Abstract

For many coastal destinations, its intrinsic aspects serve as key features in attracting visitors. Although the risk of exposure to natural hazards exist, tourism stakeholders may be reluctant towards adopting structural mitigation strategies in fear of negatively impacting local scenery. Although literature has identified how the accommodation industry can contribute in a variety of non-structural mitigation activities, the 2011 Great East Japan Earthquake saw limited adoption of official evacuation hotels along the coast. This research examines public-private collaboration across Japan in order to identify barriers in collaboration and how the existence of destination marketing organization can overcome these barriers, and methods utilized towards successful collaborative outcomes.

1. Introduction

1.1 Tourism Vulnerabilities to Natural Hazards

For many coastal destinations, the ocean is one of the primary intrinsic assets used to attract visitors. Due to its rapid growths in the economy and tourism development, the Asia-Pacific is predicted to become the largest tourism region in the world, and projected to welcoming over 535 million tourists by 2030 [1][2]. However, as much of the Asia-Pacific rim lies within the ring-of-fire, these coastal destinations are vulnerable to a multitude of natural hazards which include: tropical cyclones, flooding, earthquakes, landslides, and tsunamis. Despite these vulnerabilities, local planners may be adverse towards structural mitigation strategies, due to fears of altering local landscapes and negatively impacting the tourism experience [3]. Planners may also be reluctant to support mitigation measures against low-risk but high impact disasters such as large tsunamis, due to the high costs of development and long-term maintenance. Non-structural mitigation can be an alternative solution that can be less costly and reduce exposure to hazards, prevent loss of life, and strengthen destination disaster resiliency [4]. Indeed, research on the 2011 Great East Japan Earthquake and Tsunami (GEJE) have found strong correlation between mortality rates and a municipalities social capital and political orientation [5].

The addition of tourists to a destination's population exposes a new demographics group to natural hazards. The transient population may be unaware of local hazard risks, may lack knowledge on personal safety strategies, and may possess risk perceptions that differ from the local permanent population. The gap between the local community's risk perception and transient population was seen during in Khao Lak, Thailand during the 2004 Indian Ocean Tsunami where

1

tourists accounted for nearly half of the fatalities. Those who survived stated that they were unaware of local hazards and disaster evacuation routes [6]. Kelman et al interviewed British tourists visiting locations affected by the 2004 Indian Ocean Tsunami. Interview results demonstrate that although some interviewees began evacuation procedures after noticing initial tremors, many others did not evacuate and remained in the same location after shaking. In addition, in Sri Lanka, located far from the epicenter to notice shaking, suffered the second highest tsunami related casualties in 2004 [7].

Although hotel and resorts continue to attract investments into hazard prone areas where risks are inadequately addressed, they also represent opportunities to contribute to local area disaster resiliency through a variety of disaster risk management strategies. According to a United Nation's report, hotels and resorts possess the tallest and physically strongest structure in a coastal area, allowing it to withstand the impacts of tsunamis and function as a vertical evacuation building. Its large room capacity can serve as short-term refuge during the recovery phase of a disaster, while it's the presence of large food stock and back up electric generators can be utilized by evacuees. In addition, as hotels and resorts are usually one of the major origin-destination points for travelers, they can become prime locations for the dissemination of hazard risk reduction information [8].

Despite the potential of hotels and resorts during disasters, the UNISDR Global Assessment Report has found that while the hotel industry is able to manage low impact hazard events well, extreme events are often poorly managed. Many hotels do not have the mechanism to reduce risks and be prepared for disasters [9]. As with the case in Khao Lak, Thailand, hotels and resorts disagreed over their role and responsibilities in informing and evacuating tourists. Other tourism businesses stated they lacked money, necessary manpower, or knowledge that prevented them from assisting tourists [10].
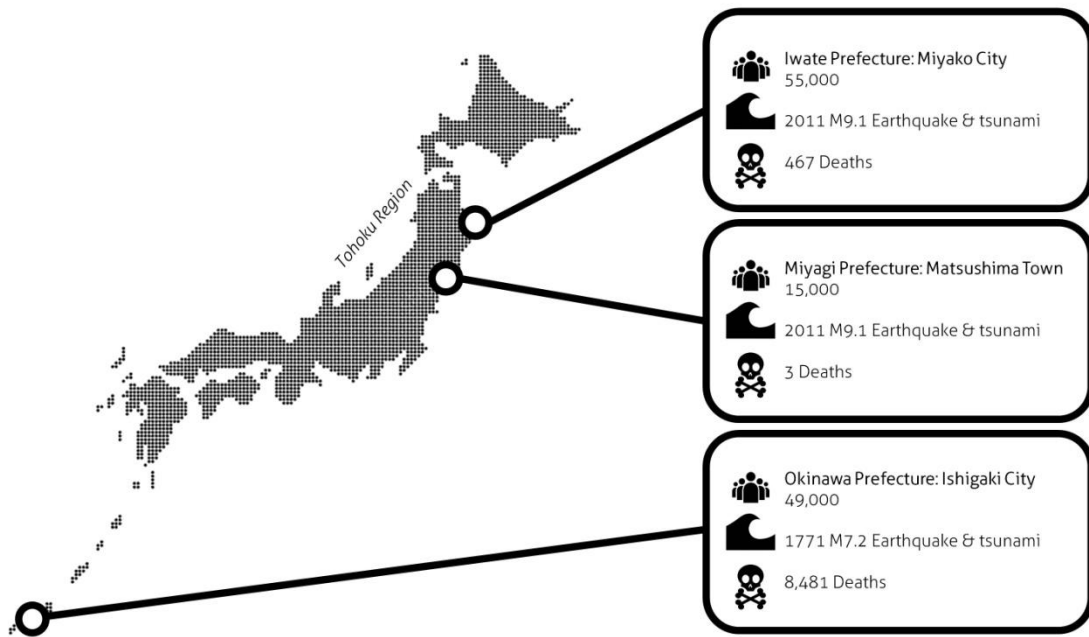
Figure 1 Location of our case studies. All three municipalities are coastal towns with small populations and significant vulnerability to earthquake and tsunami hazards

1.2 Research Objectives

Existing research in Japan have identified that in several of the cities that were devastated by the 2011 GEJE, such as Ishinomaki and Kesennuma, multiple hotels received evacuees. Prior to the tsunami, owners and managers had offered their hotels to local officials in hopes of being officially recognized as official evacuation buildings [11][12]. This research examines public-private collaboration in Japan and the outcomes it has produced towards disaster risk management among the hotel industry since 2011. For the purpose of this research, we have chosen two coastal cities in Tohoku, the region most devastated by GEJE, and examine how local governments and the hotel industry have collaborated towards implementing hotel based disaster risk management and improving destination resiliency. Additionally, a third city located in southern Japan in Okinawa Prefecture, was chosen due to its similar tsunami hazard risk as well as the presence of an established Destination Marketing Organization (DMO)(Fig 1).

Through this comparison, this research first examines the nature of public-private collaboration in two municipalities in the Tohoku Region, Matsushima Town and Miyako City, and seeks to discover how disaster risk management between the municipality and hotels have changed after 2011, and what kind of barriers may exist that prevent the adoption of disaster risk

3

management initiatives. Secondly, by adding a third city, Ishigaki, this research examines how the existence of a DMO can influence collaborative planning outcomes towards disaster risk management and what lessons can be adopted by tourism stakeholders.

2. Literature Review

2.1 Collaborative Planning Theory

Collaborative planning is broadly defined as a collective process for participants to resolve their conflicts and to advance shared visions among a diverse set of stakeholders [13] [14]. It differs from other participatory methods in that it emphasizes voluntary participation, face to face dialogue, social learning, and consensus based agreements [15] [16] [17]. The level of involvement between stakeholders surpasses other planning processes and can be seen as a strategy to deal with conflict where other practices have failed [18]. Local stakeholders are encouraged to define and develop policy agendas that affect their place [19].

The primary benefit of collaborative planning is that it is more likely to resolve conflict among competing stakeholders than other methods as it identifies solutions that needs the mutual needs of all parties than individual groups [18] [20]. Through dialogue, emancipatory knowledge can be achieved via the engagement of all those with differing interests and stakes. However for this knowledge to emerge, stakeholders must be equally informed, listened to, respected, and none can be accorded more power than the others. High quality agreements are produced and are easier to implement and more durable due to the consideration of a wide range of interests, and are likely to be innovative due to being the outcome of dynamic interchange. Collaborative approaches in urban planning also strengthens institutional capacity through their effects on knowledge, relational resources, and the capacity for mobilization. Social capital is generated which lead to new or strengthened relationships, which Booher refers to as second order effects. Further successful collaborations can even spawn third order effects which include spin-off partnerships, new collaborations, the emergence of new norms or the establishment of new institutions [15].

