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Abstract

Japan and Indonesia, as two countries that are geographically vulnerable to tsunami disasters, have similarities in geography and culture. Analyzing disaster museums through the Inamura No Hi Museum in Japan and the Aceh Museum in Indonesia in communication, heritage, and cultural studies were conducted to show how museums' visual framework and experience are used to interpret post-disaster situations. This study aims to see how the Japanese and Indonesian disaster museums, closely related to visuals and local legends, convey information to educate the public about mitigation through the memory of the Tsunami disaster in the museum. This research is a comparative qualitative study with native ethnography as the method. This study analyzes three important theoretical aspects in establishing disaster memory through museums, and those are: information processing theory, disaster memory, and visual performing theory. In this study, there are three findings where the memory of the disaster is manifested in the Aceh museum and Inamura no hi no Yakata: buildings, exhibitions, and audio-visual media.

Introduction

Post-disaster places are of great interest for communication and memory studies. Post-disaster sites can generate new heritage and public memory (Christina & Marta, 2019). Some post-disaster sites have established museums to memorialize major disasters by collecting visual materials, documentation, and simulated experiences (Samantha, 2018). These museums aim to give voice to survivors' experiences of tragedies, build memory for the losses that occurred during disasters, represent local resilience, and educate visitors about disaster phenomena (Dimitriadis, 2020). However, critics also mention that these museums are contentious areas related to the ethical dilemma of public consumption of disaster heritage (Sugiyanto, 2021). Therefore, this research will compare Japanese and Indonesian museums to commemorate the Tsunami disaster, a great tragedy for both countries, to enrich discussions related to museums, science communication studies, and disaster

memory.

Although tsunami disaster museums are quite popular in Japan and Indonesia with rich cultural, educational and memory contributions, they are still underrepresented in academic discussions (Saputra & Marta, 2020). Investigating Japanese and Indonesian disaster museums in communication, heritage and cultural studies is crucial to show how visual and experiential frameworks in museums function to make meaning of post-disaster situations (Yusriyah et al., 2020). Therefore, these studies can provide useful insights by offering typological models, lessons learned, and examples of communicative practices in disaster museums. In addition, Japan and Indonesia have similarities to be used as two case studies, namely from the aspects of geography and culture.

First, both countries are geographically located on the Pacific Ring of Fire, which is the site of natural disasters, especially tsunamis and volcanic eruptions (Selva et al., 2021). Post-disaster places build and collect memories through museums to structure and connect their geographical imaginations with disaster experiences, collective memories, and communicative logic (Gunawibawa & Oktiani, 2020). Research projects that explore patterns or models of museum thinking in Japan and Indonesia through comparative studies on post-disaster museums are urgently needed (Kasim et al., 2021). Governments, companies, and communities in various countries are currently demanding studies as references for building memorial galleries, memorial sites, community museums, iconic buildings, and even dark tourism experiences on disaster heritage by reviving new meanings of disasters and tragedies from tsunamis and/or volcanic eruptions (Poluan et al., 2021). Comparative studies of Japanese and Indonesian museums can fill this knowledge gap by demonstrating how a nation remembers disasters for public education and awareness (Samiaji et al., 2022).

Second, this case study can show that the 'logic of working' for museums and post-disaster heritage in Asian countries differs from the Western paradigm. The dominant theory and practice of museums in the West is rhetorically mobilized through expert strategies (Ruan & Zheng, 2019). Meanwhile, comparative studies between Asian countries are still rare despite potential findings in finding similarities, differences, and interrelated patterns that can strengthen the significance of Asian thinking in academic discussions (Septiarysa et al., 2021). For example, the similarities, differences and interrelationships between disaster preparedness education and communities through Bosai kyoiku and Jishu Bosai Soshiki (Jishubo) in Japan and Disaster Response Education and Communities in Indonesia facilitated through these museums (Latukolan et al., 2021). Bosai and Disaster Response are cultural perspectives under the same framework of Build Back Better (BBB). Investigating museums in Japan and Indonesia by contextualizing these post-disaster landscapes reveals the ecosystems in which Asian logic works in producing heritage museums and informs scholars on how it operates within a central cultural, spiritual, and local framework.

Communication influences understanding disasters and retaining memories of disasters (Morgan & Pallascio, 2015). The disaster can create powerful discourses in communication, memory, disaster, and museum studies (Rico, 2020). Public memory and facts about the tsunami show that the impact can be seen by audiences (Rico, 2020). For example, the Aceh Tsunami Museum commemorates the Tsunami event as well as a momentum for the people of Aceh to remind anyone that the tsunami could happen again at any time (Novarisa et al., 2019). Over time, the museum was inaugurated as a formal tourist destination. The tendency of disaster museums in Indonesia is devoted to commemorating disaster tragedies.

