

Paper:

Evacuees Preferred to Continue Living in Relocation Sites Rather than Return: Misunderstanding of the Government and Media About the True Intentions of Evacuees

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The Indian Ocean tsunami in 2004 induced massive temporary relocation of the people in the Maldives, from the small atolls they lived in to nearby larger atolls. Once they were permitted to return home, some evacuees proved reluctant to leave temporary housing due to a better livelihood. On the occasion of the accident at the nuclear power plant caused by the tsunami brought by the Great East Japan Earthquake in 2011, all the residents of Hirono Town in Fukushima Prefecture, Japan, were forced to evacuate over a long period. Many of them lived in temporary housing built in Iwaki City in the same prefecture. Some of the evacuees, as was the case in the Maldives, showed reluctance to return home, on the ground that livelihood in the temporary housing was both convenient and enjoyable. It was a surprise for national and local governments because they assumed that those in temporary housing were uncomfortable and that the evacuees were keen to leave to return home. Differences in information existed between the evacuees and the government. This study aims to determine why such a disparity emerged and was left unrevealed. It also tries to reveal what the observed differences led to after the evacuees returned home. Furthermore, it examines the impact of mass media on the minds of the general public. It finds that the evacuees' minds changed over time as they initially found themselves away from home, living in temporary housing and unhappy. Mass media conveyed unupdated and confusing messages to society, as if evacuees were actually unhappy. Society thus tended to regard the displaced as unhappy forever, while the evacuees found their livelihood in temporary housing comfortable or even enjoyable to the extent that some decided not to return home by becoming residents of Iwaki City. Society should be aware that evacuees' idea and behavior may drastically change over time – even beyond their imagination.

Keywords: disaster, disparity, evacuee, government, livelihood

1. Introduction

1.1. Evaluation of Livelihood in Temporary Housing by Evacuees in the Maldives

Island states are vulnerable to natural disasters, with tsunamis being one of the most damaging, particularly in atoll countries (Kiribati, Maldives, the Marshall Islands, and Tuvalu). This is because the land of an atoll country is entirely composed of coral atolls, and the elevation seldom exceeds 2 m above mean sea level (MSL), which implies that a tsunami with a height of more than 2 m could submerge an atoll country.

The Indian Ocean tsunami occurred following an earthquake on December 26, 2004, and it hit the country in and around the Indian Ocean. Relatively speaking, the Maldives reported less damage than Indonesia, Sri Lanka, and Thailand due to the unique geological features of the country, in that inhabited small islands are separated from coral atolls by deep channels. Furthermore, because of the country's low elevation, no run-up process to amplify the tsunami was observed [1]. Still, the tsunami with a height of 4.1 m submerged many small islands of Maldives.

As the infrastructure in small islands for livelihood was completely damaged, the government of the Maldives moved the residents to nearby larger islands that did not suffer much. Temporary housing was built there for displaced people. It took a few years or more for the government to restore the infrastructure of the devastated small islands to the extent that former residents may return to their home islands. Once these small islands were made habitable again, the government naturally asked former residents to return home. However, some former residents were reluctant to leave temporary housing, which the government did not anticipate. This was because the government assumed that those in temporary housing were uncomfortable and that they were keen to leave the temporary housing for their original home.

We examined this case through interviews with relevant people in Male, the capital of the Maldives, in September 2015 [2]. Some differences existed between the govern-



ment and the evacuees regarding their feelings of present and future livelihood, with the latter finding livelihood in temporary housing to be rather comfortable. They had access to a steady supply of electricity, which was not available on their home islands. In addition, various goods were provided free of charge by aid organizations as long as they stayed in temporary housing. Thus, they wanted to stay there if possible. However, the evacuees did not openly express their ideas in the presence of government officials in charge, only telling them that there were inevitable reasons why they had to continue living in temporary housing [2]. This brought about a difference in perceptions about why displaced people continue to live there between the displaced and the government.