Despite the benefits of collaborative planning, a number of obstacles have been identified that may dissuade stakeholders from participating. Due its emphasize on dialogue and consensus building, collaborative planning has been viewed as being time intensive [21]. Due to the amount of time required, stakeholders have felt that a collaborative approach can be inefficient. Unfortunately research that cans identify that efforts to improve its use in urban planning have been limited by the lack of useful evaluation methodologies [22]. Secondly, despite efforts to limit power imbalances that may emerge from the presence of influential stakeholders, asymmetrical distribution of

4

negotiation skills and resources may allow such stakeholders to continue to dominate the collaborative processes [23] [20].

2.2 Destination Marketing Organizations

The predecessors to DMOs were established in the early 20th century. Many of these pioneer DMOs formed in the distant peripheries of the world, such as the establishment of the New Zealand Department of Tourist and Health Resorts in 1901, Hawaii Visitors Bureau in 1903, and similar organizations in Jersey and Hong Kong. However it was primarily throughout the 1980s and 1990s that witnessed the rapid world-wide expansion of convention visitor's bureaus (CVB). Essentially, the terms CVB and DMO are interchangeable. Referred to as CVBs for many decades, destination marketing organizations began identifying themselves as DMOs in an effort to convey a less bureaucratic connotation to tourists [24].

The primary motivation for government intervention in tourism is due to growth opportunities. For DMOs, their purpose is to achieve, enhance and sustain destination competitiveness. To achieve this, DMOs are expected to coordinate stakeholders from relevant industries, monitor service and quality standards and foster community relations [25]. Significant levels of cooperation and coordination, both within government departments, and between government and industries are required. Only governments can provide such coordination due to access to revenue and ability to legislate, otherwise many DMOs at any administrative level will not be able to function.

Destination collaboration at the community level is a complex task due to the general lack of financial and human resources, biased interest among stakeholders, and insufficient understanding of local communities on tourism marketing [26] [27]. The fragmented nature of the tourism industry is such in which no single agency can control and deliver a rich combination of a tourism product and service portfolio at a destination [28] [29]. Executing collaborative strategy depends on a great deal of coordination, communication and consensus building which engender negotiations and even confrontation [30]. DMOs serve as the nerve center for collaboration, their roles as a convener in the process of community-based tourism planning as a result of its legitimacy, expertise, resources, and authority. Through collaboration, the different ideologies and values among tourism stakeholders can be reconciled, efforts made at understanding key issues, and consensus building [31]. Although many DMOs are funded via public sources, they funding are also collected through businesses tax such as room taxes. The funding structures lead to a cooperative relationship between DMOs and the hospitality and tourism industries, especially with the hotels

[31].

No destination is immune to natural hazards, thus for DMOs, the development of recovery strategies with local governments are imperative. Although rebuilding infrastructure is beyond the scope of most DMOS, they nevertheless can play key roles during a crises, mainly to stop or minimize panic, define roles and responsibilities, and to develop countermeasures alongside other tourism stakeholders. According to Pike, DMOs contribute towards disaster management through the following actions: The creation of a disaster management task force, creating a disaster management plan, develop scenario building, establish effective media relations, support local businesses, enhance disaster risk awareness among tourism operators,   and outsourcing certain roles when needed [25]. Example of DMO responses to crises were seen during the aftermath of the United Kingdom's foot and mouth outbreak that saw 40 million pound marketing plan to recovery tourism, as well as Indonesia's closure of its own DMO that resulted in a significant decrease in tourism[32] [33].

3. Methods

3.1 Research Design

As of 2016, 13 percent of research on tourism and disaster management utilized mixed methods, compared to 51 percent utilizing qualitative methods and 36 percent that adopted quantitative methods. This research adopts a mixed-methodology of data collection and analysis. A sequential explanatory approach where quantitative data collection and analysis is used in the first phase, then followed by a qualitative phase in which qualitative information is collected in order to further explain and interpret the quantitative findings [34]. Guiding this research, we adopted a framework designed to examine the public-private collaboration process from stakeholder perspectives on disaster management [35].

3.2 Survey Design

The quantitative phase utilized a three part survey which asked four questions relating to barriers in adopting the following hotel based disaster risk management initiatives: participation as an evacuation building, availability of a multi-lingual disaster information for tourists, the existence of emergency electricity and provisions for evacuees during a disaster, and disaster training for hotel staff. Following this, respondents were then asked to complete a six question survey utilizing a seven point likert scale, which measured interviewee's attitude towards the current collaboration process

with other stakeholders towards hotel-based disaster management. The six questions asked respondents to rate whether there were incentives to collaborate with other stakeholders, if equal opportunities were afforded, whether they benefitted from having their needs met, if sufficient time was given to understand information and make decisions, if facilitation was independent, and whether agreements were done through consensus.

The qualitative phase was conducted either simultaneously during the quantitative phase or shortly after, depending on the mood of the interviewee. This phase consisted of a semi-structured interview which asked interviewees their experiences during the 2011 disasters, and what kind of changes in disaster preparedness has occurred afterwards. Interviewees were then shown examples of disaster preparedness initiatives, such as multi-lingual pamphlets utilized elsewhere in Japan such as in Atami and Ishigaki, and what other hotels were doing to prepare themselves. Interviewees would reply with their opinion on these activities, whether it was needed, what was preventing them from adopting it, and what they would like to see from now on.

3.3 Case Studies

A case study research design was adopted due to its usefulness in investigating "how" and "why" type questions in regards to examining a set of events over which the investigator has little to no control over [36]. Key variables can be derived from case study approaches [37]. A multiple-case study approach is utilized, with three cities chosen for the basis of this research, providing a more robust analytical conclusions and increasing external validity when compared to a single case study. For the purposes of triangulation, two cities were chosen for the purpose of literal replication, where results between the two cases are expected to be similar. The third city was chosen for the purpose of theoretical replication, predicting contrasting results but for predictable reasons [36].

Matsushima Town was chosen for the pilot study, due to its close proximity to our research institution, as well as being the most renowned coastal tourism destination the Tohoku Region. Miyako City, a coastal city located 160 kilometers north of Matsushima and also affected by the 2011 GEJE, was chosen for the purpose literal replication. Finally, Ishigaki City was chosen for the purpose of theoretical replication due to the presence of a DMO as well as its similar population size to the aforementioned municipalities which may highlight the scale of problems facing small cities.

Within the identified case study cities, we conducted a census of all hotels found within tsunami inundation zones identified by municipal and prefectural maps. In Matsushima, six of the eight hotels agreed to be interviewed, a response rate of 75 percent. In Ishigaki, eight out of twelve hotels were interviewed, a response rate of 67 percent. Finally, six out of seven hotels in Miyako

agreed to be interview, a response rate of 86 percent. In addition to the hotels, we interviewed the municipal governments of all three cities, usually consisting of a representative from the disaster/crisis management division, and the tourism division. The inclusion of both divisions stems from overlapping responsibilities for tourism disaster management. For example evacuation buildings and evacuation training falls within the jurisdiction of the disaster/crises management division while disaster education and communication falls within the tourism division. Interviews were also conducted with the prefectural government's tourism division, but did not focus on disaster preparedness policies with hotels as such responsibilities belong with the local governments. Instead, we asked prefectural representatives about information related to the creation of DMOs, purposes, and direction in relation to disaster management. Similarly, interviews were conducted with OCVB, Okinawa Prefecture's DMO, and the emerging Sanriku DMO of Iwate Prefecture, and Miyagi Minami DMO. DMO related questions were the same as those asked to the prefectural governments.

4. A Tale of Three Cities

4.1 Ishigaki City

Ishigaki City is located in Okinawa Prefecture, Japan's southernmost prefecture, and the only administrative division to consist entirely of small islands. Ishigaki City consists of Ishigakijima (or Ishigaki island), and the Senkaku Islands whose ownership is disputed with the People's Republic of China, and the Republic of China. Ishigakijima, alongside neighboring islands of Taketomi, Iriomote, Hateruma, Kohama, Hatoma, and Kuro Islands, form the Yaeyama Region encompassing the southern half of the prefecture. Most of the Ishigaki City's population of 49,000, is concentrated on the southern coastline of Ishigakijima.

Historically, Ishigakijima's economy centered upon agriculture, particularly sugar cane plantations, and textiles. The conclusion of World War 2 led to United States occupation and administration of Okinawa Prefecture. Upon reversion to Japan from US control in 1972, the Japanese government enacted a series of five ten-year development plans which sought to expedite the development of the islands to match the rapid economic development ongoing in the Japanese mainland. These plans re-imagined Okinawa as a tourism destination and sought the expansion of transportation links and the construction of resort hotels. While much of the development was focused on Okinawa Main Island, Ishigakijima was to become the epicenter of tourism in the Yaeyama Region [38]. As a result of these plans annual visitor numbers skyrocketed from less than 10,000 in 1973 to roughly 1.3 million visitors in 2016 [39].