This researcher sees that studies related to natural disaster memory need to be carried out comparatively by looking at the Japanese and Acehnese Tsunami

museums which have not been explored in depth. Most museum research that provides important findings comes from a Western perspective. Some highlight the homogenizing influence of global culture (Salazar, 2007), the legacy of white supremacy (Ranger, 2012), neoliberal public places, or minority voices working to counter-hegemonic culture (Ewalt, 2019). Such projects have rich connections with current studies in memory and public space. However, sites in non-western contexts can remind us that different cultures, settings, histories, and communities make different choices in providing experiences and memories of disaster through technology, design, and exhibition, situating 'disaster' with different experiences. With their (local) material richness, museum spaces, sculptures and monuments are crucial for studying rhetoric and public commemoration (McRae, 2003; Dickinson, Ott, Aoki, 2006). Museums provide discursive spaces that generate and reflect public memory. It also helps us to observe the ideas, messages and meanings of discursive spaces shaped by disaster situations - and memories - in the Indonesian cultural context (Allerton, 2009) especially from the aspect of communication.

Given the devastating power of the tsunami, the above background supports the idea of research into the museum. This study has two research questions: (1) How do museums in Japan and Indonesia convey tsunami disaster messages to the public? (2) How does the information packaging provided by the museum educate the public about tsunamis?

Literature Review

This research looks at three important theoretical aspects of building disaster memory through museums: information processing theory, disaster memory, and visual performance theory. The three are interrelated because information management has a process to store memory and retrieve it according to the needs that exist adjusted to the visual aspects offered by the museum.

Information Processing Theory

Information processing is analyzing individual senses, attention, and sensitivity to determine the information that should be stored according to their needs (Song, 2021). Working memory will store the information in the long term to be used in the future. This information will be connected so individuals can process phenomena at a certain time (Song, 2021). Xiong (2018), for example, explains that information that has been processed and correlated will become long-term memory and can be reactivated by individuals to be used as short-term memory. Jabeen et al. (2022), also said that information processing theory is a way for individuals to learn, correlate, and make decisions about the environmental events they live in. Storage, retrieval, and linking of memories will be tailored to individual needs (Jabeen et al., 2022). In addition, research by Yu et al. (2021) found three stages of information processing. These stages begin with the existence of (1) sensory memory, (2) then proceed with working memory, thus leading to (3) long-term memory. This stage will trigger sensory activities from sight and hearing. In these three processes, there is input in the form of sensory activity in the form of visual and audio (Yu et al., 2021). From this process comes attention and recognition of a pattern that can encourage working memory. Working memory will produce a response that departs from pieces of memory on something (Anggraheni et al., 2021). This is then passed on, interpreted, and stored in long-term memory.

This memory, then, is linked to disaster memory. Disaster museums provide a medium to educate communities about psychological and cultural responses to disasters and traumatic events, tsunami warning signs, how tsunamis form, and how to evacuate, and help schools and local communities recover from major natural

disasters (David, 2007). The memory of the aftermath of a disaster must be processed and communicated through words and experiences. This communication aims to help people understand their meaning and history. Signs of disaster memory are then interpreted and interpreted in museums (Le Blanc, 2012) to create knowledge about the disaster. It is the disaster memory that is captured and translated in the museum.

Disaster memory

Disaster memory describes the residual memories of individuals or groups of events that are considered to have hurt their psychological state (Le Blanc, 2012). Disaster memory usually occurs in people who have recently experienced a disaster, so psychological abnormalities occur when they see similar patterns of events. Several studies have explored how disasters occur to create a collective memory (Jia et al., 2022). Individuals or groups who witness a tragic event will have a higher level of awareness than ordinary people of the risks of the event. This perception of risk tends to lead to excessive fear or more complex psychological conditions (Le Blanc, 2012).

Disaster memory is complex, far from a simple recollection of an event. It is a process that includes, for example, mourning and recovery events. It varies greatly for each individual (Fuentealba, 2021). This helps to create a discourse about disasters, but reciprocally this discourse modifies disaster memory. For various reasons, the memory of catastrophic events can also be lost or largely altered (Sakamoto, 2021). These processes are related to the fact that the memory of disasters largely contains the pain and trauma of the victims (Allerton, 2009).

Decision-makers must confront the complexity of these memories as the emotional implications of these memories exist among populations that have experienced trauma (Allerton, 2009). They must ensure the resilience of the memory and ensure that the messages transmitted are not only received by the population but are also relevant - and this isn't easy, as memory is highly variable. The memory is then projected onto physical and material symbols that become a medium to express memory and identity (Wang, 2022). The memory from the materiality of post-disaster ruins also needs to be processed and communicated through words and experiences, Rico (2020) calls this the monumentalization of ruins to store disaster memory. Material traces can also be presented on panels that depict them, helping people understand their meaning and history (Bawalsah, 2016), one of which is to encourage post-disaster resilience.

