

"Damage, Living Environment, and Reconstruction under the Great East Japan Earthquake"

Summary Results of the 7th Survey of Nuclear Disaster Evacuees from Futaba, Fukushima

- The First Survey since the Start of Return* -

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1—Basic Information

Surveys on damage, living environment and reconstruction under the Great East Japan Earthquake have been conducted by a research project, "International comparison of reconstruction of living infrastructure from disasters" (Yasuyuki Sawada, Professor, Faculty of Economics, The University of Tokyo; Keiko Iwasaki, Researcher, NLI Research Institute) of the University of Tokyo since 2013. The surveys are targeted to all household heads of Futaba in Fukushima prefecture, where all residents were forced to evacuate due to the nuclear power plant accident caused by the Great East Japan Earthquake occurred in 2011. Surveys were conducted in July 2013, December 2014, July 2016, December 2017, July 2019, December 2020 and October 2022. This paper reports the summary of results of the seventh survey conducted in October 2022.¹ Since the evacuation order of a part of the town of Futaba was lifted on August 30th, this is the first survey conducted after Futaba residents started returning to home among the past seven rounds of surveys.

Table 1. Basic Information

Target	All household heads of Futaba, Fukushima
Number of questionnaires distributed	2,900
Questionnaires distribution date	October 1, 2022
Questionnaires collection period	October 1, 2022 - November 15, 2022
Number of responses	653
Response rate	About 22.5%

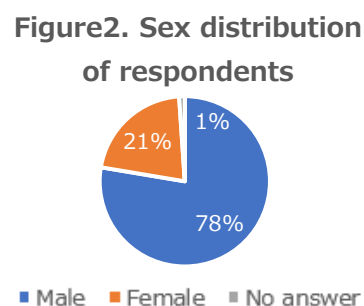
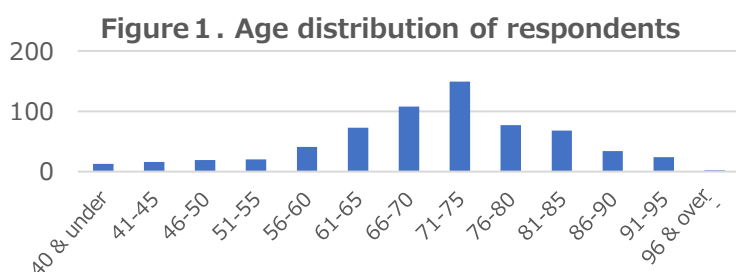
The survey includes questions about basic attributes such as age and sex, as well as questions related to connections with others (social capital) and health conditions (See appendix at the end of this report for all the questions included in the survey). The questionnaires were distributed to all households of Futaba (About 2,900

* The seventh survey was the first survey conducted after the start of the return of the residents of Futaba Town in this continuous survey research targeting the residents of Futaba Town.

¹ This research has been supported by the following research grants.
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This study is approved by the Ethics Committee of the University of Tokyo (21-329).

households) that receive the regular town mail from Futaba. We also distributed simplified version of the questionnaires excluding questions inquiring about already available information from previous rounds of surveys to those who had filled out names and addresses in previous surveys (617 people). We received responses from 653 Futaba residents who had evacuated nationwide (292 responses from questionnaires included in the town mail, 361 responses from the simplified version of the questionnaires. Response rate is about 23%).

Figures 1 and 2 show the distribution of age and sex of the respondents. The target of this survey is household heads. As we can see from these figures, compared to the age and sex distribution of Futaba reported in the national census, the age distribution of the respondents is left-skewed, with the majority of respondents are over late 60s. The sex distribution of the respondents shows that the majority of respondents are male. In addition, since the survey was conducted after the tremendous disaster, it is possible that the distributions of the respondents' characteristics are significantly different from those of general questionnaire surveys. Therefore, it should be noted that the results of this survey do not necessarily indicate the general trend of Futaba residents.



