

Tourism industry perspectives in disaster management planning: Cases from Indonesia and Japan

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Abstract

This paper aims to explore the main concerns of the tourism industry in both countries in regards to disaster management planning and to identify the roles of the tourism industry in disaster management within the framework of collaboration with the governments. The main study in Indonesia was conducted in Bali and Yogyakarta, two of the most visited tourist destinations in Indonesia but both have been affected by natural disasters, especially volcanic eruptions and earthquakes. The study used a multiple-case study approach, with two cities in Indonesia were chosen for the purposes of theoretical replication. The study then uses a "lens" (or "keyhole") comparison approach by conducting semi-structured interviews in tourism and disaster management stakeholders in Japan with the purpose of using the data as a lens through which to view the cases of Indonesia. Data collection methods are semi-structured interviews with the tourism industry and focus group discussions (FGD) with experts in Indonesia and semi-structured interviews with relevant stakeholders in Japan. This research concludes that there are differences in how regions and their tourism sector develop their preparedness towards disaster in Indonesia. This is due to differences in policies, industry structure and capacities to deal with disasters. The study also identified differences in disaster awareness between Indonesian and Japanese tourism stakeholders. Forms of public and private collaboration have been identified in both countries with sometimes differing perspectives and concerns due to policies, infrastructure and ecosystem for disaster management planning in general.

Keywords: tourism, disaster management planning, Indonesia, Japan

Introduction

Tourism is a highly volatile industry. Hospitality and tourism businesses should stay alert, monitor, prepare and plan for various external shocks (Hall, 2023). However, this is not an easy task because of at least three reasons: it is a challenging task to stay alert in a multi-threat environment amid substantial day-to-day operational concerns; it is not feasible to plan for every disaster as they are simply not predictable all the time; some businesses may not have the capacity to formulate contingency plans because of resource constraints (Hall, 2023). Prideaux et al. (2021) suggested a learning destination approach involving a broad range of communities working collaboratively to mitigate future crises. On the other hand, Hall (1999) said that integrated tourism planning may be regarded as an interactive or collaborative approach which requires participation and interaction between the various levels of an organization or unit of governance and between the responsible organization and the stakeholders in the planning process to realize horizontal and vertical partnerships within the planning process.

Japan and Indonesia as illustrated in Figure 1, are countries prone to natural disasters amid both countries' emphasis on tourism. Indonesia is located at the junction of tectonic plates, circum-Mediterranean and circum-Pacific seismic zone, whereas Japan has a history of great earthquakes. Both are listed as countries with the most active volcanoes in the world (Buchholz, 2023). In 2019, Japan recorded the highest international tourists arrival of 31.88 million visitors, while after the pandemic the number of international

arrivals reached 25 million in 2023 or almost 80% of the highest recorded number in 2019 (Statista, 2024). On the other hand, Indonesia had 16.1 million international tourists in 2019 and 68% recovery to that pre-pandemic level in 2023 with 11 million international tourists (BPS, 2024).