The material aspect of the disaster museum is realized in the visual performance of the museum. Selby (2010) mentions that in realizing the memory of the past to the present, it is realized in the visitor's experience through visual aspects. Therefore, the negotiation aspect of meaning and memory is applied through understanding the enhancement of visitor experience and the visual perspective on memory. Through this, the discourse of disaster as an event in human life is played out in the form of language or stories that can shape people's reality and re-articulate the meaning of their lives in the museum through visual aspects (Ono & Sloop, 1995).

Visual Performance Theory

Visual Performance Theory explains how visual and audio media can represent a message to audiences. The relevance of this theory to the research lies in the Japanese cultural heritage in Aceh, which is used as a reminder to the people of Indonesia, Aceh, of the tsunami disaster that struck in 2004 (Harry et al., 2022). Messages in the Tsunami Museums in Japan and Indonesia consistently convey to audiences that tsunami disasters have a high level of damage, but the quantity of casualties can be mitigated.

Visual performance theory is also used to examine visual documentation. Researchers will interpret the mapping of the visible visual scene results to make

meaning (Marta et al., 2022). The visual performance the media provides will create an ideology for the audience. Cultivating perspectives can affect the audience's understanding of a phenomenon or the world (Harry et al., 2021).

Research Methodology

This research is qualitative in nature with an interpretive paradigm. This research method uses a comparative study where researchers will compare two different cultural heritage sites, namely the Tsunami Museum and Imamura no Hi no Yakata (Joko & Marta, 2017), especially those conducted during 2021-2022. The researcher will map the comparison of visual elements shown in the documentation as each communicator filmmaker conveys a message to the audience.

The primary data becoming the main domain in this research is a review of tsunami museum documentation in Japan and Indonesia. Angreani et al. (2021) explain that the documentation method is a way of collecting data that seeks to explore historical data so that researchers can connect the information they currently have to the information provided by the documents. Can & Kabadayı (2020) said that documentation records events in manuscripts, visuals, or monumental works designed by individuals or groups. Documentary research will place the researcher as a resource person who answers research questions. The researcher's interpretation of the documentation will determine the research results and discussion (Tang et al., 2020). The documentation collected in this research is official museum photos, illustrations, brochures, and communication materials distributed to conventional and digital media. The researcher also made visits and observations both virtually and offline by following the travel process and experiences while at the museum for the observation and shooting process for the data in this research.

Researchers used triangulation in this study as data analysis. The triangulation used is theoretical triangulation, which uses varied theoretical perspectives taken to justify hypotheses and interpret a set of data, namely comparative data about museums in Japan and Indonesia. The use of multiple theories in the same study is intended to support or refute the findings of other different theories. Also, it helps researchers to look at the problem at hand using several perspectives to see the solution. (Premaratna, 2021).

Results

To examine disaster memory through museums, the interpretation process is carried out on the manifestation of disasters and how people are presented with information about disasters through visual aspects. This aims to answer these two questions: (1) How do museums in Japan and Indonesia convey tsunami disaster messages to the public? (2) How does the information packaging provided by the museum educate the public about tsunamis? From this research, there are at least three studies where the memory of the disaster is manifested in the Aceh Tsunami Museum and Inamura no Hi no Yakata, namely through: building studies, exhibitions, and the use of audio-visual media.

Building Review

The Inamura no Hi no Yakata Tsunami Museum (Figure 1) is a memorial museum in Japan that demonstrates Japanese society's commitment to educating and reminding the younger generation to prepare for the harshness of natural disasters in Japan. The museum emphasizes post-disaster education and countermeasures to prepare people to face natural disasters anytime, from an early age (Syardiansah, 2020).

Figure 1. Inamura-no-Hi no-Yakata Tsunami Museum from the front entrance

Source: Public Relations Office Government of Japan (2015).

The museum, which was established in 2007, narrates the story of earthquake disaster management that dates back 150 years (Thompson, 2020). The earthquake that struck Hiro Village in the Kii Peninsula Region, known today as Wakayama, has caused aftershocks that many call the Ansei Tokai Tsunami (Nabe, 2014, p. 118). Hiragawa City became the museum's centre where Goryo was born (Himiyama, 2020). Information about the tsunami and its mechanism is explained in this museum. Goryo Hamaguchi is a legend known as an individual who educated elementary school students in Japan from 1930 to 1940 (Himiyama, 2020). This story is still used today to prevent casualties in a natural disaster because people have been prepared for the situation based on the museum's illustrations.

The museum, built in the style of a Sukiya (ceremonial drinking house), serves visitors several exhibitions related to the history involving the spirit of preventive action of the tsunami disaster, complete with the three wisdoms of disaster management, namely emergency, recovery, and prevention (David, 2017). The three wisdoms are poured into a game in the museum to encourage children to interact directly with illustrations of natural disasters. The Tsunami Museum also has a simulation room and theater to provide a picture close to Japanese society's social reality towards tsunami disasters. People cannot avoid natural disasters, but they can reduce the quantity of damage and casualties if they follow the procedures provided by the museum. The tsunami disaster management information presented at the Inamura no Hi no Yakata Museum demonstrates Japan's maturity in dealing with natural disasters, particularly tsunamis (The World Bank, 2016).