Meanwhile, the relationship between disaster risk reduction (DRR) and disaster displacement has been emphasized in the international arena [3]. For instance, the Chair of the 2017 Global Platform for Disaster Risk Reduction in Cancun, Mexico, stated, “the development of disaster risk reduction strategies should consider regional and cross border perspectives and include provisions that aim to prevent displacement attributed to disasters and reduce displacement risk, address the protection needs of displaced people and promote durable solutions to displacement” [4]. It should also be noted that the Sendai Framework for Disaster Risk Reduction 2015–2030 (Sendai Framework) recognizes disaster displacement; the Global Target (B) of the Sendai Framework requires substantially reducing the number of affected people – which include the displaced – globally by 2030, aiming to lower the average global figure per 100,000 between 2020 and 2030 compared to 2005–2015 [5]. In this context, it is necessary to make efforts to harmonize the requirements of the international agenda regarding disaster displacement with reality.

1.2. Case of Evacuees in Fukushima, Japan, Living in Temporary Housing

This case of the Maldives resembled the case of some evacuees due to the tsunami caused by the Great East Japan Earthquake (GEJE) that occurred on March 11, 2011. The earthquake and subsequent tsunami left 15,893 people dead, 2,572 missing, and 6,152 injured [6]. More than one million buildings collapsed, partially collapsed, or were otherwise damaged [7]. As was the case in the Maldives, many people were obliged to leave home and live in temporary housing. In the case of Japan, not only the earthquake and tsunami but also the accident at the Fukushima Daiichi Nuclear Power Plant caused by the tsunami had many people leave their homes for a long period of time.

The intention of evacuees regarding the planned return to home was examined [8] – in particular, the case of the evacuation from Hirono Town in Fukushima Prefecture. The evacuees from Hirono Town who then lived in the temporary housing built in the nearby Onigo District of Iwaki City, next to Hirono Town, were chosen as the study case. Hirono Town used to have around 5,000 people be-

fore the GEJE, and all the townspeople were obliged to evacuate shortly after the event due to the explosion of the nuclear power plants along the Pacific coast. While the order for evacuation was lifted as early as September 2011, many townspeople had to stay away from home and lived in temporary housing as radioactive materials had contaminated their houses. All temporary housing for Hirono Town residents was closed in March 2017. As of April 2020, 88.9% of the former townspeople had returned to Hirono Town [9].

A rather surprising finding was that more than 70% of the respondents reported being either very happy or somewhat happy living in temporary housing. Only about 16% of respondents reported being not so happy and 13% not happy at all. More than 80% of respondents found the temporary housing more convenient for shopping and medical clinics, and almost 80% found dental care more convenient than in Hirono Town [8].

1.3. Difference Between Residents of the Temporary Housing and Town Officials

Interestingly, the town officials of Hirono Town did not know that the evacuees enjoyed their livelihood in the temporary housing as they assumed that the townspeople living in temporary housing were unhappy.

Between 2015 and 2016, interviews were conducted with town officials about observed differences. They were least keen to visit temporary housing and listen to the residents because they were fed up with the evacuees’ requests for temporary housing and for more compensation for the physical and mental damages caused by forced migration [10]. Compensation was, in fact, a matter that only the central government could deal with. The town officials hesitated to tell the evacuees that the town’s government could not do much.

The requests by townspeople of Hirono Town for more compensation stemmed from their sense of injustice, particularly between them and the residents of Naraha Town, which is located next to Hirono Town. Naraha Town is closer to the Fukushima Daiichi nuclear power plant.

The Tokyo Electric Power Company (TEPCO), the owner of the Fukushima Daiichi Nuclear Power Plant, used to provide 100,000 yen (approximately 9,000 US dollars) monthly per person for those involuntarily displaced by the accident. The evacuees from Hirono Town were entitled to this compensation only for one and a half years until September 2011, when the former town mayor lifted the order of evacuation. However, the evacuees from other municipalities located closer to the power plant continued to receive the compensation for much longer. Thus, the townspeople of Hirono Town tended to envy the residents of Namie Town, which is located next to Hirono Town. The order to evacuate was lifted as late as March 2017 for the townspeople of Namie Town, which implies that they were provided with compensation by TEPCO for much longer than the residents of Hirono Town.