2—Health conditions

Regarding health condition, as shown in Figure 3, many rated their own health condition before the earthquake as "good" or "very good" while many rated their current health status as "bad," "terrible" or "can't say either way". Compared to the 2016 survey result, the portion of respondents who rated their current health status as "good" had been increasing till 2020 survey, while the portion of respondents who rated their current health status as "bad" decreased slightly, indicating that overall health status of Futaba residents had been gradually recovering. However, we could not observe the recovering trend between 2020 and 2022. In addition, as shown in Figure 4, when asked about changes in health condition compared to pre-disaster status, more than half of the respondents rated their own health condition as worse than that of pre-disaster status and the distribution has hardly changed since 2013.

Figure 3. Current health status

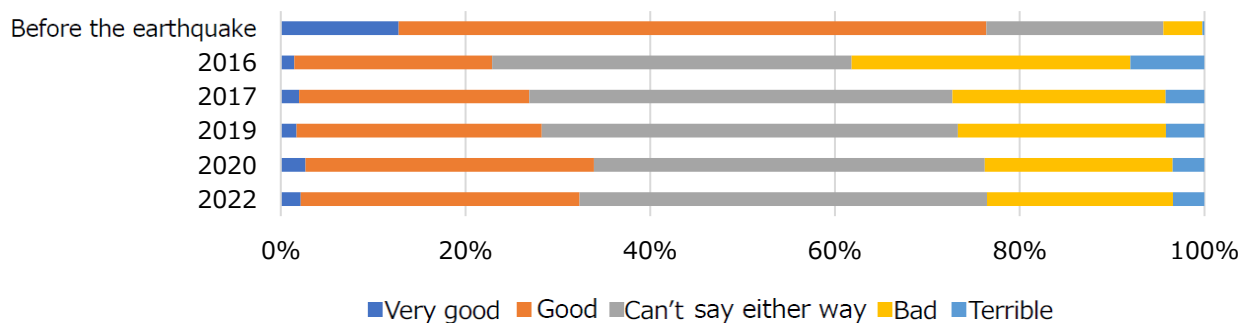
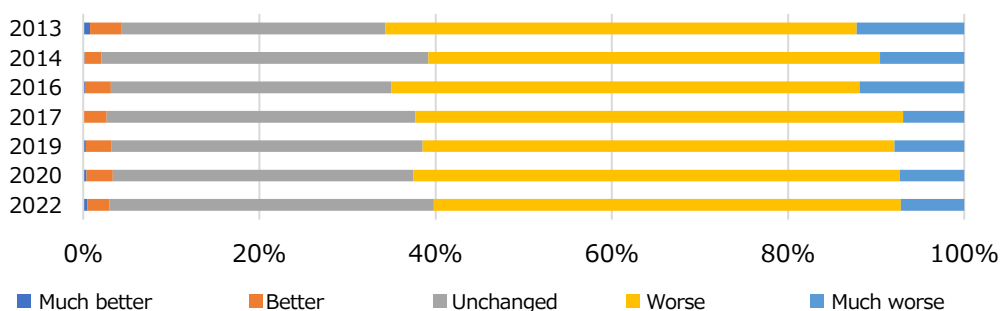


Figure 4. Change in subjective health status



As to mental health, we overview the distribution of K6 score, a clinically validated index for diagnosing the overall stress state. K6 is an internationally used measurement for general mental health status that consists of six questions. The higher the total score, the more likely the respondent is stressed². The distribution of the K6 score of Futaba residents had been gradually improving from 2013 to 2020 (See Figure 5). However, we could not observe improving trend between 2020 and 2022. Furthermore, the scores of Futaba are still higher than those in the other disaster affected areas, indicating that mental health recovery of Futaba may take a very long time.