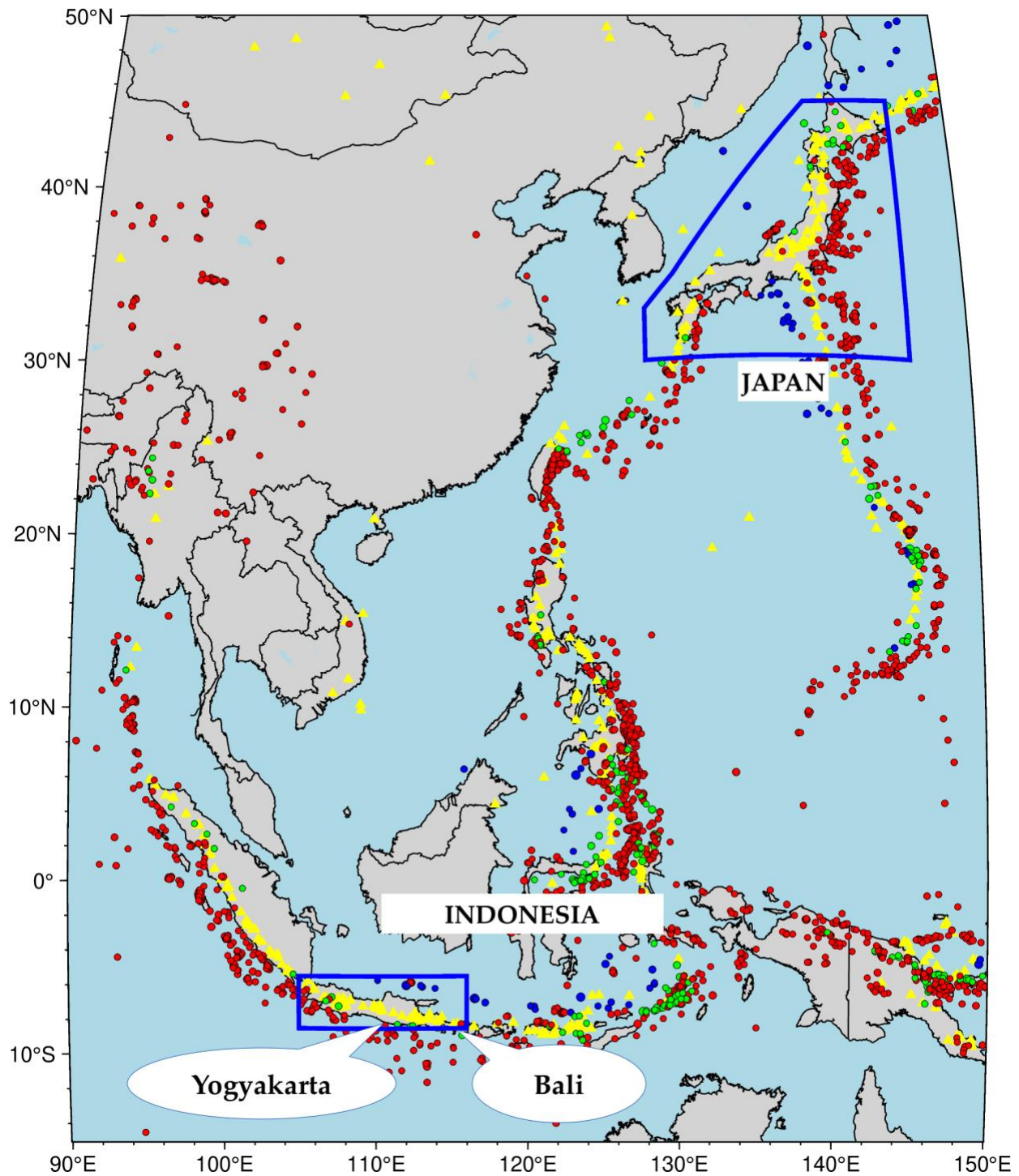


Figure 1: The locations of Indonesia and Japan situated at the convergence of tectonic plates and the Pacific Ring of Fire. The study areas of Java, Bali, and Japan are highlighted with blue boxes. The

distribution of volcanoes is represented by yellow triangle symbols, and the red, green, and blue dots indicate the distribution of earthquake occurrences with magnitudes above 5 from 2020 to 2024

This paper aims to explore the main concerns of the tourism industry in both countries in regards to disaster management planning and to identify the roles of the tourism industry in disaster management within the framework of collaboration with the governments. The main study in Indonesia was conducted in Bali and Yogyakarta, two of the most visited tourist destinations in Indonesia but both have been affected by natural disasters, especially volcanic eruptions and earthquakes. Deadliest earthquake on May 27th 2006 with magnitude 6.3 caused more than 5.700 casualties in the Yogyakarta region. This city is also situated near one of the world's most active volcanoes, Merapi Volcano (Septiana et al., 2019; Troll et al., 2015). In 2019, the number of tourist arrivals in Yogyakarta was 4.3 million, of whom 11% were foreign tourists (Badan Pusat Statistik Provinsi Yogyakarta [BPS Yogyakarta], 2023). In 2023, Yogyakarta received 7.2 million tourists, with about 105,000 of them being international tourists. In terms of tourism contribution to the province's economy, the accommodation and food and beverage sectors' contribution to Yogyakarta's gross regional domestic product (GRDP) was about 10% before the pandemic whereas the tourism-induced economy represented 55% of the destination's total GDP (BPS Yogyakarta, 2023).

While Yogyakarta is predominantly visited by domestic visitors, Bali on the other hand, is the most visited destination in Indonesia by international visitors. The number of international arrivals in 2019 reached almost 6.3 million (BPS Bali, 2023). In 2023, Bali recorded 5.2 million international arrivals and 9.8 million domestic visitors. The contribution of accommodation and food and beverage sector to Bali's gross regional domestic product (GRDP) was about 20 per cent before the pandemic, whereas the overall tourism sector contributed to 54% of the province's economy (Badan Pusat Statistik Provinsi Bali [BPS Bali], 2023). However, Bali is also prone to natural disasters, especially volcano eruption (Kriswati et al., 2022), earthquake and tsunami.