Bruch et al. [8] illustrate the sentiment of Hirono Town’s townspeople that “the perceived unequal treat-

ment of residents was particularly strong for those who lived on the northern edge of Hirono Town and saw neighbors in Naraha eligible for benefits they could not access – even though their houses were only a few hundred yards apart.”

Once a request by evacuees in temporary housing is “heard” by a town official, the evacuees implicitly assume that the town government is responsible for meeting the request. The town officials anticipated criticisms by the evacuees if they failed to meet the request. Such experiences often prevented them from visiting temporary housing.

2. Objectives

As stated above, differences existed between (a) how the evacuees from Hirono Town evaluated their livelihood in the temporary housing, and (b) what the Hirono Town local government and society assumed about livelihood in it.

Many surveys on evacuees from the GEJE were conducted by the national government, local governments, and researchers. By the end of 2013, at least 42 surveys were conducted during the year of the disaster [11]. A survey conducted in Ishinomaki City, Miyagi Prefecture in 2012 revealed that about half of the evacuees in temporary housing were dissatisfied with the room layout and temperature management. Furthermore, there were fewer opportunities for communication among men than among women [12]. In a 2013 survey of evacuees in temporary housing in Miyagi Prefecture, many respondents claimed that they had lost human relationships [13]. In another survey conducted in temporary housing in Iwate and Miyagi prefectures, also in 2013, 59% of evacuees reported that they were not comfortable living there, and 80% felt stress in their lives [14]. In a survey conducted in Miyagi Prefecture in 2016, evacuees who continued to live in temporary housing at this time were less satisfied than those living in post-disaster reconstruction housing or their own homes [15]. Additionally, one of the major problems that arise in temporary housing is the death of elderly people who die alone without being cared for by anyone. The incidence of “solitary deaths” in temporary housing in the three prefectures affected by the GEJE showed an upward trend from 2011 to 2015 [16].

Hence, this study aims to explain why such a difference emerged and was left unrevealed before the study by Bruch et al. [8] was conducted. In other words, the question to be asked and answered in this study is why Hirono Town’s government and the public were unaware of the “happiness” felt by the residents of the temporary housing. This study also attempts to reveal what the observed difference led to after the evacuees returned home. Additionally, it examines the impact of mass media on people’s minds.

Specifically, this study has the following two objectives:

- (1) To determine how the evacuees in the temporary housing returned home and what they felt about their return.
- (2) To examine the influence of mass media on the public’s view of the evacuees’ situation.

3. Method

For the sake of objective (1) above, we compared the findings secured by (a) participant observation of the residents and interviews with evacuees in the Onigoe and other temporary housing units as well as interviews with town officials conducted from June 2014 to November 2016 and (b) interviews with returnees of Hirono Town and town officials conducted in November and December 2020.

For objective (2) above, an analysis of articles by mass media was conducted using text mining. The reason behind the analysis is that the public has no choice but to rely on mass media to know the evacuees’ actual living conditions. Most of the evacuees were elderly and did not have their own channels to transmit information. Although there were a few young people as well, none of them used social media to share information about life in temporary housing. As mentioned earlier, town officials were hesitant to make frequent visits to temporary housing; thus, it was not easy to ascertain the true intentions of the evacuees. The local government also must rely on mass media reports to some extent.

We aimed to reveal why mass media failed to inform the public of the sentiments of the evacuees in temporary housing. We thus analyzed the articles related to “temporary housing” and “Fukushima” that appeared in the nationwide edition (i.e., not local edition) of *Yomiuri Shimbun* (daily newspaper written in Japanese) from April 2011 to December 2015. These articles were retrieved from “Yomidasu Bunshokan,” the database of *Yomiuri Shimbun*, which archives the articles that appeared from 1986 to the present. For the cluster analysis of the article, we used the software for text mining KH Coder – a software program developed for content analysis and text mining [17].