In addition, the previous rounds of surveys between 2013 and 2017 showed that K6 score among Futaba residents living in temporary shelters had been increasing year by year³. However, only few lived in temporary shelters among respondents of the surveys conducted in 2019 and later (6 respondents in 2019 survey, 7 respondents in 2020 survey, and 4 respondents in 2022 survey lived in temporary shelters) because many who used to live in temporary shelters had moved to public reconstruction housings. Therefore, instead of checking the distribution of K6 score among temporary shelter residents, we have been comparing the distribution of K6 score by dwelling type except for temporal shelters such as owned house and public reconstruction housing since 2019. As shown in Figure 6, K6 score among residents of public reconstruction housings tend to be higher than that of

² Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L., Walters, E. E., Zaslavsky, A. M., 2002. Short Screening Scales to Monitor Population Prevalences and Trends in Non-Specific Psychological Distress. *Psychological Medicine* 32, 959-976.

Furukawa, T. A., Kawakami, N., Saitoh, M., Ono, Y., Nakane, Y., Nakamura, Y., Tachimori, H., Iwata, N., Uda, H., Nakane, H., Watanabe, M., Naganuma, Y., Hata, Y., Kobayashi, M., Miyake, Y., Takeshima, T., Kikkawa, T., 2008. The Performance of the Japanese Version of the K6 and K10 in the World Mental Health Survey Japan. *International Journal of Methods in Psychiatric Research* 17, 152-158.

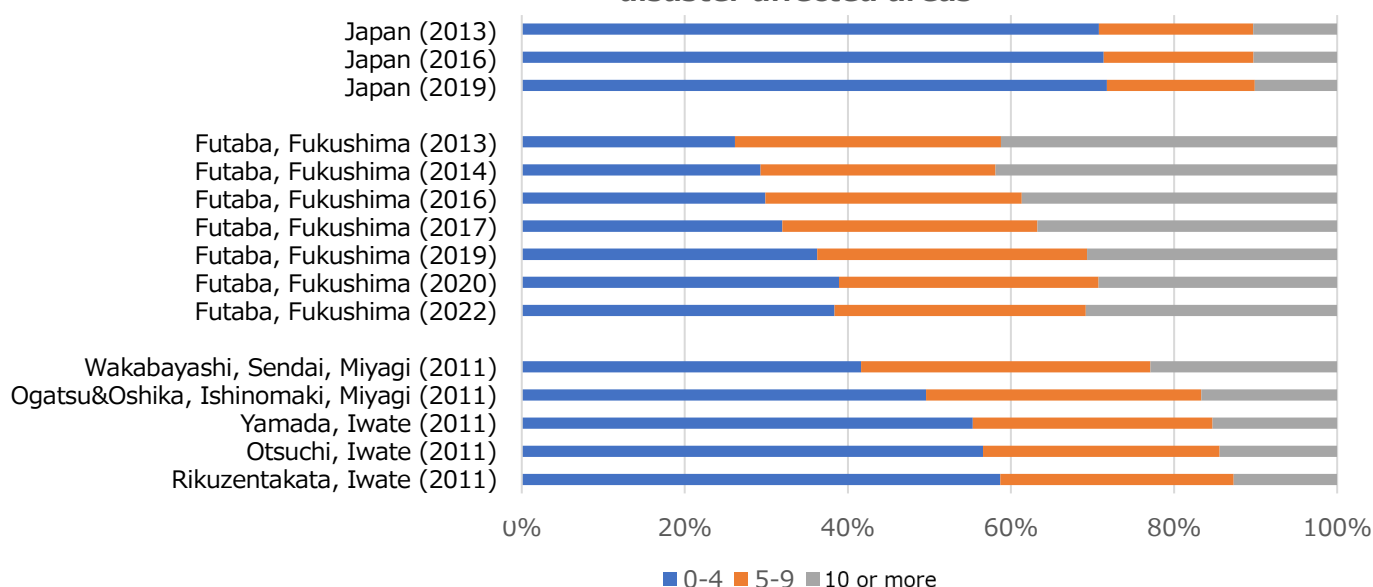
古川壽亮 他. (2003). 一般人口中の精神疾患の簡便なスクリーニングに関する研究. 厚生労働科学研究費 補助金厚生労働科学特別研究事業「心の健康問題と対策基盤の実態に関する研究」研究協力報告書.