Although Ishigaki City has not experienced any recent large tsunamis, the entire Yaeyama Region experienced multiple catastrophic tsunamis in the past. The most recent large tsunami was the 1771 Great Meiwa Tsunami, which is recorded to have killed 9,313 people in the Yaeyama Region, with 8,481 of those deaths in Ishigakijima alone. Monuments and folktalkes of the tsunami persist today, a testament to the tsunami's widespread devastation. Research on tsunami boulders estimate that Ishigakijima's tsunami intervals at every 250 to 400 years, with a majority of the stones found along its southern coast [40]. Based on this evidence, eight tsunamis have struck Ishigakijima during the last 2400 years: 250±100 B.C., A.D. 200±100, A.D. 550±100, A.D. 800±100, A.D. 1100±100, A.D. 1400±100, A.D. 1625, and 1771 [41]. Over 55 percent of of Ishigaki City's population reside along the southern coastline of Ishigakijima, exposing a large number of residents and tourists to tsunami hazards [42]. Our case study research in Ishigaki City will only focus its southern coastal hotels, due to its population density. Historically of the 8,481 deaths during the 1771 tsunami, 81 percent of the deaths were in this southern coast line. Although the northern-eastern part of the island, such as the Inoda, Ibaruma, and Yasura districts witnessed over 90 percent of its population perish to tsunami waves, they were excluded from this study as there are currently no hotels in the area.

4.2 Miyako City

Miyako City is located on the eastern coast of Iwate Prefecture, Tohoku's largest administrative division and second largest in Japan. Although it's population of 55,000 is similar in size to Ishigaki City, the city spans over a large area over 1,250 square kilometers. Despite the city's large size, it is sparsely populated with much of the land consisting of steep mountains. The majority of the city's population resides around Miyako Bay and the mouth of the Hei River, as well as a small cluster of people around the Taro district up north.

Miyako is renowned as Japan's city of fish, exemplified by its mascot being a large salmon. The fishing industry, alongside its agriculture industry plays the primary role in the city's economy. It's tourism industry remains modest with only 1.2 million visitors in 2016 (The method of counting tourists differs substantially in the Tohoku prefectures when compared to Okinawa, thus while Miyako's annual visitor numbers appear far larger than Ishigaki's) [43]. Despite its limited tourism infrastructure, the city has made ambitious goals in strengthening is tourism sector as a means to revitalize the local economy. With the 2013 establishment of the Sanriku Fukko National Park, Miyako hopes to capitalize with its famed Jodogahama Beach, also designated as the nation's place of scenic beauty. Jodogahama, alongside Desakifuto Port, attract over 80 percent of the city's visitors [43].

The Sanriku area was devastated multiple times by large tsunamis, such as the 1896 Sanriku Earthquake brought tsunami waves of 18.9 meter, the 1933 Sanriku Earthquake that destroyed 98% of Miyako's buildings, and the 2011 GEJE that led to the largest tsunami wave of 19 meters, inundating the city and contributing to the confirmed deaths of 420 and the destruction of 4,005 buildings. The experiences with devastating tsunamis has led to heavy fortification of the city's coastline, yet in spite of these physical mitigation strategies, one of the most iconic images of the 2011 GEJE disaster was that of the tsunami waves overcoming the seawalls.

4.3 Matsushima Town

Matsushima Town is located on the eastern coast of Miyagi Prefecture, within close proximity to Sendai City, the capital of Miyagi Prefecture as well as being Tohoku's most populous municipality. Due to its small population of approximately 15,000, Matsushima is designated as a town, while municipalities with a population of roughly 50,000 and over are categorized as a city. While agriculture and its commercial fishing industry are significant contributors to the town's economy, tourism plays the largest role contributing to roughly 60 percent of its revenue [44].

Matsushima is renowned as one of the Nihon Sankei, or Japan's three Great Scenic Views, alongside Miyajima in Hiroshima Prefecture and Amanohashidate in Kyoto Prefecture. Visitors to the town are able to travel by ferry to view the 260 islets that adorn the bay, as well as multiple historic temples and shrines. It's close proximity to Sendai City and Sendai Airport attracts many tourists residing there.

While Matsushima Town is exposed to many of the same coastal hazards that many cities along Tohoku's coast line faces, the presence of its islets functioned as a buffer for tsunami waves. As a result, while neighboring Shiogama and Higashi-Matsushima cities were devastated in 2011, Matsushima received relatively light damage, being inundated by waves between 3 to 4 meters, only three deaths, and 219 houses destroyed. However despite the limited physical damages, transportation operations were suspended for a month and annual tourism numbers have yet to recover to pre disaster levels. As of 2016, tourism recovery appears to have stagnated.

5. Results: Hotel based disaster risk reduction initiatives

The most recent prefectural and municipal policies and plans were reviewed in order to determine official stances in six areas of disaster risk management: If tourism is considered a vital part of the economy, if tourism vulnerability to natural hazards is identified, the need for vertical evacuation, the need for multi-lingual hazard risk information, the need to maintain a supply of

emergency food stock and generators, and the need for evacuation training in hotels. These plans do not necessarily imply that the municipal government has already adopted these initiatives, but that they are striving to reach these goals. Of the three case studies, Ishigaki was the most robust, with all six areas identified in its plans at both the municipal level and at the prefectural level. This was followed by Matsushima which published two plans related to tourism and disasters, when combined, addresses all six areas. It is important to note that at the prefectural level, disaster plans were limited in identifying vulnerabilities to tourism, which was then amended in an update to include all areas except hotel evacuation training. Miyako came last with municipal plans addressing only the importance of tourism, its vulnerabilities and the need for emergency stock. Although vertical evacuation was briefly mentioned in the plans, there were no details provided. Similarly at the prefectural level, while it acknowledged tourism as a key part of the economy and its vulnerability to hazards, it was lackluster in identifying hotel based disaster risk reduction and preparedness initiatives (Table 1). The following surveys and interviews sought to determine the current state of implementation.

Table 1 A compilation of key features from the most recent disaster and tourism related plans at both the prefectural (in white) and municipal level (in grey)

Plan Name	Tourism as key part of economy	Tourism vulnerability to disasters	Need for vertical evacuation	Need for multi-lingual information	Hotels need emergency stock	Evacuation training at hotels
2015 Miyagi Prefecture Regional Disaster Prevention Plan		O		O		O
2015 Miyagi Prefecture Tsunami Counter-Measures		O				
2015 Miyagi Prefecture Tsunami Counter-Measures Update	O	O	O	O	O	
2015 Matsushima Town Disaster Prevention	O	O	O		O	O
2015 Matsushima Town Tourism Recovery Plan	O	O		O		
2016 Iwate Prefecture Regional Disaster Prevention Plan	O	O	O	?		?
2011 Iwate Prefecture GEJE Recovery Plan	O	O				
2014 Second basic plan for the development of Iwate's Michinoku tourism development	O	O				
2015 Miyako Comprehensive Town Plan	O		?			
2016 Miyako City Regional Disaster Prevention Plan		O			O	
Miyako Water Disaster Prevention Plan (no year)		O				
2013-15 Okinawa Prefecture Regional Disaster Prevention Plan	O	O	O	O	O	O
2015 Okinawa Prefecture Tourism Risk Control Plan	O	O	O	O	O	O
2012 Ishigaki City Regional Disaster Prevention Plan	O	O	O	O	O	O

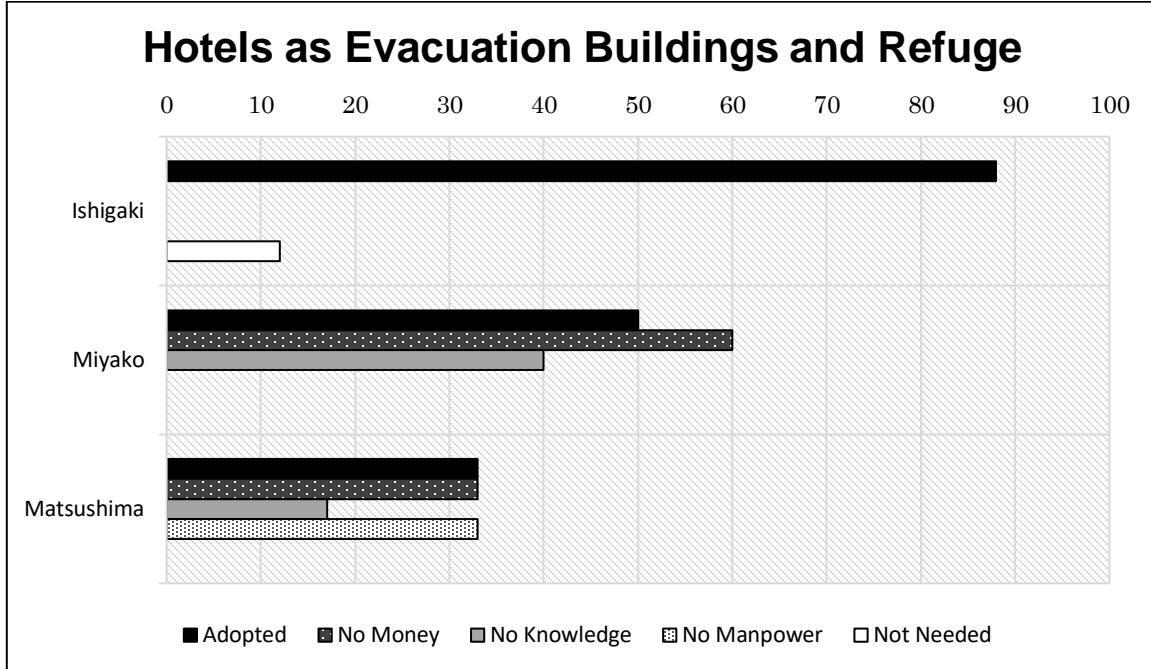*5.1 The adoption of hotels as official tsunami evacuation buildings and refuge*

