

# **Social Meaning of Difficult-to-Return Zones in Fukushima - Using Qualitative Data Analysis of Interviews with Japanese and U.S. Experts**

Keiichi Sato, Professor, Senshu University  
satok@isc.senshu-u.ac.jp  
+81(44) 911 – 0514  
2-1-1 Higashi-mita, Tama-ku, Kawasaki-shi  
Kanagawa, Japan 214-8580

## **1. Introduction**

Japan is one of the most disaster-prone countries in the world. A massive Nankai Trough earthquake and Tokyo metropolitan earthquake are certain to occur. Climate change may cause massive flooding. There is also concern about the eruption of Mt. Fuji. There is a need to learn more about the history of various disasters. However, disaster research focuses almost only on disasters, which makes it difficult for people outside of the field to be involved in disaster management. So what should we do about this? Therefore, I am working to consider the meaning of disaster response by relating the disaster history to the general history.

There is a huge amount of information and literature on the 2011 Great East Japan Earthquake and the Fukushima Daiichi Nuclear Power Plant accident. Numerous reports and studies have been generated, with media and researchers not only in Japan but also abroad paying close attention to them. This paper will summarize what has been discussed about the Great East Japan Earthquake through interviews with Japanese and U.S. experts, and provide a view of the social meaning of the difficult-to-return zones in Fukushima.

## **2. Collection Creation and Coding**

### **2.1. Creating a Collection**

I selected one Japanese and one U.S. expert in each of the seven fields of history, politics, disaster, reconstruction, media, cultural anthropology, and disaster archives to be interviewed. The selection of those fields was made in the process of writing the book titled "Disaster Response History in Japan."<sup>1</sup> I picked the widest possible range of fields in order to consider the relationship between disaster response and contemporary Japanese society. There are many experts in each of these fields, and other related fields can be envisioned. Although more people should have been interviewed, due to the my ability and the constraints of time and paper space, only one person from each field was selected for each interview.

The interviews were conducted in a semi-structured format, in which broad questions were prepared and sent in advance, and conversations were conducted in response to the expert's answers. Questions were asked in three categories: (1) research and studies related to the Great East Japan Earthquake, (2) reflections on the Great East Japan Earthquake (thoughts, ideas, lessons learned, etc.), and (3) Japanese society in the future. Specifically, I read articles and books by the experts and added questions and exchanges about them.

Interviews were conducted either in person or online, depending on the expert, and were recorded in audio or video. All of them were transcribed and the text data generated were loaded into NVivo for qualitative data analysis. The information collected through the interviews was compiled in the JDA collection (<https://jdarchive.org/en/collection/2271>). For each expert, I registered information that I had read beforehand and information that they had given me during the talk.

Table 1 List of interviewees

Field	Japan		US	
	Name	Affiliation	Name	Affiliation
History	Isoda, Michifumi	International Research Center for Japanese Studies	Andrew Gordon	Harvard University
Politics	Iokibe, Makoto	University of Hyogo	Richard Samuels	MIT
Disaster	Sekiya, Naoya	University of Tokyo	Arnold Howitt	Harvard University
Recovery	Nakabayashi, Itsuki	Tokyo Metropolitan University	Daniel Aldrich	Northeastern University
Media	Nakajima, Toshiki	NHK	Katharine Starr	Harvard University
Anthropology	Takahashi, Satsuki	Hosei University	Hiroko Kumaki	Dartmouth University
Disaster Archive	Shibayama, Akihiro	Tohoku University	Ryo Morimoto	Princeton University

## 2.2 Coding and Aggregation

In "Disaster Response History in Japan," NVivo, a qualitative data analysis software, was used as a tool to organize and analyze the diverse information collected. Since generated codes were stored in an unorganized order, I constructed a framework as shown in Figure 1 when aggregating and categorizing them. By combining elements such as social trends before the disaster, damage, response, reflection, and social trends after the disaster, with aspects such as disaster-related or general social descriptions, I tried to explore the relationship between social trends before and after the disaster and the general history.

