami. Good states, referring to Weisenfeld and Lowenthal, that 'material preservation provides a sense of continuity with the past; direct link with the event that new monuments cannot provide'. He continues, 'monumentalising ruins of the disaster could be considered as society's next logical step up from *tsunamihi* [tsunami stone tablets] in the desperate attempt to solidify collective emotional memory of the event, so that future generations do not forget and make the same mistakes' (Good 2016: 148). Similarly, personal or family belongings recovered from a heap of rubble could ensure continuity with the past. The damaged materiality reminds its owner of the disaster event, and simultaneously provokes remembrance of the scenes of their life in association with the materiality before the disaster¹⁹⁾.

The tsunami disaster remains at issue in the devastated area could remind people of the destructive power of tsunamis and enhance awareness of preparedness for future tsunamis. The same remains, however, could also remind the bereaved of the death of their family or relatives. Though the sorrow and grief could fade away in the future, or a person in deep grief over the loss of his/her family member could rebuild his/her life, the remains might still trigger memories of the disaster.

In the most controversial cases of remains, their provocative power is clearly recognised by both supporters and opponents of their preservation. That is why the former emphasise their function as an educational tool for disaster prevention/reduction, and the latter their irresistible force to bring back experiences of painful devastation and loss (Oka 2000: 5–7). There are some bereaved people who reject interruption of their private intimate space, where they can have a sense of unity with the lost loved ones: in most cases, this is the place where their loved one was killed.

There is another driving factor for preserving these remains: tourism. Tour buses and private cars have been bringing many visitors to some locations of disaster remains. Such tours have been organised by tour companies or local hotels, and some have been accompanied by narrator-guides of the disaster. Although they have no intention to desecrate the dead, a not insubstantial number of visitors are eager to take photos of the places and of themselves at these locations. Understandably, local residents are quite resentful of the visitors taking photos bearing smiles in front of the remains, which are also places for grief and repose of souls for the bereaved. It is a sort of forced intrusion into the locals' private spaces.

In Iwate Prefecture, there have been few cases in which a public hearing has been held for the local government to decide on the remains' fates. At an earlier stage in the aftermath of the disaster, the mayors showed strong leadership in making decisions despite some public comments, such as in Kamaishi and Rikuzentakata, where the damaged buildings were demolished and removed from their sites.

Conversely, in the cases of Kesenuma, Minami-sanriku, and Ishinomaki in Miyagi Prefecture, public comments were invited on several occasions. The issue of the Minami-sanriku Government Office Building for Disaster Prevention has been exciting considerable public comment, but there had been no open meeting for residents to exchange opinions for and against preservation until quite recently. As mentioned earlier, there have been several occasions on which the supporters and opponents of preservation of school buildings for disaster monuments have been invited express their opinions. Regarding the Okawa Primary School, the aforementioned legal suit against Ishinomaki municipal government and Miyagi prefectural government has not become final and binding yet. Conversely, the city municipal government decided to preserve the school buildings as disaster monuments, and the school is now regarded as a place for prayer and education for disaster prevention. The lawsuit might open another channel to give an alternative meaning to the school building: no longer the focal point of discussions on whether to preserve or demolish, it has instead become the focus of the bereaved's civil claim against the governments of the city and prefecture. As a place for on-site-investigations of the incident, new meanings and experiences have been accumulated into the school building.

5 Conclusion: for Future Disaster Reduction

According to D. Hayden, the building is a more evocative source than any written records (Hayden 1995: 33). 'Place memory', according to philosopher Edward S. Casey, 'is the stabilizing persistence of place as a container of experiences that contributes so powerfully to its intrinsic memorability. An alert and alive memory connects spontaneously with place, finding in it features that favor and parallel its own activities. We might even say that memory is naturally place-oriented or at least place-supported, (Casey 1987: 186–187). The landscapes and townscapes of the tsunami devastated areas have completely changed, with high seawalls and land elevation through the huge amount of soil brought from inland, as measures to prepare for tsunamis in the future. Besides the memories of disaster, attempts to awaken and preserve memories of life before the disaster have become vigorous, by retrieving personal belongings, including photos²⁰.