Figure 2 Percentage of hotels volunteering to function as evacuation buildings and refuge, and barriers towards its adoption

We first examined how many hotels that were located in tsunami hazard areas and met requirements to function as a vertical evacuation building. Guidelines for vertical evacuation are covered by the 2005 National Guideline for Tsunami Evacuation Buildings. These guidelines broadly define evacuation buildings as those that meet certain conditions allowing them to function as an evacuation facility, such as use of steel or reinforced concrete, seismic safety, and number of floors relative to estimated inundation levels. However it is up to the municipality to further define these conditions based on specific local needs [45]. Based on our interviews, Ishigaki City went beyond national guidelines and established their own guidelines which limit tsunami evacuation buildings to those that are five stories or higher. Matsuhima and Miyako follow the national guidelines but have yet to establish their own specific conditions.

With these conditions in mind, we surveyed all hotels in tsunami inundation zones, with Ishigaki's hotels being five stories or higher, to determine the situation regarding the adoption of hotels as tsunami evacuation buildings. Based on our results, Ishigaki led by far, with 88 percent of the interviewed hotels already functioning as a tsunami vertical evacuation building. 12 percent indicated that their hotel does not need to function as an evacuation hotel due to its location, despite neighboring hotels already being designated as such. It should be noted that although this

13

is a high adoption rate, many of the hotels that did not respond to our interview requests were those designated as evacuation buildings. Had all hotels been successfully interviewed, it is predicted that the adoption rate of evacuation buildings would be approximately 67% (Fig 2).

In contrast, in Miyako and Matsushima, the adoption rate was lower at 33 percent. While Miyako adopted non-standardized signs that identified a hotel as an evacuation building, Matsuhima's hotels did not have any such signs. Their existence as evacuation buildings was discovered through interviews with hotel managers which acknowledged themselves as sites for evacuation. Despite its low adoption rate, nearly all interviewed hotels in Matsushima received evacuees during the 2011 tsunami, while some hotels in Miyako received evacuees due to the low tourism numbers for that city. The remaining hotels in Matsushima that were not identified as official evacuation hotels expressed interest in becoming official evacuation hotels, but 33 percent stating financial problems as limiting adoption, another 33 percent expressing manpower limitations, and 17 percent stating lack of knowledge on functioning as an evacuation building. In Miyako, half of the hotels interviewed stated a lack of money as the primary problem. This stems from heavier damages received than Matsushima in 2011, and a significant decline in tourism numbers, which affected hotels' revenue. 33 percent of the hotels in Miyako felt they were unable to function as an evacuation building due to lack of knowledge. Officially, Matsushima prefers tourists to evacuate to public areas such as schools and parks.

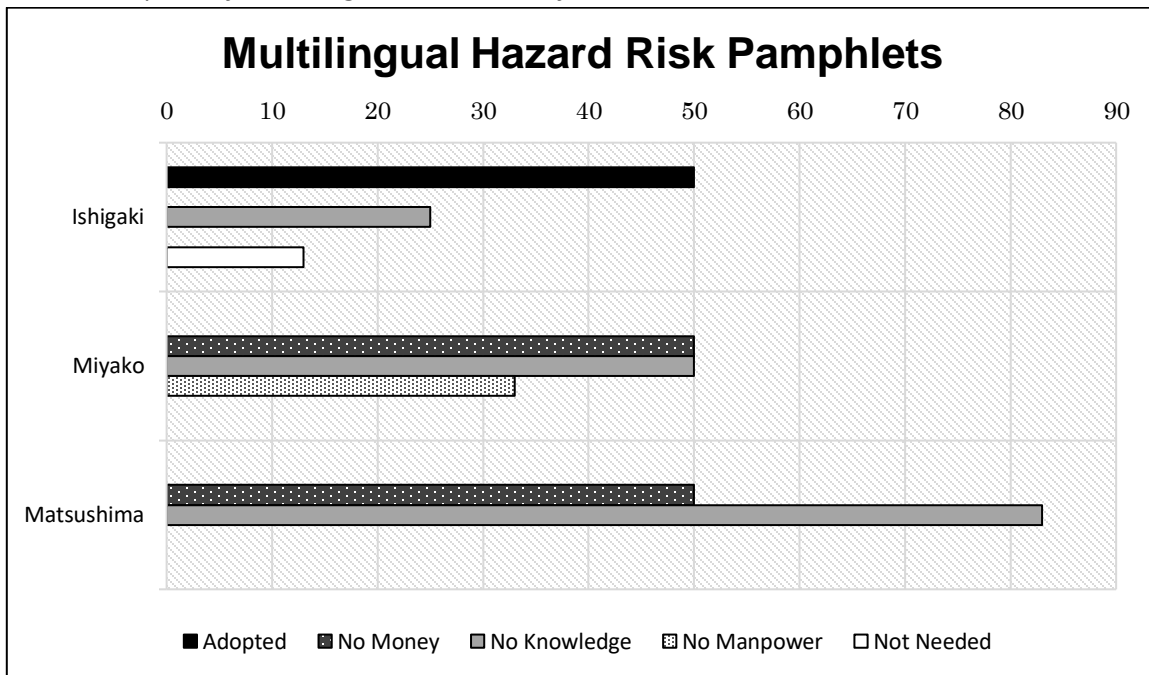*5.2 The adoption of multi-lingual hazard risk information*

Multilingual Hazard Risk Pamphlets

Figure 3 Percentage of hotels adopting multilingual hazard risk information pamphlets for tourists, and barriers towards its adoption

The next question examined the presence of multi-lingual disaster information in the form of manuals or pamphlets for tourists in all three cities, and challenges in either its creation or adoption. Okinawa's DMO, the Okinawa Convention Visitor's Bureau (OCVB), estimated that roughly half of the hotels across Okinawa Prefecture have placed multi-lingual pamphlets in their hotel rooms. Our survey reveals that OCVB's estimates are correct as half of the hotels we visited had adopted the pamphlets. 25 percent had no knowledge about the existence of these pamphlets but have expressed interest in adopting it after the interview. 13 percent of Ishigaki's hotels felt that the pamphlets were not necessary (Fig 3).

In the case of Matsushima, the town developed alongside with Sendai City, a similar multi-lingual pamphlet that not as detailed as OCVB's but is smaller and portable. However none of the hotels interviewed had seen the pamphlets but felt its existence would be important. Half of the hotels felt that there would be no money for the research or adoption of such a manual, while 83 percent had no knowledge of it. Matsushima town itself wanted to create a more in depth pamphlet comparable to OCVB's but stated a lack of manpower and knowledge prevented them from creating one. Miyako, did not have a multi-lingual pamphlets for hotels, but did develop a Japanese-English manual for foreign residents. Half of the hotels in Miyako stated that there was likely no money in

developing or adopting such manuals, another half stating no knowledge on developing a manual or its existence, and 33 percent stating lack of human resources. The city stated that OCVB's manual was the gold standard of tourism disaster manuals but due to the low number of foreign tourists, other reconstruction issues are being prioritized for the time being. Miyako representatives felt that if they were to make such a manual, it would first identify hazard risks from local fauna and flora, followed by typhoons, earthquakes, then tsunamis in level of frequency, and would be translated into Japanese, English, Chinese, and Thai.