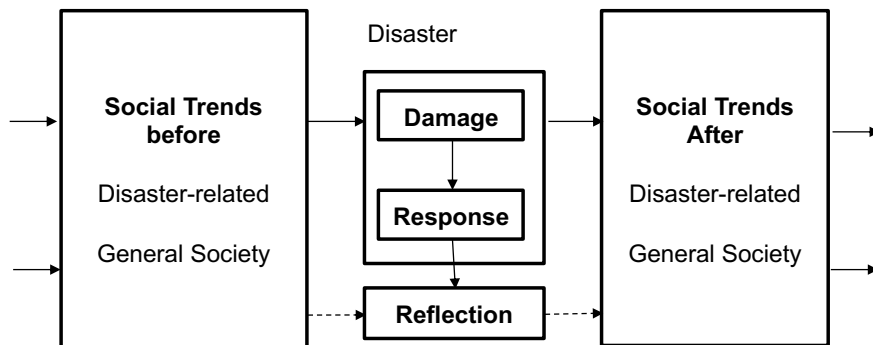


Figure 1 Coding Framework

Table 2 shows the coding results by the respondent. Although there was some variation among the interviewee, an average of about 30 codes were generated per person, for a total of 430 codes. Depending on the interview questions, more than half of the codes were classified as "reflection." Few codes were about "damage," and about 10-20% each were about "social trends before and after the disaster" and "disaster response."

Iokibe and Horwitt had many codes on "pre-disaster social trends". Iokibe talked about the Great Hanshin-Awaji Earthquake, leadership in times of crisis, national finance, and international relations. Howitt talked a lot about the US approach to crisis management.

Isoda and Aldrich had more than 10 codes on "Social Trends after Disaster". Isoda talked a lot about mentality and philosophical trends in post-disaster Japan, and economic and social conditions. Aldrich told about the risks of Tokyo's concentration, inequality in the U.S. and Japan, and lack of dialogue with citizens.

Table 2 Summary of Coding Results by Interviewee

Interviewees	Social trends before the disaster	Damage	Response	Reflection	Social trends after the disaster	Total
Michifumi Isoda	3	0	0	15	11	29
Makoto Iokibe	10	0	2	10	2	24
Naoya Sekiya	2	0	3	16	7	28
Itsuki Nakabayashi	1	0	5	14	6	26
Toshiki Nakajima	0	0	0	9	5	14
Satsuki Takahashi	0	1	1	7	2	11
Akihiro Shibayama	1	0	7	8	4	20
Andrew Gordon	4	0	8	15	1	28
Richard Samuels	2	1	2	18	8	31
Arnold Howitt	26	0	0	24	1	51
Daniel Aldrich	9	0	1	36	11	57
Katharine Starr	10	0	8	25	8	51
Hiroko Kumaki	0	0	7	26	0	33
Ryo Morimoto	3	0	5	18	1	27
Total	71	2	49	241	67	430

Figure 2 shows a hierarchical chart of the coding results for the interview transcripts. The hierarchical chart shows a nested representation of the coding hierarchy, with the size of each square indicating the amount of coding done for each.

In the disaster-related "reflections," many of the talks were related to concepts in their disciplines. For example, in political science, they talked about networks and civic involvement, and in disaster research, they talked about resilience and doubts about the disaster cycle. In addition, regarding governance and risk communication after the nuclear accident, various opinions and thoughts were discussed.

In the "Reflections" category regarding general social aspects, the various viewpoints on the new post-disaster society were talked about. In the social trends before the disaster category, the discussion included crisis management in the U.S., international relations trends, and inequality concerns. In the category of social trends after disasters, the experts talked about emerging risks such as infectious diseases, mentality and ideology, and the economy and society.