In the afflicted areas, some people are enthusiastically recording and publishing their experiences, while others firmly keeping silent. Of course, the situation changes as time goes by, but it is not so easy for the bereaved to be healed of their painful memories of the disaster. The regular lives they once regarded as routine were suddenly pushed into chaos in the areas afflicted by the disaster, where they now live as disaster victims; they lost their families; the deaths and missing left the bereaved in a daze for a while, in some cases for several days; nobody around could give a good advice in such a chaotic situation; something triggers all these matters

to return to their conscious minds. Rather than saying that they recollect those memories of the disaster, it would more be accurate to describe them as being caught by those memories, beyond their control, involving the emotions and feelings of those days arising again (Oka 2000: 5–7). I suppose the disaster remains, subject to arguments over whether they should be preserved or demolished and removed, can become peremptorily associated with horrible memories of the disaster experience.

In the afflicted areas of Tohoku, records, memories, and remains of the disaster which have been retained so far are what their ancestors have handed down to future generations. In order to receive and to pass down the message correctly, we must understand how to prepare for disasters before they occur and how to respond when one occurs. That is, to grant our ancestors' wishes and to ensure the resident's safety, we must endeavour to learn from the experiences of and messages from our ancestors as predecessors, through education for disaster prevention/reduction in the community and in schools.

As anthropologists studying disasters, what practical research can we undertake regarding the records and memories of disasters? While the aforementioned ethnography of disasters creates the fact of a disaster from the viewpoint of a person concerned, anthropological fieldwork and ethnography based on the fieldwork should approach the lives of the people affected and try to capture their viewpoint in the social, historical, and cultural context. I have previously had the opportunity to present to anthropologists, describing the fact that in fieldwork in afflicted areas, anthropologists are increasingly being asked to communicate with people and 'to participate' in the activities of the people endeavouring to rebuild their lives and make their communities safer. Participation by anthropologists in 'the actual scene' means not only to understand the object of the research but also to become engaged practically in the issues they face (e.g. Shimizu 2003; Takezawa 2016). Today, in the afflicted area of the Great East Japan Earthquake, there are various attempts to record experiences and memories of the individuals and communities, and conflicts among the people concerned over the activities of recording and memorialisation. I consider that if we keep careful records of what is going on at 'the actual scene', this will be more valuable when we make use of records and memories of the disaster for future disaster prevention and reduction. In other words, to undertake ethnography concerning records, memories, and remains of disasters is to interpret all kinds of thinking of the individual research objects in accordance with the context and it becomes a work to attach meaning to them. Consequently, I believe this approach will raise additional value in the records and memories of what happened and what they experienced in the disaster, to be handed on to future generations without limitation to the affected region. At the time of the Great Hanshin-Awaji Earthquake in 1995, a fireman engaged in battling the fire felt conflicted when he was asked to go to another collapsed building to help someone to escape. The fireman rescued the person but he was already breathless. Nonetheless, he had to return to his duty,

even though he could not forget the tearstain in the person's face as it became black with smoke. He had no chance to tell others of this suffering, which would have had great effect in teaching the younger firemen that the actual scene of a disaster would not resemble what is written in manuals. We must come to understand that it is the various emotions, struggles, conflicts, and determinations that cause events to be kept as records, memories, and, eventually, disaster remains. Of course, to research the ethnography, sensitivity is necessary to deal with afflicted areas and afflicted people. Furthermore, a long-term commitment is required to move forward in the reconstruction, hand-in-hand with the people of the afflicted areas. Significant further observation and research will be required to understand the whole process of forming collective memory of the disaster through materiality and monumentalisation of remains. It will be a process of reducing intensity of conflicts and disputes over disaster remains.