³ Iwasaki, K. (2019/2/7) NLI Research Report (in Japanese) https://www.nli-research.co.jp/files/topics/63613_ext_18_0.pdf?site=nli Accessed on 2022. 12. 5)

residents who live in owned houses. Also, K6 score among residents of post-disaster public-funded rental accommodation have been increasing year by year. These results suggest the importance of continuous mental health support for those who live in post-disaster public-funded rental accommodation and public reconstruction housings. Also, since the survey conducted in 2022 was the first survey conducted after Futaba people could at last start to move back to the town of Futaba in August 2022, there are respondents who live in a house in Futaba where they originary lived before the disaster. The distribution of K6 score of those who live in their own house in Futaba is shown in figure 6 for your reference. Even though the the number of the respondents who live in their own house in Futaba are small (11 respondents), the distribution shows that residents seem to be dichotomized to those whose stress are low (blue area) and those whose stress are high (gray area).

However, the results of this survey do not necessarily apply to all residents of Futaba, and high K6 score does not necessarily mean that one has a mental disorder. Please note that the purpose of our survey is to provide policy implications.

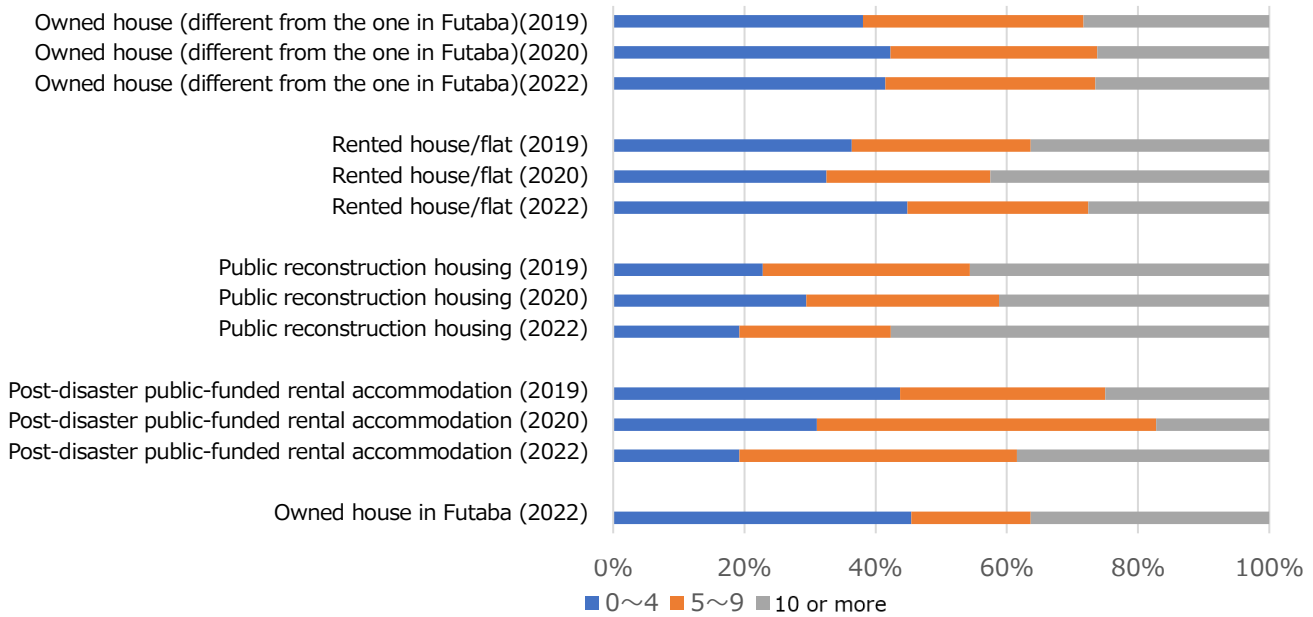
Figure 5. Distribution of K6 score for Japan, Futaba, and other disaster affected areas