Then, we examined whether the articles that appeared in 2015 sufficiently addressed the opinions of the residents of temporary housing. We conducted hierarchical clustering [18], a part of cluster analysis, for the articles that appeared in three periods of (a) April to December 2011, (b) April to December 2013, and (c) April to December 2015. Articles from January to March 2011 were excluded from this analysis because (i) the GEJE took place on March 11, 2011, and the articles in January, February, and early part of March in 2011 are not relevant to this analysis, and (ii) in and after 2012, many articles about the disaster appeared in newspapers in March.

We also applied correspondence analysis to the same three sets of articles that appeared in 2011, 2013, and 2015 to determine the similarities and differences be-

tween these sets. Correspondence analysis is a multivariate analysis technique for exploring cross-tabular data by converting such tables into graphical displays and related numerical statistics [19]. Using this method of analysis, the structure of a complex data matrix can be visualized without losing essential information [20].

4. Results

4.1. Findings by Participatory Observations and Interviews Before and After the Closure of the Temporary Housing

In June 2014, a foreign researcher was first taken to temporary housing. The foreign researcher asked the evacuees what they wanted in the presence of the mayor and his assistants. Interestingly, a few residents expressed their desire for “an arena to say what they really thought.” The third author of this study initially found this message strange because he knew that the residents had made various requests (mostly for more compensation) to the town government. He then sensed that the evacuees might have had something in mind, which represented what they really thought, but that such a sentiment had never been expressed to outsiders nor to the town government’s officials.

In the absence of mayor and town officials, the evacuees began to express their true feelings to us, which were significantly different from what was generally assumed. A housewife living in temporary housing expressed happiness about living there. Before the disaster, she lived in the same house as her mother-in-law, which was a common practice in rural areas of Japan such as Hirono Town. She had then suffered from conflicts with her mother-in-law for decades after her marriage. This was the first good news expressed by evacuees about their livelihood in temporary housing. Clearly, the woman in question wanted to share this good news with anyone who thought that asking for more compensation was inappropriate or useless.

These experiences in June 2014 led to the survey in which interviews by three foreign researchers were conducted in September 2015. Apparently, foreign researchers were not the right target to ask for more compensation because they were not linked to any authority within Japan. They might have been the first persons to whom the evacuees were not obliged to express their plea for more compensation. As anticipated, the evacuees in temporary housing expressed “what they really thought.” The interviewees were glad to talk to foreign researchers, and some of them expressed their appreciation for the interviews. Evidently, they were starving for an arena to tell “what they really thought” about their livelihood in the temporary housing, as described in detail by Bruch et al. [8].

Each unit of temporary housing had a manager or two, assigned by the town government. The town officials only occasionally visited, while they resorted to the information provided by these managers to learn about the situa-

tion in temporary housing. This largely hampered face-to-face communication between evacuees and town officials and led to the wrong assumption in the mind of the latter about their townspeople wanting to return home. This explains why the findings of Bruch et al. [8] were surprising to officials, as vividly depicted by Oda [21].

We also conducted interviews with 16 returnees in Hirono Town in November and December 2020 to learn how they regarded their livelihood after their return. Interestingly, all of them continued to live in Iwaki City instead of returning to Hirono Town and were commuting to Hirono Town Hall. Strictly speaking, they were not returnees. All of them mentioned that they had to stay in Iwaki City because their children started attending schools there during evacuation and that they would eventually return to their homes in Hirono Town. As it only takes 30 to 40 minutes by car from Hirono Town to Iwaki City, many townspeople in Hirono Town commuted to their workplaces in Iwaki City even before the GEJE. Thus, we found people’s commuting from Iwaki City to Hirono Town natural.