The Aceh Tsunami Museum (Figure 2–7, and 9) was designed as a symbolic museum for the Aceh earthquake and tsunami disaster that is still lingering in our memories on December 26, 2004. Unlike ordinary museums, this museum has 3 functions, namely as a center for Disaster Education (Education), exhibition of tsunami objects (Exhibition), and a disaster shelter (Evacuation) if a tsunami hits (Gani & Damayanti, 2018). This function is adjusted based on the community's needs because it is considered a disaster-prone area. The Tsunami Museum is the design work of a popular architect and bureaucrat from Bandung named Ridwan Kamil, who at that time served as mayor of Bandung, he was selected as the winner of an international competition in 2007 and beat 68 other architects (Dafrina, 2019). The
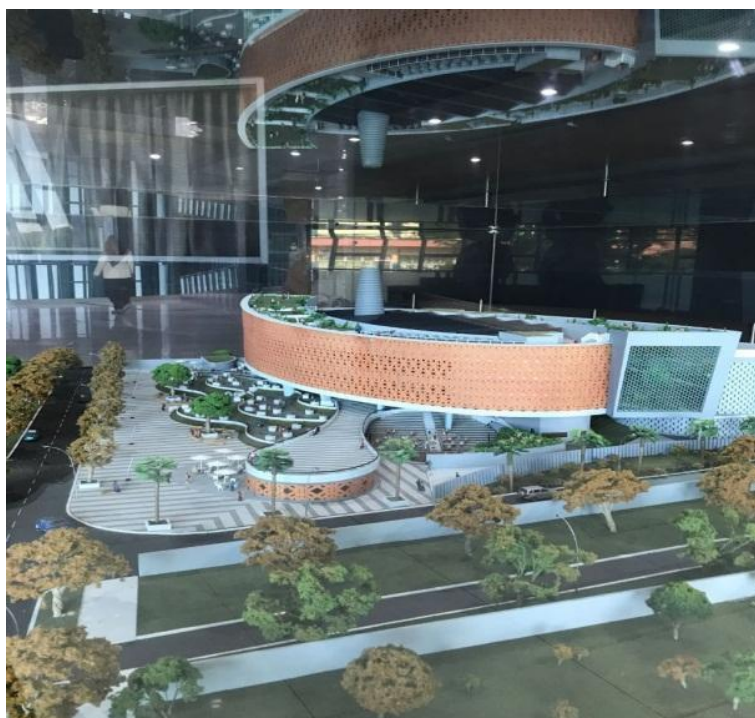
Figure 2. Miniature Tsunami Museum, Aceh

Source: Author's Personal Photo, 2022

museum was built in 2008 and then opened to the public in 2001. The museum is titled Rumoh Aceh as Escape Hill, combining traditional Acehnese houses' nuances and big waves like tsunami waves (Nazaruddin, 2021).

The museum consists of 4 floors with an area of 2500 square meters (Dafrina, 2019). The ground level of the museum can be used as a public space. There are also several traces of the 2004 tsunami event, some of which include: the tsunami exhibition room, which also shows the pre-tsunami situation, during the tsunami, and post-tsunami conditions (Nazaruddin, 2021). The second level is a multimedia access room consisting of an audio-visual room, a tsunami story room, an exhibition room before and after the tsunami, including the state of Aceh during the conflict between the central government and the Free Aceh Movement (GAM) (Nazaruddin, 2021). The third level provides several facilities such as a geology room, library and musholla. Then the top level is an emergency rescue center that can accommodate approximately 2000 people (Dafrina, 2019).

The shape of the building follows the shape of the tsunami water, a memory of the 2004 Aceh tsunami. From the side, the building looks like a ship. Entering it, we will pass through a small hallway with minimal light that mixes our emotions, like the atmosphere of people running from the pursuit of tsunami water (Figure 4). We will also hear people chanting *dhikir* and *salawat* as a representation of people who continue to remember that death came to the people of Aceh at that time, as well as splashing water from the side of the wall, which adds to the atmosphere even more similar when the tsunami occurred (Dafrina, 2019). After the tsunami hallway, we will find an exhibition room with 26 personal computers (PCs) (the date of the tsunami) showing photos of the aftermath of the tsunami.

Then we will enter the next room, the chamber of blessing (Figure 5) or the well of prayer (Irani et al., 2018). Inside are hundreds of thousands of tsunami victims affixed to the wall, and on the roof also has Arabic writing, "Allah", which describes that all these names and those still alive today will return to the almighty. (Irani et al., 2018).