Note) K6 score indicates the level of psychological distress, and the higher the value, the higher the level of stress

Source) Futaba: Surveys conducted by the University of Tokyo's "International comparison of reconstruction of living infrastructure from disasters" project. Japan: Comprehensive Survey of Living Conditions (2013, 2016). Other regions: Survey on the Health of Great East Japan Earthquake Victims (Research Representative: Kenji Hayashi) 2012

Figure 6. Distribution of K6 by dwelling type



Note) This index indicates the degree of psychological stress, and the higher the value, the higher the degree of stress.

Source: Past research by the University of Tokyo's "International comparison of reconstruction of living infrastructure from disasters" project

3—Change in social capital

Social capital refers to trusting relationships and networks, and is sometimes referred as "kizuna" in Japanese. Social capital is getting attention as a key notion to achieve successful disaster recovery and has been one of the major focuses of our study. In previous study, we showed social capital would play an important role in maintaining mental health after the disaster, while it might have been weakened by the disaster among Futaba residents⁴.

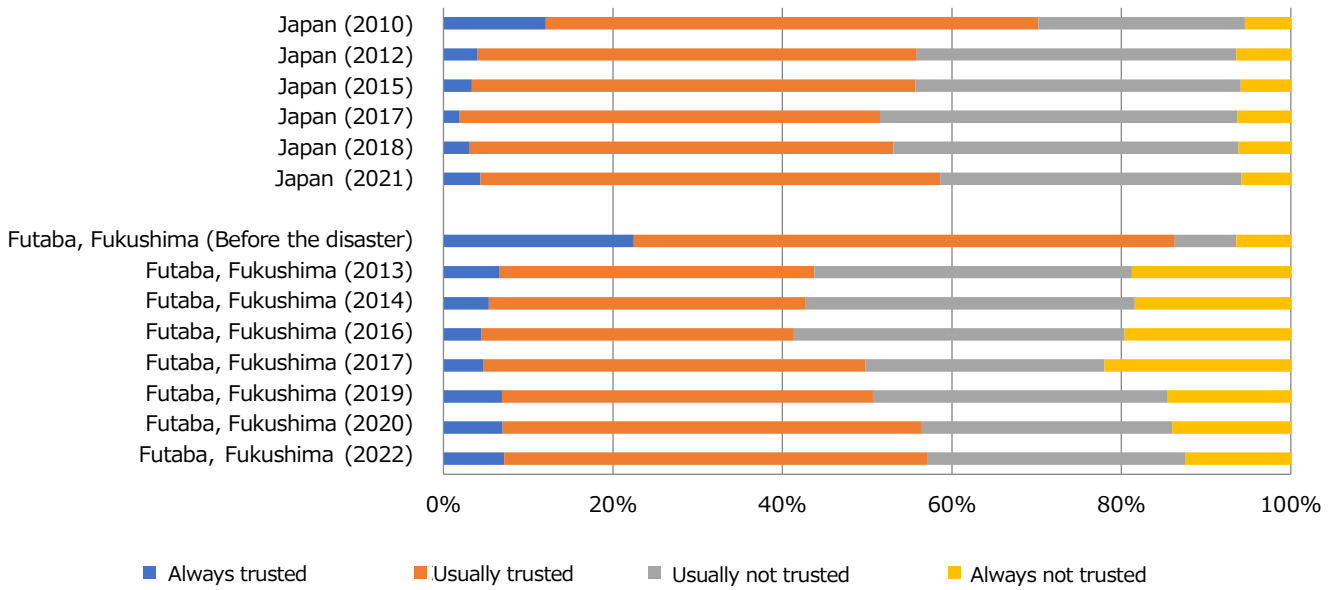
There are several indicators that are commonly used to measure social capital, but we focus on three items here. First, we check the level of "generalized trust" using GSS trust question, which is one of the most commonly used social capital measures. As shown in Figure 7, generalized trust among Futaba residents had been decreasing from 2013 to 2016 (Portion of those who think people can be trusted had been decreasing). However, since 2017, the portion of those who thinks people can be trusted has been gradually increasing (See Figure 7). The overall distribution is almost same as that of Japan as of 2019. On the other hand, Since Futaba had very high generalized trust level before the disaster, recovery to its original high level would take much longer time.