The people were then asked where their parents (i.e., grandparents, as seen from the schoolchildren or students attending schools in Iwaki City) lived. All of them answered that they had returned to Hirono Town. They were further asked about how many years they intended to stay in Iwaki City before their return to Hirono Town. Their answers were rather ambiguous, despite knowing how many more years were needed for their children to graduate from high school (and leave their houses for work or higher education).

An informant who was knowledgeable about such non-returnees suggested to us that (a) they did not want to live with their parents in the same house as before or they simply liked the convenient “city life” in Iwaki City and that (b) their children’s attending school in Iwaki City was the best excuse for them not to return home “for the time being” [22].

4.2. Findings by Analysis on Articles by Mass Media with Text Mining Methodology

As shown in **Fig. 1**, the number of related articles that appeared every month showed a steep decrease from 2011 to 2015, from 71 in April 2011 to 5 in December 2015, with the exception of every March, when many articles were featured in the memory of the disaster experienced. This particularly rapid decrease in newspaper articles implies that, in 2015, the public had much fewer opportunities to learn about the livelihood of the evacuees from Fukushima Prefecture in temporary housing vis-à-vis in 2011.

Dendrograms were developed by hierarchical clustering of articles that appeared in 2011, 2013, and 2015. For each year, the major terms that appeared in the articles were clustered into eight. The dendrograms with the term “temporary housing” in 2011, 2013, and 2015 are shown in **Fig. 2**, **3**, and **4**, respectively. These dendrograms suggest that the subjects covered by the articles



Fig. 1. Number of articles related to “temporary housing” and “Fukushima” appeared monthly in Yomiuri Shimbun.

did not change much between 2011 and 2015. We examined the articles that appeared in 2015 only to confirm that the livelihood of the residents in temporary housing was still featured in a rather negative sense. The articles failed to convey what the residents of the temporary housing felt by living there. The following are a translation of excerpts originally written in Japanese from 2015 articles regarding the situation in temporary housing.

- Living in temporary housing with no privacy is too awful. Temporary housing is poorly insulated, and residents can hear the noise of their neighbors (January 20).
- The Yomiuri Shimbun asked the three prefectural police about cases in which residents living alone in temporary housing were found dead inside the housing. The number of deaths (including suicides) increased annually: 16 in 2011, 38 in 2012, 41 in 2013, and 44 in 2014. This year, six deaths were found by the end of January (March 1).
- At present, approximately 80,000 people still live in prefabricated temporary housing. In addition to being narrow, it is difficult to maintain privacy because of poor noise insulation (March 1).
- The prolonged period of living in temporary housing is damaging to the physical and mental health of evacuees (May 9).
- Drunken residents in temporary housing have caused trouble, and families have sometimes fallen apart. As the problem of drinking has become more serious, local governments and support groups have started to take various measures (October 7).

Figure 5 shows the results of the correspondence analysis of articles that appeared in 2011, 2013, and 2015. This supports the findings so far secured from the analysis with newspaper articles. The information (i.e., contents

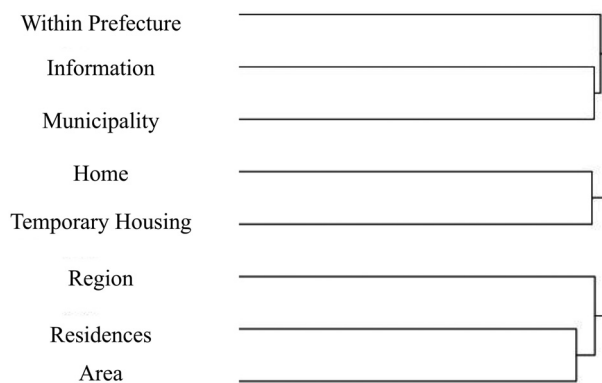


Fig. 2. Dendrogram by hierarchical clustering of articles in March to December 2011 related to “temporary housing” and “Fukushima.”



Fig. 3. Dendrogram by hierarchical clustering of articles in March to December 2013 related to “temporary housing” and “Fukushima.”