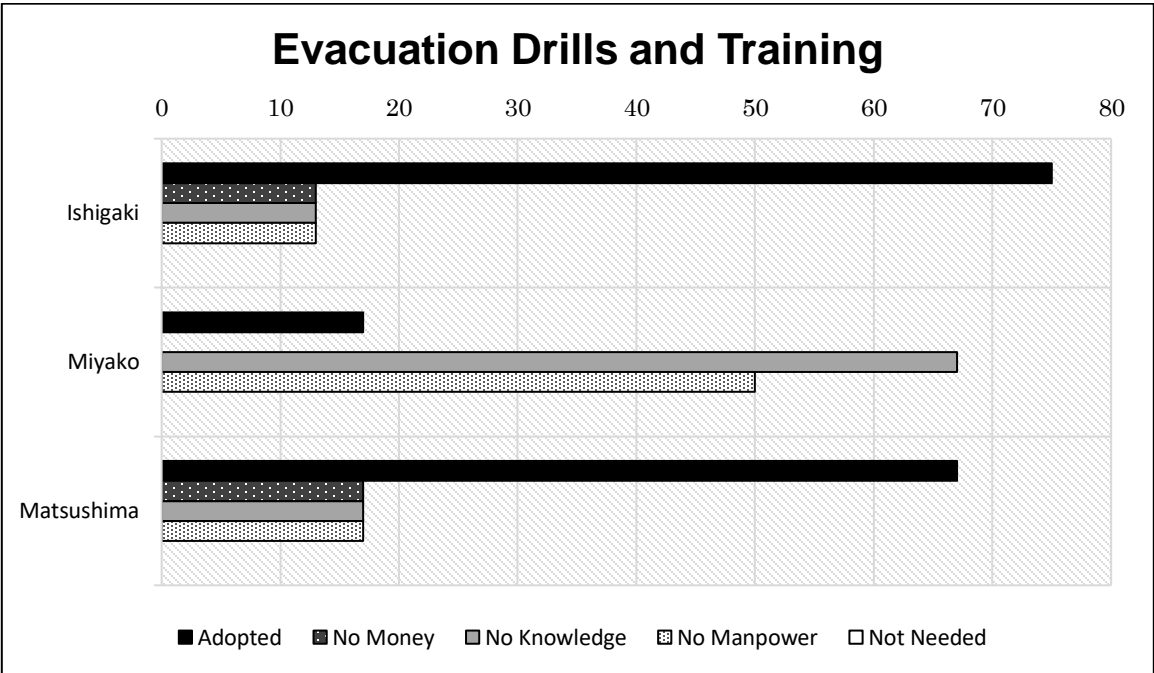*5.3 The adoption of evacuation drills and training at hotels*

Figure 4 Percentage of hotels practicing evacuation drills and related training activities, and barriers towards its adoption

The National Fire Services Law requires all hotels in the country to conduct at least two evacuation drills per year. The type of drills are not specifically defined and can be left at the hotel's discretion, for example a hotel can choose to have two drills for fire emergencies or one drill for typhoons and another for tsunamis. Hotels are required to submit an evacuation plan to their district fire station for approval. Despite such a law, our surveys revealed that many hotels did not practice evacuation drills twice a year, and some did not practice at all. In Ishigaki, 75 percent of the interviewed hotels practiced annual drills with 13 percent citing lack of money to participate, another 13 percent citing lack of man power, and 13 percent citing lack of knowledge. These

problems are inter-related as the limited number of staff that is needed to check-in guests. Matsushima is second with 67 percent of the hotels practicing in fire drills. A few of the hotels interviewed, only began such drills after 2011. Lack of knowledge, man power, and money stood at 17 percent each. Miyako was the lowest with only 17 percent of the hotels engaged in annual training and half citing lack of manpower, and 67 percent citing lack of knowledge. Hotels were pessimistic about their abilities to take care of tourists due to the declining number of tourists, extremely limited number of staff, and priorities on the recovery process (Fig 4).
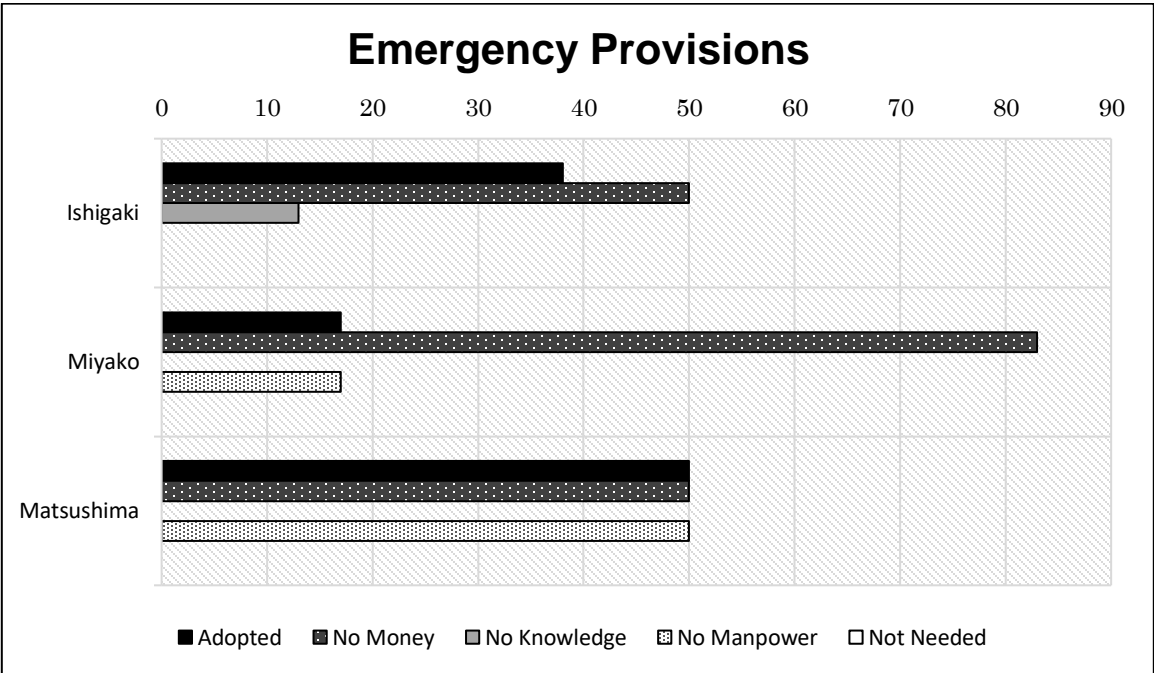
5.4 The adoption of emergency supplies

Figure 5 Percentage of hotels maintaining emergency generators and provisions for emergencies, and barriers towards its adoption

While Ishigaki has led Matsushima and Miyako in terms of evacuation building adoption rates, the proliferation of disaster information for tourists, and evacuation training, Matsushima led in terms of emergency supplies for hotel evacuees at 50 percent, followed by Ishigaki at 38 percent, and Miyako at 17 percent. During the 2011 disasters, all Matsushima hotels interviewed stated that they supplied evacuees with water and food from its restaurants and gift shops, although these food were originally intended for normal consumption rather than for emergency use. The supply of fresh water was the most vital, due to infrastructure damages. As some hotels began to deplete its stock of food, Matsushima City regularly delivered blankets and food to hotels, ensuring that tourists'

needs were continually met. Town officials were strongly confident that they are capable of meeting food needs for hotel guests during disaster events. Despite this, half of the hotels in Matsushima felt that both lack of manpower and money prevented them from maintaining emergency supplies. In Ishigaki, 50 percent stated lack of money that prevented them from adopting emergency supplies, while 13 percent stated lack of knowledge. Miyako had a far lower rate at 17 percent adoption. 67 percent stated lack of money prevented them from adopting emergency supplies while 17 percent said lack of manpower (Fig 5).

6. Results: Attitudes towards collaboration
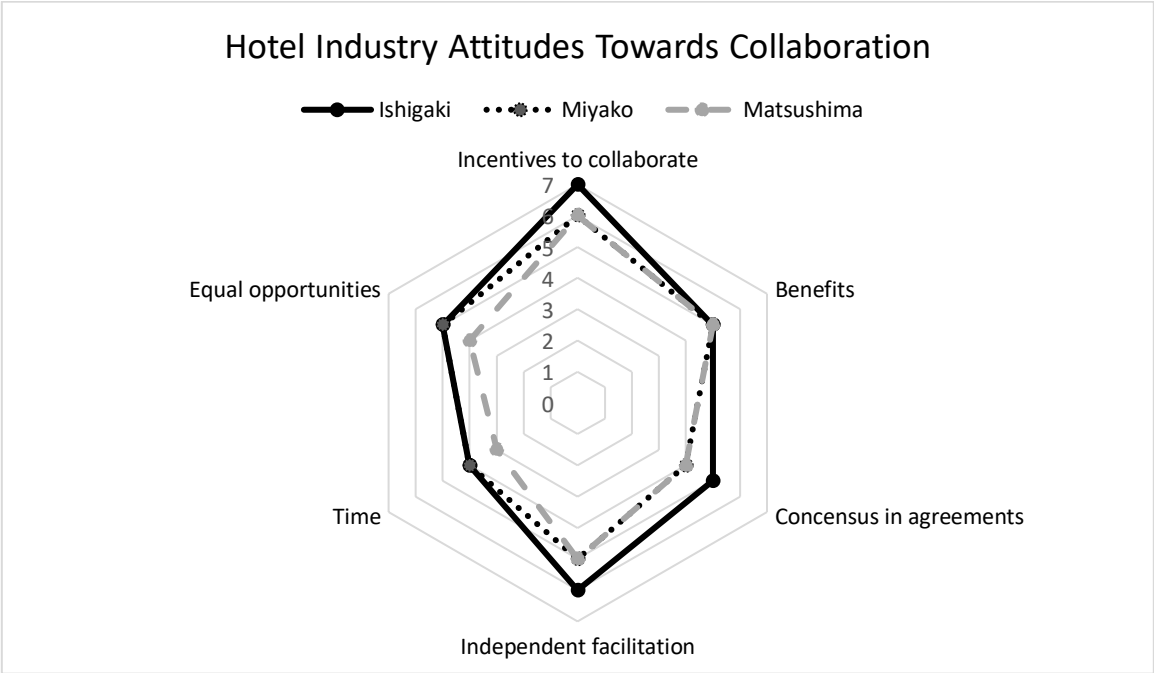
6.1 The hotel industry

Figure 6 Results of survey that examines the hotel industry's attitudes and motivations towards current public-private collaboration