Figure 3. Entrance to the Tsunami
Museum, Aceh

Source: Author's Personal Photo, 2022
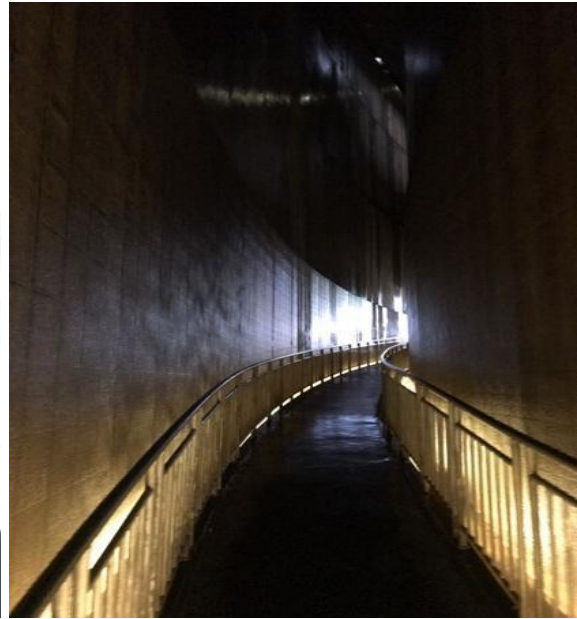
Figure 4. Tsunami Hallway, Tsunami
Museum, Aceh

Source: Author's Personal Photo, 2020

Figure 5. Chamber of Blessing, Tsunami
Museum, Aceh

Source: Author's Personal Photo, 2022

Figure 6. Hallway of Confusion, Tsunami
Museum, Aceh

Source: Author's Personal Photo, 2022

Another part of the building is the hallway of confusion (Figure 6). Anyone who passes through this hallway will feel dizzy because the floor structure continues to climb and circle (Dafrina, 2019). The atmosphere depicts confusion. Panic, and uncer-

Figure 7. Bridge of Hope, Aceh

Source: Author's Personal Photo, 2022

tainty of the lives of the survivors so that the person hopes for hope to welcome a new life.

The last part, before we go up to the second level, we will relate to a bridge called Bridge of Hope (Figure 7) which means there is new hope when seeing a lot of help from various countries (Irani et al., 2018). Another name is also commonly called the bridge of peace, which means that Aceh received the wisdom of peace after the tsunami. Exactly a year after the tsunami, an MoU was formed between the central government and the Free Aceh Movement (GAM) to remain under the auspices of the Republic of Indonesia with several new agreements. There are also flags of 54 countries worldwide that help restore the situation so that hope for a normal life can be realized more quickly (Irani et al., 2018).

Exhibit Review

The Inamura no Hi no Yakata gallery on the 2nd floor of the museum (Figure 8) shows the history of Goryo Hamaguchi and Inamura no Hi in wall illustrations. This legend is also featured in elementary school textbooks on the past in Japan.

The Aceh Tsunami Museum Corner introduces the museum's correlation with Inamura no Hi no Yakata by providing information on the 2004 Aceh tsunami (Figure 9). The Aceh Museum has a Japan Corner that also introduces the Inamura no Hi no Yakata Museum by displaying a portrait of the tsunami disaster in that country. This raises awareness of tsunamis among the people of Aceh and Japan, as both regions are prone to tsunamis.

On the 3rd floor of "Inamura no Hi no Yakata", a photo panel shows the damage from the Great East Japan Earthquake and the restoration and reconstruction efforts. Also, it is a video (projected to convey the "real situation" of the disaster area. This plays a role in the game. And there is a "special shelter" for residents living around "Inamura no Hi no Yakata" equipped with beds and food stocks.

Figure 8. Illustration on the wall, Inamura-no-Hi Museum, Wakayama
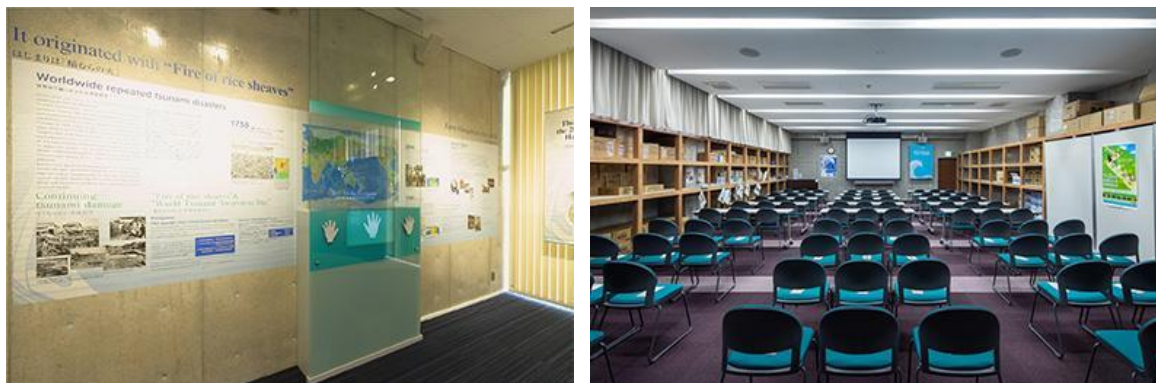
Source: Author's Personal Photo, 2022