Ngin et al. (2020) mentioned that different businesses react differently and have different capacities to deal with disasters, whereas different types of disasters may require specific adaptive strategies. The ability to deal with and adapt to disasters was pointed out by Cochrane (2010) as resilience or the ability, or capacity, to withstand, or quickly recover from a shock through various mechanisms including flexibility, adaptability and adjustment to events that may be internal or external. Prideaux and Beirman (2024) also said that at an enterprise level, resilience describes an organisation's capacity to respond to change through adaptation to deal with the impact of a shock, whereas at a destination level, resilience is a measure of the destination's ability to respond to change without suffering a significant decline in economic activity. A study by Kausar et al. (2024) comparing five regencies in Bali and Yogyakarta in their level of preparedness towards natural disasters supported the indications that destinations have different capacities in dealing with natural disasters, as those with higher occurrence of disasters show a higher level of readiness.

Considering differences between regions on how the tourism sector develops their preparedness towards disaster, Bajracharya et al., (2012) also argued that there may be differences in how the tourism industry, which mostly represents the private sector, collaborates with the government or the public sector. In Japan, Nguyen et al. (2017) with their study in Matsushima, found that hotels could play a key role in working together with the local government towards disaster risk management. However, their research also identified financial issues, limitations in knowledge and human resources that hindered the role of these Japanese hotels in playing a key role in disaster risk management. Hence, these issues were overcome through relevant workshops and other resources committed to increase the hotels' readiness provided by destination marketing organizations (Nguyen et al., 2018). Another Japanese experience in an initiative undertaken by the tourism industry to work with the government in improving disaster

readiness is reported by Takamatsu (2024) on the development of a comprehensive disaster manual via a consultative process. This manual is designed to be used in the event of future and expected disaster events in the Fuji Five Lakes District in Honshu, Japan as the region is susceptible to a number of natural disaster events including volcanic eruptions, earthquakes, typhoons and heavy snowfall.

Japan is renowned as a global frontrunner in developing comprehensive hydrometeorological and disaster risk management (DRM) systems (GFDRR, 2016). In 2017, the World Bank teams also noted Japan's preeminence in the areas of emergency preparedness and response (World Bank, 2017). Therefore, this study is interested in exploring how the Japanese tourism industry is involved in disaster management planning within the framework of collaboration with the governments and then do a comparative analysis with the case of Indonesia.

Methods

The study used a multiple-case study approach, with two cities in Indonesia were chosen for the purposes of theoretical replication. According to Ridder (2017), in theoretical replication, cases are selected to predict contrasting results. In this study, despite the position of Bali and Yogyakarta as two primary tourists destination in Indonesia, the former has more international tourists while the latter has been more popular among domestic tourists. The former has also been hosting more international events, most of them being intergovernmental events with more rigid safety requirement. The study then uses a "lens" (or "keyhole") comparison approach by conducting semi-structured interviews in tourism and disaster management stakeholders in Japan with the purpose of using the data as a lens through which to view the cases of Indonesia.

Data collection methods are semi-structured interviews with the tourism industry and focus group discussions (FGD) with experts in Indonesia and semi-structured interviews with relevant stakeholders in Japan. Interviews and FGD in Indonesia were participated by relevant government agencies related to tourism management, planning, and disaster countermeasures, and tourism industry associations representing the hotel, tour and travel, transportation, and attraction sector. On the other hand, data in Japan was collected through interviews with informants representing the hotel association, travel association and a destination manager in Aichi Prefecture, Japan, academics from two state universities - one located in Nagoya, Aichi Prefecture while the other is in Sendai, Miyagi Prefecture or the Tohoku region which was hardly hit by the great March 2011 earthquake. In addition, visits and discussions were also conducted at the Aichi Prefecture Disaster Management Headquarter within the Aichi Prefectural Government and Kiso Ontake Volcano Observatory in Nagano Prefecture. Data analyses use thematic analyses to look for patterns in the meaning of the data and identify themes.