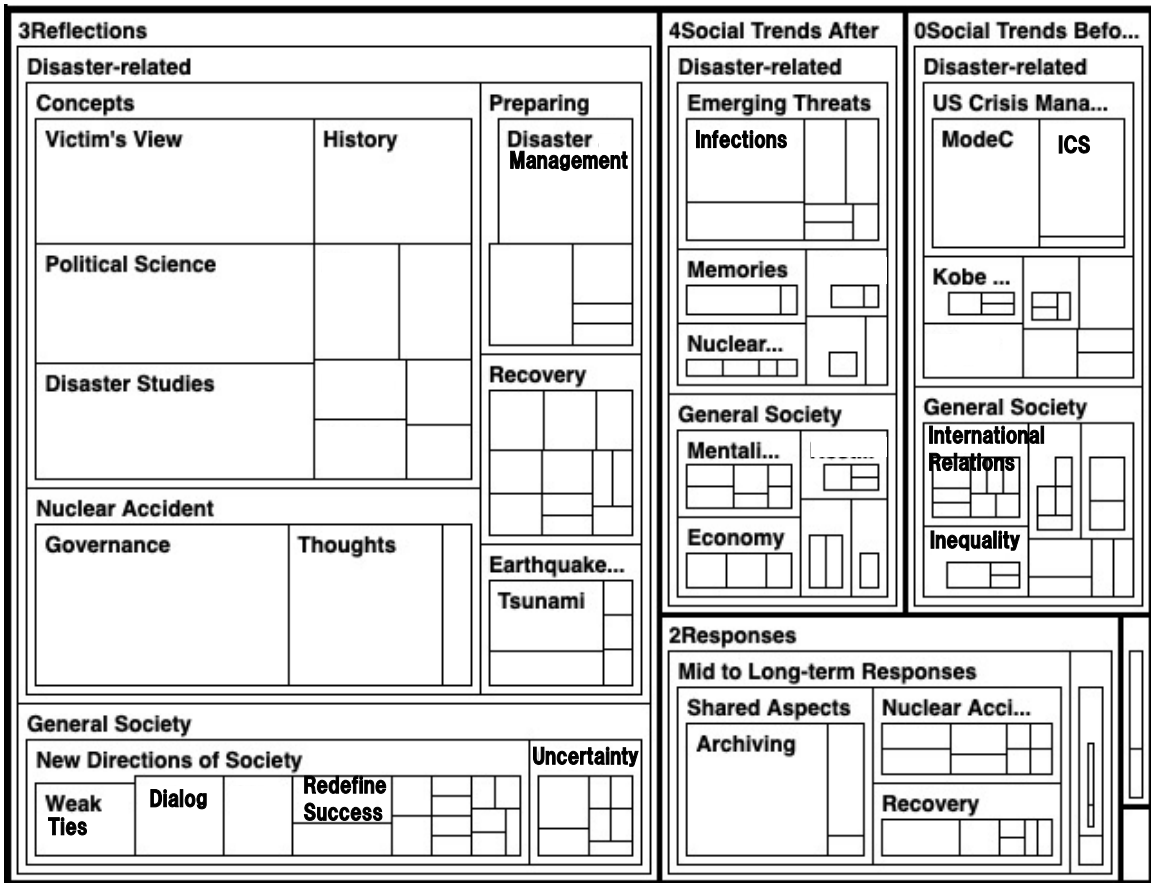


Figure 2 Coding results of interview data (hierarchical chart)

### 3. Exploration of the Relationship between Reflections on Disaster-related Issues and Social Trends

As a basis for the analysis, I have organized what the 14 experts have talked individually on the Great East Japan Earthquake. In this paper, each description is skipped due to limitations of the paper length. Then, I considered how the reflections on the Great East Japan Earthquake relate to the trends (general society) before and after the disaster.

As shown in Figure 2, the interview data includes a certain number of talks about "social trends (general society) before and after disasters," and many "reflections" were

coded. Thus, I picked up some "social trends before and after the disaster," extracted "reflections" related to them, and summarized them in Table 3. Here I set five elements from the interview transcripts that I considered representative.

In the five elements, "politics" and "national security" were picked up from Samuels talking about the direction of Japan. I added "economy," "national industrial project," and "values" by observing the codes generated through the interviews, as important elements for considering the social structure.

Table 3: Extraction of social trends (general society) and related reflections

	Social Trends Before (General Society)	Related Reflections	Social Trends After (General Society)
Politics	Change of Governing Party	Distrust of PR after the Nuclear Accident	Collapse of the Democratic Party, Prolonged LDP Government
National Security	Changes in the Security Environment	Perspectives on Political Use	Good Impact to SDF on public opinion, Increase in defense spending
Economy	Lost Decades	Difficulties in Tohoku Recovery	Lost Decades
National Projects	METI Initiative	Stop Fukushima Floating Offshore Wind Farm	Fukushima Innovation Coast Initiative
Values	Redefining Success	What is a Good Way to Die?	Open Regions

In this paper, I picked up "values" from the five elements and describes them. At the end of the book "Modern History in Japan," Gordon discusses the redefinition of success. When I asked him about it in an interview, he told me he meant to change the perception of success from economic growth to "a meaningful and satisfying life." It is possible to pick up a number of relevant reflections on the Great East Japan Earthquake, but here I would like to focus on what Morimoto has heard during his fieldwork, "What is a good way to die?"

What surprised Morimoto the most while he was in Hama-Dori, Fukushima was that he often heard local elderly people talking about how they could die well. They spoke about it such as dying suddenly or not leaving behind a negative legacy. He felt their thought of not leaving trouble for future generations.