This research was supported by JSPS KAKENHI Grant Number JP25220202, and The Agency for Cultural Affairs 'Project Found for Tourism Promotion and Regional Activation Utilising Cultural Heritages' 2013 and 2014.

Notes

- 1) *The Collective Memory Reader* edited by Olick, Vinitzky-Serousse and Levy, is recommended as an introductory anthology of 88 writings on memory from multi-disciplinary field, selected both before and after Halbwachs (1980).
- 2) The term 'collective memory' is not a philosophically or operationally precise one, as Olick and others state, and its conceptual, rather than signalling, value may have diminished over time as critiques and alternatives—e.g. cultural memory, communicative memory, social memory—have been articulated; moreover, much important relevant work employs none of these, yet advances the discussion (Olick et al. 2011). As to historical studies of the concept 'collective memory', refer also to 'Introduction' of *The Collective Memory Reader*, edited by Olick et al. (2011).
- 3) The Tokyo National Museum held a special exhibition, titled 'Seismic Studies and Historical Materials' (31 July–9 Sept. 2012): http://www.tnm.jp/modules/r_exhibition/index.php?controller=item&id=3336&lang=e (visited 31 October 2016)
The National Museum of Japanese History also held a special exhibition, titled 'Earthquakes in Japanese History' (11 Mar–6 May 2014)
<https://www.rekihaku.ac.jp/english/exhibitions/project/old/140311/index.html> (visited 31 October 2016)
- 4) Pantun Smong (Tsunami Poem)
Enggel mon sao curito (dengarlah sebuah kisah/please listen to a story)
Inang maso semonan (pada zaman dahulu kala/once upon a time in the past)
Manoknop sao fano (tenggelam sebuah desa/a village disappeared)
Uwi lah da sesewan (begitulah dituturkan/this is what was told)

Unen ne alek linon (Diawali oleh gempa/started with an earthquake)
Fesang bakat ne mali (disusul ombak raksasa/followed by big waves)
Manoknop sao hampong (tenggelam seluruh negeri/all country disappeared)
Tibo-tibo mawi (secara tiba-tiba/suddenly)

Angalilon ne mali (Jika gempanya kuat/if the earthquake is powerful)
uwek suruik sahuhi (disusul air yang surut/the shore retreats)

Maheya mihawali (segeralah cari tempat/find a safer place)
 Fano me singa tenggi (dataran tinggi agar selamat/ a higher elevation of hilly areas)

Ede smong kahanne (Itulah smong namanya/that what is called Tsunami)
 Turiang da nenekta (sejarah nenek moyang kita/a history by our ancestors)
 Miredem teher ere (Ingatlah ini semua/do always remember)
 Pesan da navi da (pesan dan nasihatnya/their message and advice)
 Seumlue (Indonesian/English)

(Translation from Simeulue to Indonesian and then to English by Ramadani Sleiman)