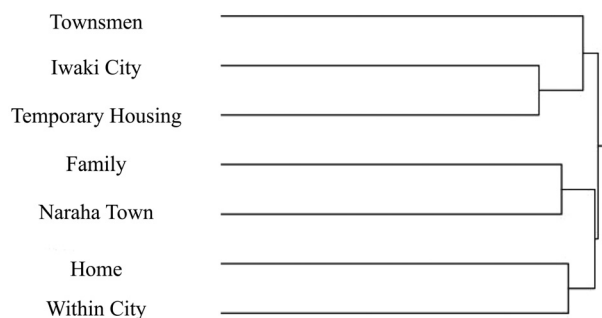


Fig. 4. Dendrogram by hierarchical clustering of articles in March to December 2015 related to “temporary housing” and “Fukushima.”

of the newspaper articles) that appeared in 2011 was predominant in 2013 and 2015. The contexts of the articles did not change significantly over time, that is, between 2011 and 2015.

5. Conclusions

5.1. What Should Be Learned from the Case of Hirono Town

From the viewpoint of evacuees from Hirono Town in temporary housing, for the sake of maintaining har-

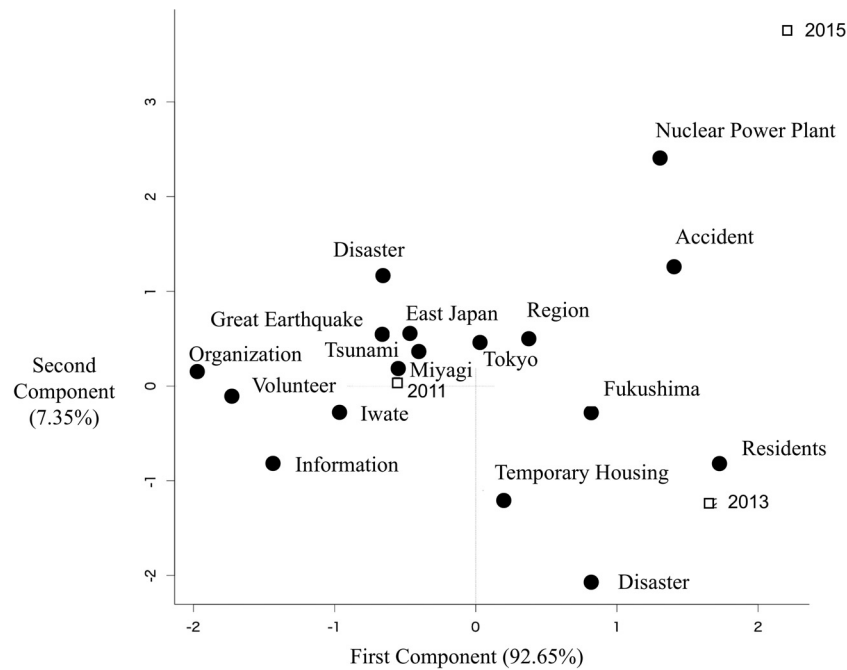


Fig. 5. Result of correspondence analysis of articles appeared in 2011, 2013, and 2015.

mony among them, asking the town government for further compensation was the right action. Compensation should be given as reparation for the physical or mental damage caused. The strategically right behavior for the evacuees was thus to keep expressing to the town government their unhappiness, rather than their happiness, about their livelihood in the temporary housing as the rationale for more compensation. Thus, expressing their sense of happiness was strategically and socially inadequate.

As per participant observation of the residents in temporary housing, any Japanese visiting the temporary housing was supposed to relate to the authority or the public. A researcher at Fukushima University is supposed to have a connection with Fukushima Prefecture. A faculty member at the University of Tokyo is assumed to be related to some central government.