The second indicator of social capital, "frequency of mutual assistance with neighbors," also shows a gradual recovery trend. In addition, the third indicator of social capital, "trust to neighbors" also shows a gradual recovery trend since 2016, but both trends have been very moderate. It will take a very long time for social capital to recover, and we believe it is important to continue to monitor these changes over the long term.

⁴ Iwasaki, K., Sawada, Y., Aldrich, D., 2017. Social Capital as a Shield against Anxiety among Displaced Residents from Fukushima. *Natural Hazards* 89.

Figure 7. Generalized Trust (GSS Trust)

"Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?"



Source) Japan: The Japanese General Social Surveys 2010, 2012, 2015, 2017, 2018; Futaba: Our study conducted by the University of Tokyo's "International comparison of reconstruction of living infrastructure from disasters" project

Figure 8. Frequency of mutual assistance with neighbors

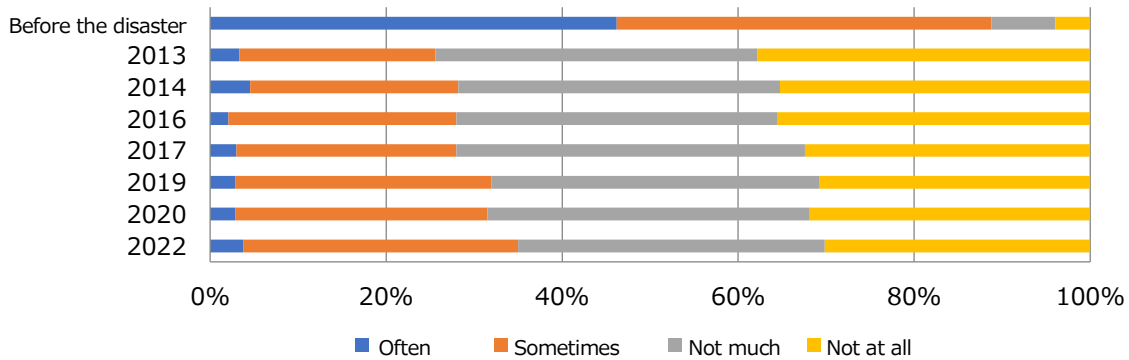
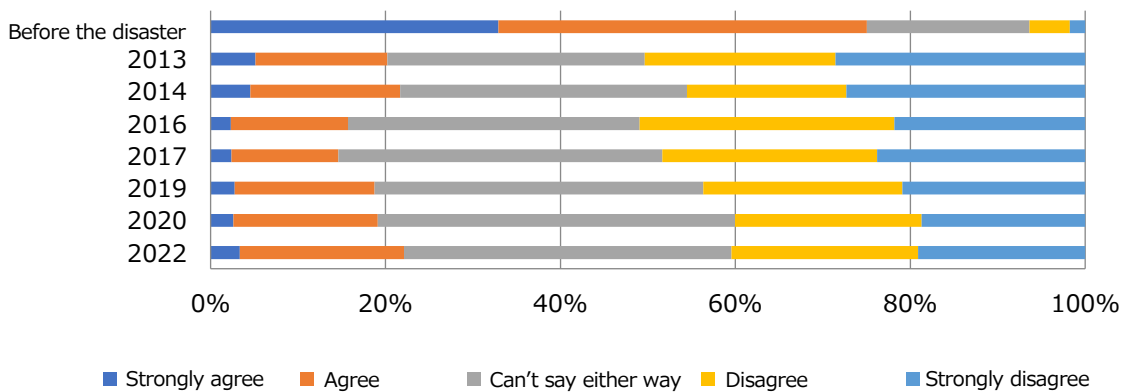