- 5) *Zud* is a Mongolia-specific winter disaster which undermines the welfare and food security of the herding community through large-scale death and debilitation of livestock. The direct cause of a *zud* disaster is the build-up of damaging natural phenomena including (i) severe widespread drought in summer, (ii) unusually cold temperatures in autumn and winter (below -40°C), (iii) deep snow (more than 70 cm), (iv) ice layers on the land and (v) low nutrient value of grass (UNISDR 2008: 27).
- 6) NPO Bosai Support OJIYA was established in March 2008 for the purpose of enhancing awareness of disaster preparedness and transferring lessons learnt from the 2004 Niigata-Chuetsu Earthquake Disaster. They send, to other municipalities a member with expertise in several fields, such as local government administration, medical care, social welfare, firefighting, anti-disaster voluntary organisations, etc.: <http://bousais-ojiya.jp/> (Visited 31 October 2016)
- 7) The municipal employees who worked in disaster response in the Tohoku disaster-stricken area have not yet started talking about their own activities as ‘storytellers’. However, some might have shared their own experiences with colleagues when they were sent to support the earthquake damaged municipalities in Kumamoto and Oita Prefectures in 2016.
- 8) These earthquakes-triggered tsunamis include: Keicho-Sanriku 慶長三陸 (1611), Meiji-Sanrikuoki 明治三陸沖 (1896), and Showa-Sanriku 昭和三陸 (1933).
- 9) Many videos shot in the devastated regions have been uploaded to YouTube since the disaster happened. Other archives include *Hinagiku* by the National Diet Library (<http://kn.ndl.go.jp/node?language=en>); the ‘Great East Japan Earthquake Archive’ by NHK (<http://www9.nhk.or.jp/311shogen/en/>); ‘*Michinoku Shinrokuden*’ by the International Research Institute of Disaster Research, Tohoku Univ. (<http://shinrokuden.irides.tohoku.ac.jp/>) (visited 31 October 2016)
- 10) What contribution can anthropology or anthropologists make for to disaster areas and the victims living there? To answer to this question, many anthropologists point out the importance of interviews with the victims. We can understand aspects of the lives of evacuees and the fear and hope for the future through victims’ experiences. Even at an earlier stage after the disaster struck, many people volunteered in those disaster areas and heard the actual experiences of the victims while sorting relief supplies, clearing away the debris, etc. Psychiatrists, however, fear adding to the victims’ mental burden and feel uneasy about the delay in their mental healing, or even the creation of additional mental scars, potentially caused by interviews and questionnaires which lack moral sensitivity (cf. note 17). Given these considerations, what kind of assistance can we provide without approaching the disaster areas? Alternatively, hereafter, what contribution can we make to the reconstruction of the disaster areas? These are on-going questions without definitive answers in discussions among my anthropology colleagues. We have published a temporal viewpoint of anthropological research in disaster situations, which advocates establishment of long term intimate relationship with the residents affected by the disaster (Ichinosawa, Kimura, Shimizu and Hayashi 2011). There was also a meeting on the Great East Japan Earthquake organised by young Japanese anthropologists at the time of the annual meeting of the Japan Society of Cultural Anthropology in 2011. A short report about the meeting was published later (Higa, Kajimaru, Namba and Nagata 2011; Hayashi and Kawaguchi 2013). Anthropological research and involvement in a disaster-stricken field site is not closely related to the topic of this paper and will be discussed furthermore on another occasion.
- 11) According to the 2016 seismic hazard map, issued by the national government’s quake research committee on the 10 June, the probability of a strong earthquake occurring in areas along the Nankai Trough within 30 years has risen by 1 to 2 percentage points since the last report in 2014. The probability of a huge Nankai Trough quake, with a magnitude of 8 to 9, occurring in the next

three decades is 60 to 70 percent, according to government modelling. Also, it is estimated that the probability of a magnitude 7 earthquake occurring during the next 30 years in the Tokyo metropolitan area is about 70 percent.