For the evacuees, the media was supposed to be the carrier of their appeal to citizens. The more the media reported the misfortunes of the evacuees, the more sympathy these would receive from the citizens in general. Since the government is highly influenced by media coverage, it is natural that the evacuees thought that they could apply pressure on the government indirectly through the media. As a result, mass media concentrated on reporting the misfortune of the evacuees, thus increasing the misunderstanding of the citizens and the government. If the role of mass media was to arouse public opinion in the right direction, it failed.

Under such circumstances, no Japanese could play a role of “a person to say what they thought.” As time passed, the evacuees in the temporary housing accumulated frustrations in two senses: (a) lack of success in the repetition of the plea for more compensation and (b) paucity of “a person to say what they thought.” It was

also very costly to conduct, for even bona fide people were misled about how the scheme for their return home should be developed and implemented.

With the benefit of hindsight, the evacuees in the temporary housing should have thought of both the possible benefits and costs of their sending “bad news” (unhappiness) alone to those interested in their opinions. While they intentionally or instinctively did so to secure more compensation, as of mid-2014, it almost proved a futile endeavor, misleading the town government in their planning for the scheme to encourage evacuees to return home.

Unfortunately, mass media were also misled with the voices of the evacuees to which they listened; thus, the role of mass media to stir up public opinion in the right direction was not fulfilled.

We vividly remember what a manager of temporary housing told him during his visit in 2014. The evacuees initially asked the manager how soon they could return home. As time passed – half a year to one year later – the same evacuees started asking the manager how many months or years they may stay in temporary housing, which clearly shows how evacuees evaluated their livelihood to have drastically changed. Unfortunately, this change was not detected by the town government or mass media.

A similar situation existed in the case of the Maldives. Mass media were critical of the government and sympathetic toward the displaced people. Therefore, it was reported that the delay in the return of displaced people to their previous places of residence, which they had been forced to leave by the tsunami, was due to the government’s incompetence. It was not reported that the evacuees delayed their return as long as possible to get the

maximum benefit from their status as victims [2].

5.2. Lessons for Island Countries

The case of evacuees from Hirono Town has very useful policy implications for island countries, which may inevitably be obliged to move people from one place to another (probably from one island to another) due to natural disasters in the future.

We all know that the minds of people change over time, and evacuees are no exceptions. They may initially find themselves away from home and living in temporary housing, and their unhappiness may be widely covered by mass media. The society around these displaced people tends to regard them as unhappy forever.

In the case of temporary evacuation, where people live in places such as gymnasiums temporarily, it is natural for evacuees to want to return home immediately. However, evacuees are prepared to live in temporary housing for a certain period, and as a result, communication among them begins. As time goes by, daily life in temporary housing is not necessarily inconvenient, and in fact, people come to realize the advantages of being close to the city. They begin to objectively compare their lives in temporary housing with their lives before evacuation and hope to extend their permanence there. With time, the evacuees may find their livelihood in temporary housing comfortable or even more enjoyable due to opportunities for goods by aid organizations and (in the case of evacuees from Hirono Town) the possible provision of additional compensation.

This was also the case for the Maldives. Most of the atolls where displaced people lived were swept away by the tsunami. Therefore, it took several years before the government was able to restore the infrastructure and allow survivors to return to their previous settlements. In the meantime, the evacuees came to enjoy the “modern” life in temporary housing, which in many ways, was more convenient and enjoyable than the life on the island where they had lived before the tsunami. The evacuees wanted to stay in temporary housing for as long as possible rather than return to their home atolls [2].

Society should be aware that their ideas and behaviors may change over time, rather in a short time, after the commencement of their livelihood in temporary housing. It should also be noted that mass media are prone to conveying unupdated messages to society about how evacuees regard their livelihood as if they were unhappy in the past, present, and future. Society may thus take wrong actions driven by wrong information, believing that such actions should be the best for the evacuees.

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- “Analysis of the Attitude Within Asia-Pacific Countries Towards Disaster Risk Reduction: Text Mining of the Official Statements of 2018 Asian Ministerial Conf. on Disaster Risk Reduction,” J. Disaster Res., Vol.14, No.8, pp. 1024-1029, 2019.
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