Figure 9. Aceh Corner (left) and Video Show (right))

Source: personal documents, 2022

Temporary space is a space that describes how Aceh was before and after the tsunami occurred. There is a photo of the sunset, which describes that the day before the tsunami occurred, there was no sign of a major disaster. At the dawn of the holiday, the morning was also very calm, birds flew as they should, and the waves chased each other. The next photo depicts the earthquake and the frenzy of Acehnese people running without direction, greeted by the receding of the seawater to the middle of the sea. People who know this situation consider this a rare moment where people come down to pick up fish lying on the shoreline. After a few minutes, the sea spewed its water onto the land at a speed of up to 100 m/s or 300 km/h with a maximum height of 30m. The height of the water depends on the location of the incident. The pounding of water onto land that reaches the coastal mangrove forest area causes cranes to fly haphazardly towards the hills as a sign from nature for humans to run or evacuate themselves to the heights. An early warning system exists in nature to know the coastal area immediately.

The next room also contains photographs of the conflict in Aceh. Behind the great disaster that Aceh faced at that time, residents believe that there were many great lessons that the community could get, namely peace. For more than 30 years, Aceh was in a period of conflict, and many civilians became victims. The tsunami brought

Figure 10. Pepper Robot at Inamura-no-Hi Museum, Wakayama, Japan

Source: Inamura-no-Hi Museum Website.

great blessings because one year after the tsunami occurred, there was an agreement of understanding/peace, namely the MoU between the Government of the Republic of Indonesia and the Free Aceh Movement (GAM) in Helsinki on August 15, 2005. In this room, there are also photos of post-tsunami reconstruction.

Audio Visual Review

The museum also provides tsunami information through the hybridization of technology with Goryo Hamaguchi's local story. The 5023.16m2 museum is divided into two segments. The Goryo Hamaguchi Archives and the Tsunami Education Center share a common goal of educating the Japanese public about the tsunami disaster. The Goryo Hamaguchi Archive narrates Goryo's life and introduces visitors to the events of the tsunami, leading to his merits and character. The ground-floor theater takes visitors through Goryo's life using videos.

Visitors can learn about tsunamis with Robot Pepper (Figure 10). The humanoid-designed robot can recognize basic human faces and emotions and is optimized to interact with humans using touch screens and dialogue. Robot Pepper is an assistant to welcome, inform and guide visitors to the tsunami. Pepper robots with 20 degrees of freedom to move naturally and expressively can recognize sentences and dialogues in 15 languages, namely Japanese, English, French, Spanish, German, Italian, Arabic, Dutch, German, Mandarin, Korean, Polish, Brazilian, Portuguese, and Greek. This robot has a perception module to recognize and interact with people who talk to it, namely touch sensors, LEDs, and microphones for multimodal interaction as well as infrared sensors, bumpers, inertial units, 2D and 3D cameras, and sonar for omnidirectional and autonomous navigation. With the sophistication of this robot, it will certainly increase the opportunity for visitors from all over the world to find out and interact with the robot regarding what they want to know about the tsunami disaster.

The learning space prepares visitors through videos and games to deal with tsunamis, and audio-visual media is used to invite visitors to interact (Figure 11). One of the games in the learning space is known as Ranger Inamura where the game is designed to make it easier for the younger generation to understand tsunami countermeasures (Chinmi et al., 2021).

Figure 11. Superhero Animation at Inamura-no-Hi Museum, Wakayama, Japan

Source: Inamura-no-Hi Museum Website.

A small 13-meter-long tsunami generator was also built to give visitors an overview of tsunamis. Visitors' understanding of tsunamis can be enhanced through tsunami simulations, allowing them to identify the process of tsunami occurrence and how tsunami waves differ from normal waves. The 3-dimensional Theater Room provides movies about the dangers of tsunamis (Irani et al., 2018). The 7-meter-wide 3-dimensional image makes visitors feel the danger of a tsunami every 30 minutes.

The museum has an audio-visual room where visitors can watch a documentary film lasting approximately 10 minutes that can bring the audience's imagination to 2004, when the tsunami devastated the land of Aceh. Not surprisingly, many visitors cried watching the amateur video collected by several residents who had captured the event. The video begins with Acehnese residents in several areas panicking when the morning earthquake occurred with force far greater than the earthquakes in Aceh with a magnitude of 9.1 SR.

The video shows that the water passed through the Banda Aceh city area precisely in front of the Baiturrahman Grand Mosque, and a lot of garbage, wood, zinc, cars, and household items were carried by the water passing in front of the Baiturrahman Grand Mosque. The atmosphere makes anyone who watches it sad and even cry seeing such conditions. Instant noodles and sardines had become a daily food in Aceh then. The video will make viewers realize that humans are helpless before the almighty God. Every year the Aceh government also organizes a commemoration of the tsunami disaster as a form of realization of the Aceh government's motto, "Against Forgetting" so that children and grandchildren know that one of the world's biggest disasters ever occurred in Aceh.