- 12) Telling Live Lessons from Tsunami Disasters along the Pacific Coast in Tohoku Region (A map-based database of the past tsunami-related memorials) is under construction.
<https://sites.google.com/site/higashinihondaishinsaiminpaku/> (visited 31 October 2016)
- 13) In the Yagi community in Hirono town, as well as in the Fudai and Ohtanabe communities in Fudai village of Iwate Prefecture, the annual memorial service is held in front of each respective tsunami stone tablet on 3 March when the Showa Sanriku Tsunami struck this region. There were no victims of the 2011 Great East Japan Earthquake in these communities.
- 14) To prevent experiences of the disaster from fading as time goes by, the Chuetsu Earthquake Memorial Corridor was built, leaving sites affected by the disaster untouched. Four facilities and three parks were established as places that convey memories of the disaster, and act as bases for the collection and use of earthquake archives. Myoken Earthquake Memorial Park is one of them (Hayashi 2016).
- 15) National newspapers: the Asahi Shinbun, the Yomiuri Shinbun, the Mainichi Shinbun, and the Nikkei. Local newspapers: the Iwate Nippo, the Iwate Nichi-nichi, the Tokai Shinpo, the Kahoku Shinpo, the Ishinomaki Hibi Shinbun, the Fukushima Minpo, and the Tokyo Shinbun.
Online news sites: Mainichi JP, Yomiuri on line, MSN Sankei News, JIJI.COM, NHK NEWS WEB, J-CAST NEWS, the Nikkan Kogyo Shinbun(web), Suponichi Annex, Nikkan SPA!, THE Huffington Post(Japanese), the Kobe Shinbun NEXT, and Tohoku Fukko Shinbun.
- 16) As mentioned above, I focus on disaster remains in tsunami-devastated areas in Iwate and Miyagi Prefectures, although there were several candidates to be considered as disaster remains in Fukushima Prefecture, such as the billboard promoting nuclear power (removed and stored at Futaba town's storage in December 2015 and later moved to the Fukushima Museum in Aizu-Wakamatu in October 2016), a blackboard of Ukedo Primary School bearing many messages, a damaged police car, and Toyoma Junior High School building (demolished in July 2015). I intend to consider those damaged structures and objects in the more specific circumstances of the nuclear power plant accident in another paper.
- 17) In this article, I deal with the period early on during which the collective memories of the disaster related to the remains were being formed. Much of the information obtained connected the decision process around whether to preserve or to demolish the remains: the opinions from individual citizens, the judgements made by the affected local governments, and the citizens' opinions about those very judgements. From now on, through the local activities related to the remains determined to be preserved, I presume that collective memories in relation to these remains will be built and solidified with some bumps and detours. In other words, I focus on the remains as objects that externalize and materialize memories of the disaster. Nevertheless, whether to preserve or to demolish the disaster remains has become quite controversial. People are still in the process of rebuilding their lives, finding jobs and places to live. Under these circumstances, I consider it significant to correlate the circumstances of the individuals who must express their opinions on the issues of disaster remains.

It is a fact that there are few accounts in the research, case studies are not scrutinised enough to make the data more crisp and precise. We can say that there were difficulties in carrying out the research—interviewing in particular—in the disaster-afflicted regions. In the proposal “Academic Research Concerning the Great East Japan Earthquake—Issues and their Future” announced by the Exploratory Committee on Academic Investigation Concerning the Great East Japan Earthquake of The Science Council of Japan in March 2013, it is noted as follows:

It is pointed out that during the process of the hearing investigation intended for the afflicted people, scientists place much value on each of their research interest. As a consequence, they lack in thought for grievous emotional pain of the afflicted people and their possibility of memory-retrieval-stress at the time of earthquake disaster. Scrupulous solicitude is necessary in the aspect of conducting research and handling personal information (p. 2).

Before this proposal was announced, starting with the Japanese Society of Psychiatry and Neurology emergency statement, many academic societies released guidelines for researchers in the afflicted areas. However, there remain a number of ethical issues associated with research in the affected areas, especially the lack of consideration for the afflicted people. The International Research Institute for Disaster Science of Tohoku University stated that research after disasters adversely affected the afflicted people as well as local municipalities. On that basis, they conducted an actual condition survey in the form of a questionnaire (intended for researchers) on ethical care during research into the people of the disaster-afflicted areas (reply deadline: year-end of 2016). All members of the 52 academic societies belonging to The Japan Academic Network for Disaster Reduction also are intended for this actual condition survey. Even a researcher who is not a member of these 52 societies should still abide by the code of ethics and guidelines for the investigation. It is taken for granted that researchers make every effort to exercise restraint in their words and actions as much as possible in disaster areas to do no harm to afflicted people and the affected local municipalities.