Figure 9. Trust to neighbors

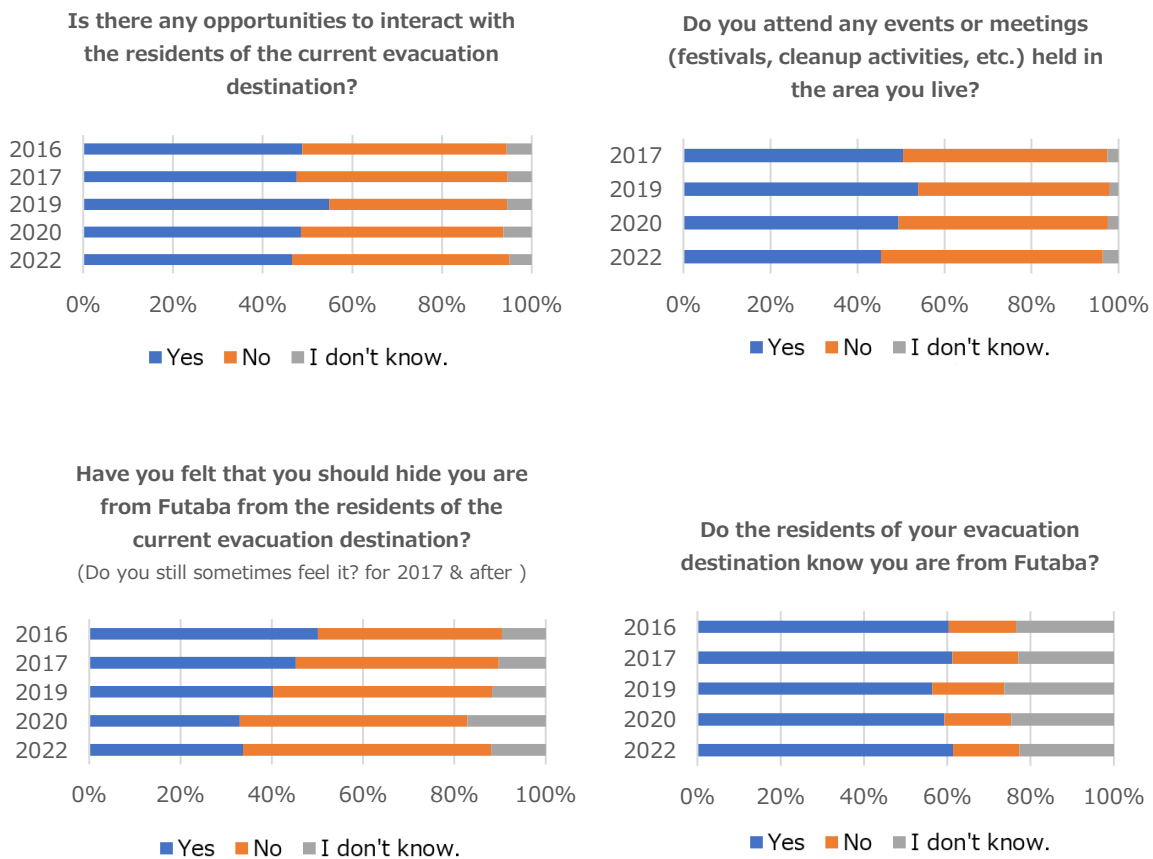
" My neighbors help me when I'm in trouble."