*Why do they farm, even though they can't sell their agricultural products? Because if they don't plant something, whether it is contaminated or not, the soil will be useless. Sometimes it seems like they are doing it because they don't think it is dangerous, but I don't think that is true. I think they do farming because they want to leave something for the future. It is a desire to protect the land and pass it on to the next generation.*

In the book "An Introduction to Policy Sciences with Information Studies" (Sato 2019), I explained Heidegger's concept of "ordinary temporality" and Nietzsche's concept of "love of fate," and mentioned that these concepts are one of the keys to avoiding the

mental characteristics of mass society after modernization, such as "autistic attitude" and "contumelious attitude."

*The realization that a person will someday end by death leads to the recognition that our life at this moment is like an unavoidable "destiny." The realization of "death" leads us to face and value our lives and the environment that surrounds us.*

From the stories of the elderly people of Fukushima Hama-Dori that Morimoto heard during his fieldwork, it seems that the feeling of coming death strengthens the desire to cherish and protect their "community," including their land, lifestyle, culture, traditions, and to pass these to the next generation. We can see this as an expression of "ordinary temporality" and "love of fate," to overcome the basic characteristics of modernization, such as "dehumanization," "autistic attitude," and "contumelious attitude." Their thoughts are also related to the "redefinition of success" such as "satisfying lives". On the other hand, the very difficult situation of population decline and nuclear waste has been lying.

In 2017, the Fukushima Act on Special Measures for Reconstruction and Revitalization was revised. Specified Reconstruction and Revitalization Bases (Recovery Bases) were established in the difficult-to-return zones where residency was to be restricted in the future. This has enabled the lifting of evacuation orders and the restarting of residences. In Tomioka, Okuma, Futaba, Namie, Katsurao, and Iitate, decontamination and infrastructure development are conducted toward the lifting of the evacuation order from around 2022 to 2023 <sup>2</sup>.

In June 2022, the evacuation order was lifted at the Katsurao Village recovery base, and residences restarted in part of the difficult-to-return zone. According to the news report, four of the 30 households registered to live in the recovery base in the village have expressed their plans to return to their homes, but the scale of the return is very limited. A man who has rebuilt his house in the base said, " This starts my precious life. I would like to contribute to the revitalization of the local community in this place." <sup>3</sup>

The outlook for the difficult-to-return zones is still not optimistic. Nakabayashi told me that new ways of planning are required in order to " bring in new people and create a new town in due course" in the aging areas. During the interview, he mentioned the spread of remote work due to the spread of Covid-19 and the possibility of dual-location living, etc. It is not clear whether Hama-Dori in Fukushima will become one of those places. This is an issue that is directly related to the situation regarding regional revitalization.

Several policy projects, known as " Regional Revitalization," have been implemented since the second Abe administration to deal with the declining future population and the regional decay. However, it has been pointed out that these policies have not been successful. The goal of achieving zero migration between the Tokyo metropolitan area and the regional areas by 2020 has not been accomplished, and the inflow of population into the Tokyo metropolitan area is still continuing. Although incentives have been offered to companies moving out of the Tokyo area, only a few companies are willing to leave the Tokyo area. Many young people have a positive image of the living conditions in Tokyo and have no desire to leave (Morikawa 2020).

At a KPI study group for the second phase of the "Comprehensive Strategy for Regional Revitalization," the following comment appeared: "In regional Revitalization, we should be aware of the increase in the number of foreign people." This corresponds to the "change in awareness of the importance of immigration" pointed out by Samuels. As the decay of rural regions due to population decline is about to become more serious, there is a need to find ways to make the regions more attractive to immigrants from abroad.

Although the youth are leaving the rural areas, and the aging and depopulation of these areas are continuing, if we visit these areas, we can find attractive features such as beautiful nature, cultural resources, history, and stories. The possibility of decay in such rural areas is recognized not only by experts but also by the government. It is not clear whether some rural areas will eventually become "open regions" and develop in new ways with young people and foreigners who have discovered the charms of their local areas. The Hama-Dori area after the Fukushima nuclear accident is one such region. The destruction of the area and the sense of "death" caused by the accident may be increasing the possibility of openness in the area.

## Footnotes

1 To be published by Kyoritsu Shuppan in 2023.

2 From the Fukushima Prefectural Government website (<https://www.pref.fukushima.lg.jp/site/portal/list271-840.html>, last viewed July 2022).

3 From the Tokyo Shimbun, "Residents restart living in Fukushima's difficult-to-return zone for the first time: 80% are anxious, but some of them will return to their homes." (<https://www.tokyo-np.co.jp/article/183212>, last viewed July 2022).

## References

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