- 18) Kamaishi City http://www.city.kamaishi.iwate.jp/kurasu/bosai_saigai/detail/1191307_2221.html (visited 30 October 2016)
- 19) The evocativeness of materials is discussed by Nakamura (2012), Hagami (2013) and through an exhibition by Yamauchi (2014). An exhibition titled 'Documentary of the Great East Japan Earthquake and History of Tsunamis' opened at the Rias Ark Museum of Art in Kesennuma in April 2013. Its 200 snapshots and messages speak volumes of the damage wrought by the magnitude-9.0 earthquake and subsequent tsunamis of 11 March 2011. Also exhibited are 155 pieces of wreckage retrieved in Kesennuma City and neighboring Minami-sanriku Town.
- 20) These photos and other personal belongings are not just objects of memory but also remind their owners not to forget the disaster and the continuous efforts of many survivors to recover and rebuild their lives.

References

- Casey, E. S.
1987 *Remembering: a Phenomenological Study*. Bloomington: Indiana Univ. Press.
- Gaillard, J.-C., E. Clave, O. Vibert, Azhari, Dedi, J.-C. Denain, Y. Efendi, D. Grancher, C. C. Liamzon, D. R. Sari and R. Setiawan
2008 'Ethnic Groups' Response to the 26 December 2004 Earthquake and Tsunami in Aceh, Indonesia. *Natural Hazards* 47: 17–38.
- Good, M.
2016 Shaping Japan's Disaster Heritage. In A. Matsuda and L. E. Mengoni (eds.) *Reconsidering Cultural Heritage in East Asia*, pp. 139–161. London: Ubiquity Press.
- Evans-Prichard E. E.
1940 *The Nuer: A Description of the Modes of Livelihood and Political Institutions of a Nilotic People*. Oxford: Clarendon.
- Exploratory Committee on Academic Investigation Concerning the Great East Japan Earthquake of The Science Council of Japan (日本学術会議 東日本大震災に係る学術調査検討委員会)
2013 『東日本大震災に係る学術調査——課題と今後について』 東京：日本学術会議。(Academic Research Concerning the Great East Japan Earthquake: Issues and Their Future. Tokyo: The Science Council of Japan.)
- Hagami Taro (葉上太郎)
2013 『瓦礫にみならず』 東京：岩波書店。(Not Really Debris. Tokyo: Iwanami Shoten)
- Halbwachs, Maurice
1980 *The Collective Memory*, translated by F. J. Ditter Jr. and V. Y. Ditter. New York: Harper & Row.
- Hayashi, Isao
2012 Folk Performing Art in the Aftermath of the Great East Japan Earthquake. *Asian Anthropology* 11: 75–87.
2016 Museums as Hubs for Disaster Recovery and Rebuilding Communities. In N. Sonoda (ed.)