The Tsunami Museum building is a historical monument to the Aceh tsunami. You can find photographs and amateur videos of the Aceh tsunami inside the museum. The building is designed to remind us of the tsunami atmosphere, all the spaces inside are full of meaning, and anyone who enters it will feel almost the same atmosphere of fear as when Acehnese people ran from the tsunami water. The building also embraces traditional elements translated into the museum's exterior. The saman dance reflects Hablumminannas (the concept of human relations in Islam) among Muslims and all other religious communities. The museum's interior will also lead us to contemplate the devastating disaster experienced by the people of Aceh and to surrender and recognize the strength and power of God.

Discussion

Building disaster memory through museums requires a process of interpretation of disasters and how people perceive disasters. Therefore, to discuss the first question, namely (1) How do museums in Japan and Indonesia convey the message of the tsuna-

Table 1. Images of Japan and Indonesia's comparative findings based on the museum inspection model map

Manifestation of the same disaster memory	Differentiating factors between Japan and Indonesia	Wakayama, Japan	Aceh, Indonesia
Building	History	History and Characterization Story of Hamaguchi goryo	History of Aceh
	Traditions	Sukiya House	Combined design: - Aceh traditional house - Ship - Mosque - Like the waves
	Geography	Wakayama	Aceh
	Monumentalist function	Reminder of Hamaguchi Gory's contribution	An iconic reminder of the Aceh tsunami
Audiovisual	Technology	- Robot - 3D - LCD player - Video games	- LCD player - Tsunami soundscape
	Media that is familiar to the surrounding community	- Comics - Wood fiber dolls - Newspaper - Manga characters	- Newspaper - Aceh iconic shirt
	Media collection during disasters	Recording video, sound, or photos from victims and Japanese mass media	Recording video, sound, or photos from victims and Indonesian mass media
	Scientific explanation	Explanation of Tsunamis in Japan and the World	Explanation of Tsunamis in Indonesia and the World
Exhibition	Collection of artefacts or manuscripts	- Old school textbooks - Old school photo	- Photo of Aceh victims
	Spiritual Aspects	- Temple - Zen Garden	- Asma Allah - Carving the name of Allah, the name of the victim
	Public space setting	- Exhibition space - Aceh Corner	- Exhibition space

Manifestation of the same disaster memory	Differentiating factors between Japan and Indonesia	Wakayama, Japan	Aceh, Indonesia
			- Bridge of Hope
	Debris left over from the disaster		- Motorcycle
	Simulator	- Tsunami generator	- The rumbling sound of tsunami waves

mi disaster to the public, this research uses three studies where the memory of the disaster is manifested in the Aceh Tsunami Museum and Inamura no Hi no Yakata, namely through: buildings, exhibitions, and the use of audio-visual media. However, sociocultural and spiritual elements, technology, and communication media developed in these places are relevant within these three manifestations. Table 1 illustrates the findings of the model.

In examining this research, the manifestation aspects of buildings and exhibitions show that memory is processed and communicated through words and experiences, and material traces should be presented on panels that depict them, helping people understand their meaning and history. Visitors feel various impressions and new knowledge through architectural design, audio-visual media, and facilities provided to convey information about disasters. Attention or attention will determine what can be stored in working memory for further use according to the needs of visiting the museum and experiencing the process offered by the museum (Chinmi & Marta, 2020).

Next, to answer (2) how the information packaging provided by the museum educates the public about tsunamis and their dangers, this research discusses the exhibition and audio-visual reviews. Museums not only tell about natural disasters that occurred in the past but also educate visitors about preventive steps when facing natural disasters (Agung et al., 2021). This finding correlates with the educational function where the drama plays a story translated into a short film that illustrates the process of the tsunami. Articles published on the official website also encourage delivering messages to visitors. The information process provided by the museum is channeled in the form of information and education so that disaster memories are born in museum visitors.

The sensory stimulus aspect is captured in sensory memory. Sensory memory is then passed on to working memory, where individuals can remember the information experienced to filter it into long-term memory (Tjajadi et al., 2021). Working memory must repeat information regularly to get deeper information so that it is more embedded in the individual's mind. The information processing results create disaster memories from the tsunami museum (Fernando et al., 2020). Visitors can recall what they have seen and learned in the museum. Similarities and differences in media do not close the message distribution process to visitors to instill a disaster memory.

Heroic stories by certain characters also support state-of-the-art facilities and technology to encourage long-term disaster memory retention in visitors. What is interesting about the delivery of these memories is that children learn through games using iconic characters, like adults who use stories from the past that narrate the characters who dealt with the tsunami disaster. Information packs relevant to each generation instill disaster memories and provide all visitors with an impression of tsunami danger. Visitors use this information in the future in case of the next tsunami.