Hotel industry stakeholders were asked to rate the collaborative planning process with other stakeholders towards disaster management. Ishigaki leads again, with high levels of positive stakeholder feedback on the six key variables towards a successful collaboration. On average, Ishigaki hotel's strongly agreed that collaboration was inclusive, while agreeing that facilitation is fair and independent. The hotels somewhat agreed that current collaboration is meeting their needs, provided them equal opportunities to influence outcome, and that they were done through consensus. Sufficient time to understand information and make decisions was problematic across all

three cities as stakeholders in Miyako and Ishigaki were ambivalent enough time was provided and Matsushima disagreeing. While Miyako agreed that collaboration was inclusive and somewhat agreed equal opportunities were given, overall hotels were undecided over the remaining areas. Matsushima's hotels were undecided over consensus over collaboration planning and equal opportunities but agreed that the planning process was inclusive and somewhat agreeing that it met needs while providing independent facilitation.
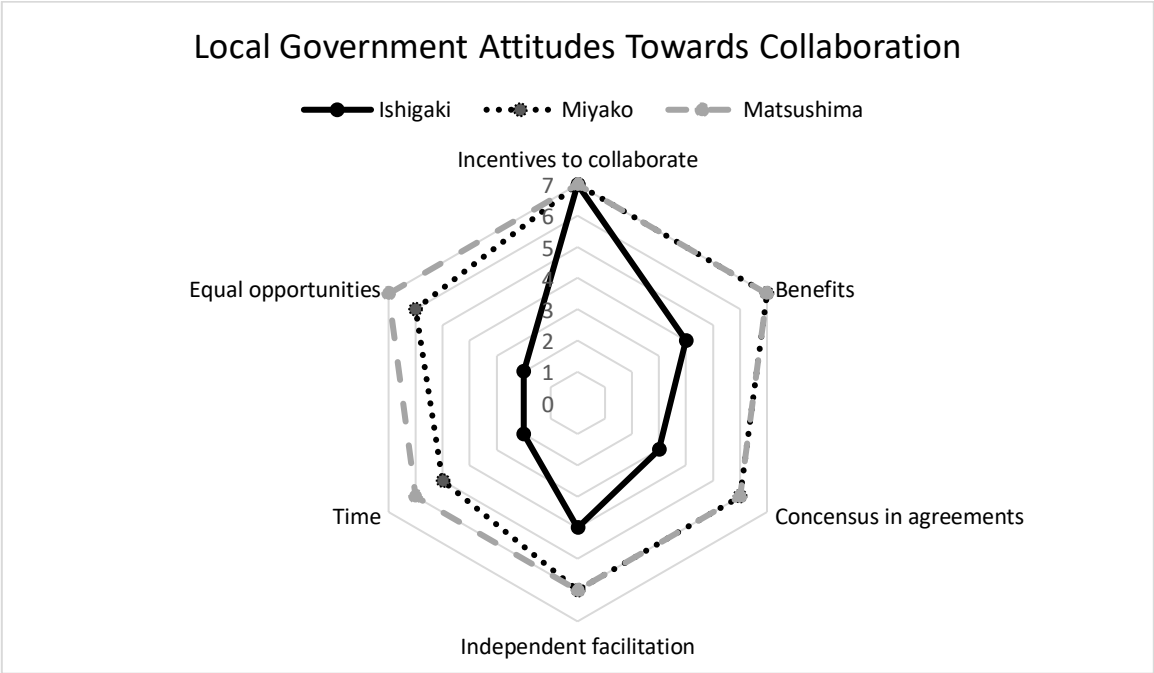
6.2 The municipalities

Figure 7 Results of survey that examines the municipal government's attitudes and motivations towards current public-private collaboration

In contrast to the views of the hotel industry, Ishigaki's government was the most pessimistic towards collaboration. While both Matsushima and Miyako's municipal government held nearly similar views over collaboration, either strongly agreeing or agreeing in the six key areas, Ishigaki only strongly agreed over stakeholder inclusiveness. Ishigaki remained undecided whether facilitation was independent or whether it met their needs, somewhat disagreed that consensus were made, and disagreed that enough time is given, nor were there equal opportunities presented in the collaborative process. These negative views towards collaboration were due to problems stemming from hotels that have yet offer their buildings as evacuation sites. While Ishigaki maintains a high rate of hotel based disaster preparedness initiatives, most of these hotels are found in the

Misaki District of the city. During our interview, city officials felt that while there were an abundance of hotels in Misaki that could accommodate evaccuees, there were not enough in the neighboring Yashima District. There were at least four hotels in Yashima of which only one that collaborated with the city for disaster preparedness. When interviewed, that sole hotel surmised that the neighboring hotels may feel that disaster information may detract from the overall tourism experience and have opted to avoid collaborating with the city.

Matshushima and Miyako viewed the collaborative planning process very positively. Both the tourism section and the disaster section stated that they would do whatever it takes to support local businesses and provide all information. Limitations however are strictly due to resource concerns. Similarly Miyako representatives stated it is natural for towns to view collaboration positively but that in their case, limitations in the adoption of hotel based disaster risk management initiatives were not due to problems in relationships, but rather, the city being stuck in the slow recovery process.

7. Discussion

7.1 Manpower limitations

Man power was one of the most common barriers towards adopting disaster preparedness initiatives, especially for evacuation training. Several hotels mentioned that it was difficult to allocate what few staff they have, to participate in evacuation drills, while having enough human resources available to take care of the hotel's daily activities such as customer check in and cleaning. One hotel in Ishigaki said that they attempt to mitigate the manpower shortage by dividing its staff into two teams, with one participating in the first drill, and the second participating in the second drill months later. However during peak season, there is simply not enough staff to receive customers, let alone participate in training activities. For hotels in the Tohoku area, high turnover rates are a frequent issue as many entry level staff are young and eventually leave the area, as part of an ongoing demographics decline facing the region. As a result, staffs with disaster knowledge disappear and new staff needs to be re-trained.

The lack of knowledge was a strong barrier in the development and adoption of multi-lingual disaster pamphlets, especially in Miyako and Matsushima. However the reasons differed between the two cities. In the case of Matsushima, much of the reason stems from its smaller population and smaller staff at the town office. The existing manual was made with the resources and assistance of the Sendai Tourism, Convention and International Association (SenTIA). The town would eventually like to create something comparable to OCVB's manual, but lacks the expertise

needed to compile the data as well as translation. As of 2017, Matsushima is considering working with neighboring Shiogama City to develop a similar manual.

7.2 Complex relations

Despite its existence, most hotels had no knowledge of Matsushima's pamphlet. A third stakeholder, the Matsushima Tourism Association, functions as the intermediary between the town and local businesses. During interviews with the association and the town, it was clear that collaboration between the two were at times disjointed. For example, the association was unaware of the existence of Matsushima's pamphlets, while the town office was unaware of the association's development of hotel crises plan draft. Since the first interviews, there was a growing schism between the prefecture, town, and tourism association over strategic planning. This has influenced not only disaster preparedness initiatives, but other areas of tourism such as promotion and strategic planning. The municipality has repeatedly stated its goals of expanding outreach to foreign tourists which include disaster communication alongside tourism promotion. The town's interest in the expansion of targeting foreign tourists was not reciprocated among other stakeholders.