- New Horizons for Asian Museums and Museology*, pp. 165–176. Springer Open. (<http://link.springer.com/book/10.1007%2F978-981-10-0886-3>)
- Hayashi Isao and Kawaguchi Yukihiko (林勲男・川口幸大)
2013 「序〈特集〉災害と人類学—東日本大震災にいかに向き合うか」『文化人類学』78(1): 50–56。(Introduction <Special Theme> Disaster and Anthropology: Facing the Aftermath of the Great East Japan Earthquake. *Cultural Anthropology* 78(1): 50–56.)
- Hayashi Haruo, Shigekawa Kishie and Tanaka Satoshi (林春男・重川希志依・田中聡)
2009 『防災の決め手「災害エスノグラフィー」 阪神・淡路大震災 秘められた証言』東京：NHK出版。(Decisive Facts 'Disaster Ethnography: Testimony from the Great Hanshin-Awaji Earthquake Disaster. Tokyo: NHK Publication.)
- Hayden, D.
1995 *The Power of Place: Urban Landscapes as Public History*. Cambridge: The MIT Press.
- Higa Rima, Kajimaru Takeshi, Namba Miki and Nagata Atsumasa (比嘉理麻・梶丸岳・難波美芸・永田貴聖)
2011 「第2回若手懇談会・震災について語る会—日本文化人類学会の第45回研究大会若手懇談会報告」『文化人類学』76(3): 343–346。(Report on the Youth Round-Table Conference on the Earthquake Disaster. *Japanese Journal of Cultural Anthropology* 76(3): 343–346.)
- Hyogo Earthquake Memorial 21st Century Research Institute (ひょうご震災記念21世紀研究機構)
2008 『オーラル・ヒストリーの記録に基づく災害時対応の教訓の活用化報告書』神戸：ひょうご震災記念21世紀研究機構。(Report on Utilization of Lessons for Disaster Response based on Records of Oral History. Kobe: Hyogo Earthquake Memorial 21st Century Research Institute.)
- Ichinosawa Junpei, Kimura Shuhei, Shimizu Hiromu and Hayashi Isao (市野澤潤平・木村周平・清水展・林勲男)
2011 「東日本大震災によせて」(資料と通信)『文化人類学』76(1): 89–93。(About the Great East Japan Earthquake. *Cultural Anthropology* 76(1): 89–93.)
- Ishinomaki City (石巻市)
2016 「石巻市防災サイン基本計画」(Disaster Prevention Sign Basic Plan (Internet, October 31 2016, <http://www.city.ishinomaki.lg.jp/cont/10108000/004/sign.pdf>))
- Jordan, J. A.
2006 *Structures of Memory: Understanding Urban Change in Berlin and Beyond*. Stanford: Stanford Univ. Press.
- Kawashima, Shuichi (川島秀一)
2012 「浸水線に祀られるもの」『東北学』29: 27–37。(The Shrined along the Inundation Line. *Tohoku Studies* 29: 27–37.)
- Kitahara Itoko (北原糸子)
2001 「東北三県における津波碑」『津波工学研究報告』18: 85–92。(Tsunami Stone Tablets in Tohoku Three Prefectures. *Tsunami Engineering Report* 18: 85–92.)
2011 「蘇えらせよう、津波碑の教訓」『建築雑誌』126 (1624): 34–35。(Recall the Lessons Inscribed in Tsunami Stone Tablets. *Kenchiku Zasshi* 126 (1624): 34–35.)
- Kitahara Itoko, Masataka Uhana and Junzo Ohmura (北原糸子, 卯花政孝, 大邑潤三)
2012 「津波碑は生き続けているか—宮城県津波碑調査報告」『災害復興研究』4: 25–42。(The Rediscovery of Tsunami Monuments: A Survey and Study of Tsunami Monuments Preserved in Miyagi Prefecture. *Research on Disaster Recovery* 4: 25–42.)
- Kobe City Fire Department 'Yuki' editorial Board and Ryusuke Kawai (eds.) (神戸市消防局「雪」編集部+川井龍介編)
2012 『阪神淡路大震災 消防隊員死闘の記』東京：旬報社。(Great Hanshin-Awaji Earthquake: Records of Desperate Battles of Firefighters. Tokyo: Junpo-sha.)
- Metoki Kazuya (目時和哉)
2013 「石に刻まれた明治29年と昭和8年三陸沖地震津波」『岩手県立博物館紀要』30: 33–45。(Sanriku Earthquakes and Tsunamis in 1896 and 1933 inscribed in Stones. *Bulletin of the Iwate Prefectural Museum* 30: 33–45.)