Disaster memory plays an important role in the preparedness of people who have visited the tsunami museum to reduce the amount of damage and loss of life based on what they have learned at the museum.

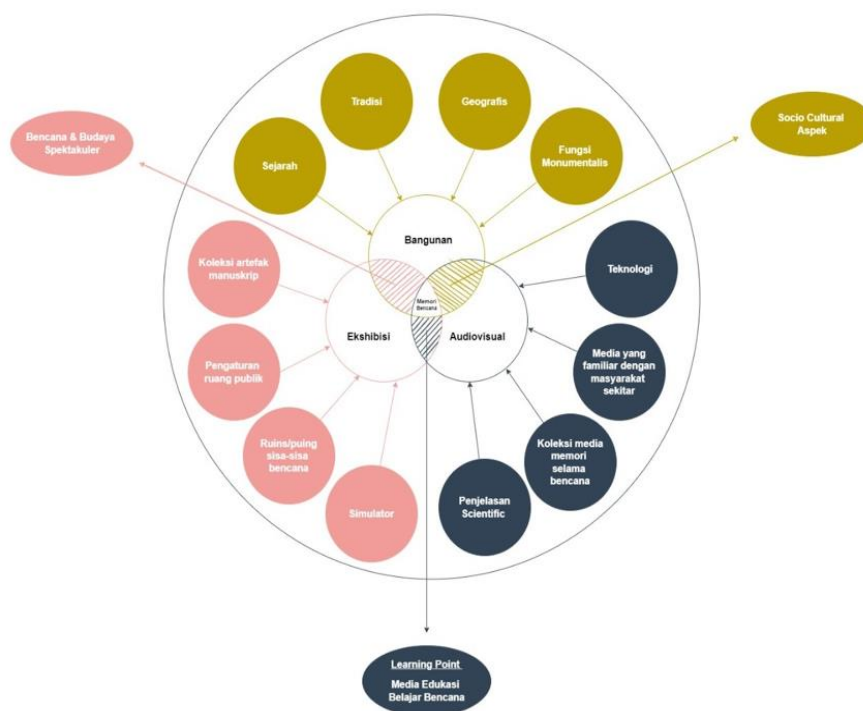The results of the data analysis showed how the Aceh and Japan museums built a

Figure 12. Disaster Memory Manifestation Model Map of the Tsunami Museum

memory of the tsunami disaster for the public. Communication sources and channels helped the museums to convey the warning message to each visitor so that people would remember the tsunami disaster in the long term without having excessive fear. Digital sites provide historical information, facilities, profiles, and heroic stories of individuals who played a role in responding to the disaster. The slogans "governing the nation and providing help to the people" and "respecting human life" can be found in this medium. Both tsunami museums convey disaster communication through images found in the museums combined with sociocultural aspects in the local environment.

As a study, this research also contributes by presenting a model map which is the result of examining a disaster museum based on the manifestation of disaster memory by having three aspects of the study, namely through: building, exhibition, and the use of audio-visual media. Figure 12 shows how the two museums show similarities and differences in manifesting disaster memory.

This model map can serve as a checking point for future researchers to continue the results of this study. This model map was obtained from researchers conducting comparative studies on these two museums. For example, in studying buildings, researchers can look at aspects of history, tradition, local geography, and the monumental function of buildings. This study also intersects with the study of exhibitions, where researchers can look at aspects of artefact collections, the arrangement of public spaces, disaster debris exhibitions, and simulators. On the one hand, visual studies encourage researchers to look at aspects of technology, media familiar to the local community, media collections that store memories during disasters, and scientific explanations. From the intersection between these three studies, this research can see how disasters become part of spectacular culture because

they come from spectacular events that can attract mass attention and become a spectacle. In addition, the disaster museum can also become a medium of education and information, especially if it is related to the intersection of exhibition and audio-visual studies. Finally, the sociocultural aspect is vital to put a different element in the disaster museum. Disaster materials may be the same, but the sociocultural aspects of community memory, how to present this collective memory, and its relationship with the local situation can be unique selling points for disaster museums.

Conclusion

The results of this research can provide a comparative picture of the logic at work of the two museums in Japan and Aceh. Both museums have differences and similarities. From this research, there are at least three findings where the memory of the disaster is manifested in the Aceh Museum and Inamura no Hi no Yakata, namely through: buildings, exhibitions, and audio-visual media. However, in these three manifestations, sociocultural and spiritual elements, the use of technology and communication media that have developed in the place become relevant according to the data listed.

The materials may differ, but the purpose and intention of conveying disaster memory may refer to aspects of sociocultural locality inherent in the surroundings and aspects of technology management capabilities that museum managers can adapt. Comparing museums in Japan and Indonesia by contextualizing the post-disaster landscape can reveal the ecosystem where the logic in museum production is and how this logic is realized in the center of the cultural, spiritual, and local frameworks.

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