In contrast, stakeholder collaboration in Miyako was relatively smoother as the municipality, local tourism association, and hotel industries generally held strongly positive views of each other. This stems from the fact that members in the tourism division were formerly members of the disaster division and vice versa, while other members held double appointments within the city and various tourism associations, and related industries. The same mutual interests within Miyako city and between Miyako and Iwate Prefecture contributed to the speedier establishment of the Sanriku DMO, which encompasses all the coastal cities of Iwate and includes Miyako. However, as Miyako suffered far more extensive damages than Matsushima, and had significantly lower visitor numbers, the city and hotels are faced with difficulties on allocating its budget and limited manpower. While hotel occupancy rates are currently high, the city noted that most of the customers are involved in reconstruction. One hotel estimated that 90 percent of its guests are reconstruction workers and only 10 percent are actual tourists. In addition to this, hotels felt the assistance payments they receive from the government for reconstruction is insufficient. The costs may cover the rebuilding of the hotel, but did not address the decreasing revenue due to a decline in tourists as a result of Tohoku's negative image.

7.3 *DMO approaches to disaster management*

Although OCVB has existed since 1996, disaster management planning was relatively

recent, primarily inspired by the 2011 GEJE. OCVB acknowledged that initial attempts at collaboration with tourism stakeholders were unsuccessful as many in the hotel industry refusing to acknowledge the importance of disaster preparation and declining the adoption of a multilingual safety manual. This led to OCVB adjusting its language from a commanding "please use these manuals" to more cooperative "why don't we learn how to improve disaster preparedness together". The manuals are provided free of charge to hotels, and can be downloaded from its official site.

As staff training for evacuation has been limited, OCVB held the first hotel disaster evacuation workshop in Okinawa's prefectural capital Naha on March 2017, with the participation of over 100 hotel representatives. The workshop imaged multiple disaster scenarios, such as what to do during the event of a magnitude 8.8m earthquake and 5.7 tsunami. The workshiops targeted how to handle local and foreign tourists, stranded tourists, and procedures for evacuation.

In Iwate, the Sanriku DMO began in late 2016 and encompasses all the prefecture's coastal cities which are referred to as the Sanriku Region. When asked why a DMO was only created for Sanriku rather than the entire prefecture, Iwate Prefectural Office stated that the coastal and inland areas significantly differed in culture, economy, and especially in damages. The catastrophic damages combined with the smaller resources of the coastal cities necessitated the need of a specialized Sanriku area DMO that would allow these cities to pool their resources together and develop strategies similar to Okinawa. In the future, Iwate Prefecture envisioned the creation of a separate DMO for inland cities such as Hiraizumi. Due to its recent establishment, the Sanriku DMO is still in the exploratory phase, with current research focusing on examining market trends. Its staff remain extremely limited to a few people and it is not expected to begin strategic planning until several years. As of 2017, the Sanriku DMO has yet to establish any functions.

Matsushima is currently not part of any regional DMO, nor is neighboring Sendai. However further south in Miyagi Prefecture, a DMO called Miyagi Minami DMO was established in late 2016. This DMO consists of the 13 municipalities in southern Miyagi Prefecture. In an interview with Miyagi Minami DMO, a representative stated that the initial goal was a prefecture wide DMO but only succeeded in recruiting the southernmost cities. Like the Sanriku DMO, the Miyagi Minami DMO is still only in its exploratory phase, being limited to its small staff and researching how to approach its first strategic plans. There remains significant differences between Miyagi Prefecture and Miyagi Minami DMO over defining roles and strategic plans. This has led towards the possibility of Miyagi Prefecture establishing its own DMO with the remaining prefectural cities in 2018.

7.4 A role for academia

In the Japanese business system, workers are employed at a section for a period of 2 to 4 years. This system is aimed to broaden knowledge and to prevent corruption. The benefits of such a system allows government employees to develop all around skills and experience of multiple departments [46]. This has often allowed different departments to better collaborate with each other due to shared experiences, as seen in the case with Miyako. Criticism of this system relate to how many of the employees do not come from educational backgrounds related to their sections. For example, a number of tourism department employees in our case studies cities, possess college degrees in unrelated fields while some did not continue to tertiary education. Additionally, this system breeds very few staff who are specialists in one particular field, reduces the accumulation of knowledge, with very few overseeing long term projects until its completion. During the duration of this research, at least three of the municipal representatives we've contacted had since changed departments.

The formation of new DMOs in the Tohoku area offers an opportunity for academic contributions from researchers who specialize in areas that could be beneficial for tourism related topics. Large DMOs, such as the Hawaii Tourism Authority include board members from the University of Hawaii system, as well as frequent collaboration with the university's school of businesses, Tourism industry management school, and the School of Ocean and Earth Science and Technology. Within Japan, OCVB's board members include professors from Okinawa's national university, the University of the Ryukyus, as well as numerous collaborations. Both the Sanriku DMO and the Miyagi Minami DMO have requested academic assistance in order to guide its strategic plans and inform them of what is working and what isn't. However at both the municipal levels in Miyako and Matsushima, and at the prefectural levels in Miyagi and Iwate respectively, the tourism sections have all stated that involvement from local universities are virtually non-existent. For example, very few researchers from Tohoku University, the titular university of the region, have visited the local governments with Iwate Prefecture Tourism Division mentioning only two visitors (including the author), Miyagi Prefecture stating no researcher has visited beyond our group, and Matsushima mentioning only two visits (one of which is the author). Instead much of the visits have been directed towards municipal reconstruction and disaster divisions. In Miyako, a lone professor from Bunkyo University, located far south near Tokyo, has been assisting with the tourism division.

8. Conclusion

Coastal tourism destinations are exposed to a number of natural hazards in which

structural mitigation measures can be limited due to the desire to preserve intrinsic assets needed for the tourism economy. Tourists on the other hand, may be unaware of these hazards, may lack knowledge of evacuation procedures, and maintain differing perceptions of risks. Literature has identified the roles the hotel industry can play in improving local area disaster resiliency through initiatives such as the establishment of official evacuation buildings, short-term refuge, dissemination of safety information, and evacuation training.

This research examined hotel-based disaster risk management in Matsushima in Miyagi Prefecture, and Miyako in neighboring Iwate Prefecture. Both cities were inundated by the 2011 tsunamis and as a result, experienced deaths as well as a decline in tourism. On site field work and interviews revealed that the adoption rate of hotel based disaster risk initiatives were generally low in both cities. In Matsushima, although fatal casualties were very low, nearly all hotels interviewed had reported taking in evacuees in 2011. There are no official tsunami evacuation building signs placed on any hotels, but evacuation sites can be found in public areas such as local schools. Despite the presence of a multilingual disaster card, none were found within the hotels. Evacuation drills were mixed, with some hotels only joining after 2011. Matsushima excelled in providing emergency food as the municipal government was quick to provide food and blankets for evacuees. Although Matsushima has strong desire to expand adoption rates for the aforementioned activities, there are limitations due to significant differences between stakeholders, primarily the municipality and the Matsushima Tourism Association, and to some extent with the prefectural government. Stakeholder collaboration survey revealed significant gaps between the hotel industry and municipality over equal opportunities to influence decision making and sufficient time to understand information.

In contrast to Matsushima, Miyako suffered far higher damages and fatalities, yet received little evacuees due to the time of the tsunami during off-season, and the general unpopularity of Miyako as a tourism destination. Like Matsushima, adoption rates for hotel based disaster risk management initiatives remain low. Stakeholder collaboration was perceived to be slightly higher in Miyako than in Matsushima. The tourism association, hotels, municipality, and the prefecture held similar stances on limitations, but time was again a problematic issue towards collaboration. The main limitations in adopting hotel based disaster risk management initiatives in Miyako were primarily due to man power issues as most staff were still focusing on reconstruction and lack of money, as the economy continues to reel, affecting hotel revenue.

Although Miyako was chosen for the purpose of literal replication with Matsushima, it was discovered to have been included as part the Sanriku DMO that was established in late 2016. However due to its recent establishment and lack of operations and strategic plans, it has yet to play

a direct role in disaster risk management. However the rationale behind its establishment highlights the limited resources small municipalities face and the need for a DMO to pool their resources together to overcome existing barriers together and develop tourism as well as disaster management plans that could be shared. Matsushima is currently not a part of any DMO but is expected to be a part of a new DMO one alongside with eight other cities in Miyagi Prefecture in 2018.

For these new DMOs, there is great potential for them to expand into disaster risk management and to improve collaboration between the local government and businesses in a similar way that has been achieved by OCVB. Okinawa's DMO has been able to overcome a number of the barriers, currently experienced by stakeholders in Matsushima and Miyako, through a number of initiatives. Firstly, OCVB was able to break through the reluctance of hotel businesses in participating in disaster risk management activities. To address problems facing evacuation drills and staff training, free evacuation courses were developed by OCVB for hotel owners. OCVB also developed a multi-lingual safety manual which includes information on local flora and fauna hazards as well as disaster mitigation strategies for tourists. While OCVB may be unable to provide recovery funding for hotel operators, it has also developed a series of communications and image restoration plans to immediately negate potential decline in tourism after a crises, as well as offering business continuity models for interested parties. Finally, there are a few cases where Okinawa Prefecture had even tasked OCVB the responsibility in creating a municipality tourism crises disaster plan, as in the case with Zamami Village. The success of OCVB in providing assistance has also led to Matsushima's tourism division to also examine how Okinawa has approached collaboration win the hotel industry, and guide its own initiatives with the hotel industry and other tourism stakeholders. With Miyagi and Iwate seeking to revitalize their economy through further investments in tourism development, its ability to ensure the security of its visitors and create an image of safety and control, will be essential in recovering declining visitor numbers since 2011.