- Morimoto, Takashi, Shuichi Kawashima and Hiromi Taguchi (森本孝・川島秀一・田口洋美)
 2011 「三陸の海、歴史と風土そして復興」『季刊東北学』29: 6–24。(Ocean, History, Cultural Climate and Restoration of Sanriku. *Quarterly Tohoku Studies* 29: 6–24.)
- Nakamura, F.
 2012 Memory in the Debris: The 3/11 Great East Japan Earthquake and Tsunami. *Anthropology Today* 28(3): 20–23.
- Nora, P. (ed.)
 2001–2010 *Rethinking France. Les Lieux de Memoire*, 4 vols, translated by David P. Jordan. Chicago: Univ. of Chicago Press.
- Oka, Mari (岡真理)
 2000 『記憶／物語』東京：岩波書店。(Memory/Narrative. Tokyo: Iwanami Shoten.)
- Olick, J. and D. Levi
 1997 Collective Memory and Cultural Constraint: Holocaust Myth and Rationality in German Politics. *American Sociological Review* 62: 921–936.
- Olick, J.
 2007 *The Politics of Regret: On Collective Memory and Historical Responsibility*. London: Routledge.
- Olick, J., V. Vinitzky-Seroussi and D. Levi (eds.)
 2011 *The Collective Memory Reader*. Oxford: Oxford Univ. Press.
- Sato, Shosuke and Fumihiko Imamura (佐藤翔輔・今村文彦)
 2016 「東日本大震災の被災地における震災遺構の保存・解体の議論に関する分析——震災発生から5年の新聞記事データを用いて」『日本災害復興学会論文集』9: 11–19。(Quantitative Analysis Situation of Disaster Remains in the Affected Area of the 2011 Great East Japan Earthquake and Tsunami Disaster: Content Analysis with Text Data on News Articles for 5 Years after the Disaster. *Collected Papers by Japan Society for Disaster Recovery and Revitalization* 9: 11–19.)
- Shimizu, Hiromu (清水展)
 2003 『噴火のこだま』福岡：九州大学出版会。(The Echo of Eruption. Fukuoka: Kyushu University Press.)
- Takezawa, S.
 2016 *The Aftermath of the 2011 East Japan Earthquake and Tsunami: Living among the Rubble*, translated by P. Barton. Lanham: Lexington Books.
- The United Nations International Strategy for Disaster Reduction (UNISDR)
 2008 Indigenous Knowledge for Disaster Risk Reduction: Good Practices and Lessons Learned from Experiences in the Asia-Pacific Region. (Internet, 31st October 2016, http://www.unisdr.org/files/3646_IndigenousKnowledgeDRR.pdf)
 2015 Sendai Framework for Disaster Risk Reduction 2015–2030. (Internet, July 4 2016, http://www.unisdr.org/files/43291_sendaiframeworkfordrren.pdf)
- Yamauchi, H. (ed.)
 2014 『リアス・アーク美術館常設展示図録 東日本大震災の記録と津波の災害史』気仙沼：リアス・アーク美術館。(Documentary of the Great East Japan Earthquake and History of Tsunami: A Permanent Exhibition Catalogue of Rias Ark Museum of Art. Kesenuma: Rias Ark Museum of Art.)

Internet

- Telling Live Lessons from Tsunami Disasters along the Pacific Coast in Tohoku Region* (A map-based database of the past tsunami-related-memorials) by Hayashi Research Lab
 Retrieved 31 October 2016 from <https://sites.google.com/site/hiagashinihondaishinsaiminpaku/Hinagiku> by the National Diet Library
 Retrieved 31 October 2016 from <http://kn.ndl.go.jp/node?language=en>
 Kamaishi City

Retrieved 3 October 2016 from http://www.city.kamaishi.iwate.jp/kurasu/bosai_saigai/detail/1191307_2221.html

Michinoku Shinrokuden by International Research Institute of Disaster Research, Tohoku University

Retrieved 31 October 2016 from <http://shinrokuden.irides.tohoku.ac.jp/>

National Museum of Japanese History

Retrieved 31 October 2016 from <https://www.rekihaku.ac.jp/english/exhibitions/project/old/140311/index.html>

NPO Bousai Support OJIYA

Retrieved 31 October 2016 from <http://bousais-ojiya.jp>

NHK Great East Japan Earthquake Archive

Retrieved 31 October 2016 from <http://www9.nhk.or.jp/311shogen/en/>

The Japanese Society of Psychiatry and Neurology

Emergency statement on the investigation and research practices concerning the Great East Japan Earthquake

Retrieved 31 October 2016 from https://www.jspn.or.jp/modules/english/index.php?content_id=49

The Tokyo National Museum

Retrieved 31 October 2016 from http://www.tnm.jp/modules/r_exhibition/index.php?controller=item&id=3336&lang=e