Results and Discussion

The study in both tourists' destinations in Indonesia found that within the reduction phase, hotels associations work with the government in communicating the need for disaster preparedness for its members. Four and five-star hotels, which are classified into businesses with high risk level need to be built in accordance with construction and building code that is issued by the Ministry of Public Works and Housing and obtain a Certificate of Worthiness stating that they have conformed to this code and gone through a surveillance process conducted by the Central Government. In addition, Bali Province has another measure for disaster risk reduction in the tourism industry called the Certification for Disaster Preparedness for Tourism, Business, and other Service Providers, issued by the Bali Province Disaster

Countermeasure Agency (BPBD). More than 60 hotels and other related businesses such as convention halls and golf clubs have been certified, most of them located in coastal areas, particularly in the Nusa Dua Tourism Area (a specially designated resort area which applies spatial zoning design, shoreline boundaries, landscaping concept, security system). The resort, which has been used many times as a venue for international events, has been prioritized due to the risk of earthquakes and tsunamis.

Having conducted the certification process since 2014, Bali demonstrates a more advanced implementation of disaster management due to international market demand, whereas in Yogyakarta, dominated by domestic visitors, the situation is otherwise. Bali's position as Indonesia's most visited destination and the various international events it hosted (Mahadewi et al., 2014) may contribute to this practice. Such a situation has prompted sizable international chain hotels and tour operators to operate on the island, most of them already equipped with internationally recognized disaster management standards.

Nevertheless, although the certification is conducted free of charge, there are many requirements that must be fulfilled, including first aid and CPR training, fire drill training, which requires considerable funds. The hotel managers that were interviewed hoped the government could fund these trainings. The certification process that was done after the pandemic became quite burdensome since many hotels were still trying to recover from the impact of the pandemic. In contrast to Bali, the informants in Yogyakarta argued that such certification will be problematic to implement as the tourism industry in this province is mainly dominated by medium and small businesses. This argument lends support to Hall et al. (2020) statement that larger firms tend to have access to knowledge and financial resources while small to medium independently owned businesses lacked strategic and resources available for disaster planning and preparedness. Similar sentiments about certification being burdensome were also mentioned by representatives of tourism industry associations at the national level who were interviewed separately in Jakarta. They argued that Disaster Preparedness Certification components should be included in the Cleanliness Health Safety and Environmental Sustainability (CHSE) - which started after the pandemic, as one of the components of safety, if it was to be adopted to the national level.

The study in the two provinces also revealed some issues in tourism disaster management planning, such as the process of socialization and monitoring on destination readiness which have not been done continuously, a tourism crisis and disaster management plan that has yet to have a fixed mechanism, and unclear source of official information in times of crisis (Kausar et al., 2023; Kausar et al., 2024). Moreover, disaster management policies still overlap between agencies, resulting in overlapping budgets, which risks budget waste. These issues call for the need to have guidelines for disaster management in tourism issued by relevant government agencies which can be followed by the private sector. Stakeholders in the two provinces believe formation of a special organization for crisis management in tourism is necessary for destinations prone to disaster. Another important issue that was discussed by the informants was the lack of disaster awareness in general that is shown by all stakeholders or even the society in general.

The comparative research in Japan, on the other hand, revealed some contrasting findings. Representatives of hotel associations in the city of Nagoya, the capital of Aichi Prefecture said that hotels undergo regular fire drills and receive a certificate of Fire Safety Certification Mark System which indicates hotel readiness towards disaster, especially (although limited to) fire. Hotels also play an important role in emergency situations such as earthquakes and typhoons as they are asked by the government to store emergency supplies. In coastal areas, hotels also served as evacuation places in the incidents of tsunami.

The visit to the prefectural disaster management office could also give illustration to the culture of disaster awareness in Japan. The Disaster Management Headquarter conducts regular sessions that are open to the public to improve disaster awareness and readiness. These sessions are participated voluntarily by the people. Past disaster experiences are also used as references for increasing disaster awareness, such as shown at the Kiso Ontake Volcano Observatory, where visitors can learn about volcanoes through the various interactive displays. Many universities, including Nagoya University and Tohoku University also operate disaster mitigation research centers or institutes with displays that are open for the public to learn.

Concluding remarks

This research concludes that there are differences in how regions and their tourism sector develop their preparedness towards disaster in Indonesia. This is due to differences in policies, industry structure and capacities to deal with disasters. These findings contribute to the current literature on tourism and disaster management planning by presenting results from two different regions in a country, which found that there is different level of disaster preparedness between regions and different priorities chosen by their stakeholders, which among others is influenced by international tourism demand.

The study also identified differences in disaster awareness between Indonesian and Japanese tourism stakeholders. Better awareness towards disaster in Japan is the result of disaster education that has been conducted since the early stage. Forms of public and private collaboration have been identified in both countries with sometimes differing perspectives and concerns due to policies, infrastructure and ecosystem for disaster management planning in general.

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