9. References

[1] Ritchie, B. W., & Campiranon, K. (Eds.). (2015). *Tourism Crisis and Disaster Management in the Asia-Pacific*. Oxfordshire: CABI.

[2] UNWTO (2011). *Tourism Towards 2030: Global Overview*. Madrid: United Nations World Tourism Organization.

[3] Nguyen, D., Imamura, F., & Iuchi, K. (2016). Disaster Management in Coastal Tourism Destinations: The Case for Transactive Planning and Social Learning. *International*

Review for Spatial Planning and Sustainable Development, 4(2), 3-17.

[4] Masterson, J. H., Peacock, W. G., Zandt, S. S. V., Grover, H., Schwarz, L. F., & Jr, J. T. C. (2014). *Planning for Community Resilience: A Handbook for Reducing Vulnerability to Disasters*. Washington: Island Press.

[5] Aldrich, D. P., & Sawada, Y. (2015). The physical and social determinants of mortality in the 3.11 tsunami. *Social Science & Medicine, 124*, 66-75.

[6] Berger, S. (2004). Death now pervades what was once a tourist idyll. *The Telegraph*,

[7] Kelman, I., Spence, R., Palmer, J., Petal, M., & Saito, K. (2008). Tourists and disasters: lessons from the 26 December 2004 tsunamis. *Journal of Coastal Conservation, 12*(3), 105-113.

[8] UNESCO (2012). *A Guide to Tsunamis for Hotels: Tsunami Evacuation Procedures*. Paris: Intergovernmental Oceanographic Commission of UNESCO.

[9] UNISDR, PATA, & GIDRM (2015). *Developing strategies to strengthen the resilience of hotels to disasters: A scoping study to guide the development of the Hotel Resilient Initiative*: The United Nations Office for Disaster Risk Reduction.

[10] Calgaro, E., & Lloyd, K. (2008). Sun, sea, sand and tsunami: examining disaster vulnerability in the tourism community of Khao Lak, Thailand. *Singapore Journal of Tropical Geography, 29*(3), 288-306.

[11] Fraser, S., Matsuo, I., Leonard, G. S., & Murakami, H. (2012). *Tsunami Evacuation: Lessons from the Great East Japan Earthquake and Tsunami of March 11th 2011*. Wellington: Institute of Geological and Nuclear Sciences Limited.

[12] Muskat, B., Nakanishi, H., & Blackmam, D. (2015). Integrating Tourism into Disaster Recovery Management: THe Case of the Great East Japan Earthquake and Tsunami. In B. W. Ritchie & K. Campiranon (Eds.), *Tourism Crisis and Disaster Management in the Asia-Pacific*. OxfordShire: CABI International.

[13] Wang, Y. (2008). Collaborative Destination Marketing: Understanding the Dynamic Process. *Journal of Travel Research, 47*(2), 151-166.

[14] Wood, D. J., & Gray, B. (1991). Toward a Comprehensive Theory of Collaboration. *The Journal of Applied Behavioral Science, 27*(2), 139-162.

[15] Innes, J. E., & Booher, D. E. (1999). Consensus Building and Complex Adaptive Systems. *Journal of the American Planning Association, 65*, 412-423.

[16] Susskind, L., & Field, P. (1996). *Dealing with an Angry Public: The Mutual Gains Approach To Resolving Disputes*. New York: The Free Press.

[17] Susskind, L., Wansem, M. v. d., & Ciccarelli, A. (2000). *Mediating Land Use Disputes: Pros*

and Cons. Cambridge: Lincoln Institute of Land Policy.

[18] Castells, M. (1997). *The Information Age: Economy, Society, and Culture Volume 2: The Power of Identity*. Cambridge: Blackwell Publishing

[19] Healey, P. (1998). Building Institutional Capacity through Collaborative Approaches to Urban Planning. *Environment and Planning A, 30*(9), 1531-1546.

[20] Frame, T. M., Gunton, T., & Day, J. C. (2004). The role of collaboration in environmental management: an evaluation of land and resource planning in British Columbia. *Journal of Environmental Planning and Management, 47*(1), 59-82.

[21] Carr, S. D., Selin, W. S., & Schuett, A. M. (1998). Managing Public Forests: Understanding the Role of Collaborative Planning. *Environmental Management, 22*(5), 767-776.

[22] Faehnle, M., & Tyrvainen, L. (2013). A framework for evaluating and designing collaborative planning. *Land Use Policy, 34*, 332-341.

[23] Amy, D. J. (1987). *The Politics of Environmental Mediation*. New York: Columbia University Press.

[24] Shimasaki, C. (2016). CVB, DMO, DMC: What's the Difference?

[25] Pike, S. (2011). *Destination Marketing Organisations*. New York: Routledge.

[26] Park, O. J., Lehto, X. Y., & Morrison, A. M. (2008). Collaboration Between CVB and Local Community in Destination Marketing: CVB Executives' Perspective. *Journal of Hospitality & Leisure Marketing, 17*, 395-417.

[27] Reed, M. G. (1997). Power relations and community-based tourism planning. *Annals of Tourism Research, 24*(3), 566-591.

[28] Bramwell, B., & Lane, B. (Eds.). (2002). *Tourism Collaboration and Partnerships: Politics, Practice and Sustainability*. Clevedon: Channel Vew Publications.

[29] Prideaux, B., & Cooper, C. (2003). Marketing and destination growth: A symbiotic relationship or simple coincidence? *Journal of Vacation Marketing, 9*(1), 35-51.

[30] Palmer, A. (2002). Cooperative marketing associations: an investigation into the causes of effectiveness. *Journal of Strategic Marketing, 10*(2), 135-156.

[31] Beldona, S., Morrison, A. M., & Anderson, D. J. (2003). Information Exchange Between Convention and Visitor Bureaus and Hotels in Destination Marketing. *Journal of Convention & Exhibition Management, 5*(1), 41-56.

[32] Kleinman, M., & Bashford, S. (2002). BTA set for 40m blitz to tempt back tourists. *Marketing*.

[33] Henderson, J. (2002). Managing a Tourism Crisis in Southeast Asia. *International Journal of Hospitality & Tourism Administration, 3*(1), 85-105.

[34] Creswell, J. W., & Clark, V. L. P. (2011). *Designing and Conducting Mixed Methods Research*. New York: Sage Publishing.

[35] Nguyen, D. N., Imamura, F., & Iuchi, K. (2017). Public-private collaboration for disaster risk management: A case study of hotels in Matsushima, Japan. *Tourism Management, 61*, 129-140.

[36] Yin, R. K. (2014). *Case Study Research: Design and Methods (Applied Social Research Methods)*. London: Sage Publishing.

[37] Medina-Munoz, D., & Garcia-Falcon, J. M. (2000). Successful relationships between hotels and agencies. *Annals of Tourism Research, 27*(3), 737-762.

[38] Nguyen, D. N. (2017). An archipelagic tourism development model: the case of Okinawa Prefecture. Asian Geographer, 34(1), 39-57.

[39] Ishigaki City Office (2017). *Estimated Visitor Arrivals to Ishigaki in 2016*. Ishigaki: Ishigaki City.

[40] Imamura, F., Goto, K., & Ohkubo, S. C. C. (2008). A numerical model for the transport of a boulder by tsunami. *Journal of Geophysical Research: Oceans, 113*(C01008).

[41] Hisamatsu, A., Goto, K., & Imamura, F. (2014). Local paleo-tsunami size evaluation using numerical modeling for boulder transport at Ishigaki Island, Japan. *Episodes, 37*(4).

[42] Ishigaki City Office (2015). *Ishigaki City Statistical Yearbook*. Ishigaki: Ishigaki City.

[43] Miyako City Office (2015). *Miyako City Statistical Yearbook*. Miyako: Miyako City Office.

[44] Matsushima Town Office (2015). *Matsushima Town Statistical Materials*. Matsushima: Matsushima Town Office.

[45] Director of Disaster Management (2005). *Guidelines for tsunami evacuation buildings*. Tokyo: Cabinet Office of Japan.

[46] Osaki, I. (2015). Season of Personnel Change – A Year of Local Governments in Japan, from http://www.jlgc.org.au/7-season-of-personnel-change-a-year-of-local-governments-in-japan/