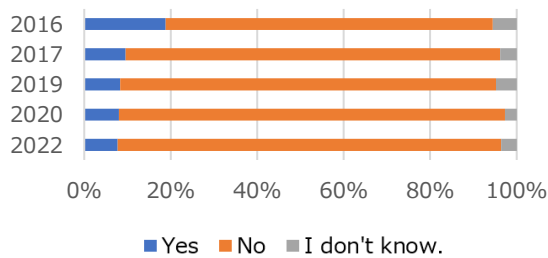
4—Building relationship with residents at evacuation destinations

Some of Futaba residents had told us that building a new social relationship with residents in evacuation destinations is a challenge that needs to be addressed under the prolonged evacuation period, in which the policies and understandings of residents in evacuation destinations vary widely. To capture this challenge, since the 2016 survey, the question on the relationship with the residents of the evacuation destinations have been included in our surveys. As shown in Figure 10, the percentage of those who feel that it is better to hide that they are from Futaba, those who feel uneasy about taking out garbage, and those who are called bad names or misbehaved because they are from Futaba have been decreasing. On the other hand, the percentage of residents who have opportunities to interact with the residents of the evacuation destinations, those who participate in events held in the evacuation destinations, and those whose neighbors know they are from Futaba have not changed. It might be conceivable that the 2020-2022 period could have been affected by a reduction in events and other activities due to the COVID pandemic. It shows that about half of the residents still do not have opportunities to interact with residents of the evacuation destinations, indicating that building new relationships with residents at the evacuation destinations is still an important challenge for Futaba residents.

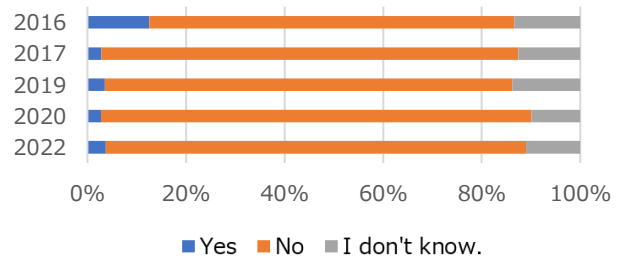
Figure 10. Relationship with residents in evacuation destinations



Have you felt uneasy about taking out garbage at the place you currently live?
(Do you still sometimes feel it? (for 2017 and after))



Have you been called bad names or misbehaved just because you are from Futaba by the residents of the area you live now?



5 Summary of the findings from the seven rounds of surveys

- (1) Futaba residents can be facing more serious psychological distress than those in other disaster affected areas. More than 11 years have passed since the Great East Japan Earthquake, and their mental health status had been gradually improving in the long term, but the recovery trend has stopped between 2020 and 2022. These show that recovery may take much longer time.
- (2) In particular, there was a possibility that mental health of those who had lived in temporary shelters for long time was in a serious condition. However, currently, even after many of the residents have already moved from temporary shelters to public reconstruction housings, mental health of residents in public reconstruction housings and those who live in post-disaster public-funded rental accommodation is in a serious condition, and continuous mental health support is necessary.
- (3) As to changes in income and health condition caused by the disaster, we find that the greater the extent of decrease or deterioration is, the greater the degree of decline in individual well-being tends to be. This implies the necessity of sufficient compensation to recover the original state of survivors' well-being⁵.
- (4) The disaster has weakened social capital of Futaba residents, and recovery may take very long time.
- (5) Keeping in touch with people who had been friends from pre-disaster time and participating in hobbies and volunteer activities after the disaster may help people maintain good mental health⁶.
- (6) Though relationship building with the residents of the evacuation destinations show some progress little by little, the progress is subtle and it is still an important challenge evacuees are facing.
- (7) Aggravated present bias (procrastination tendency) due to disasters can lead a decline in mental health condition, but policies that promote interaction among residents and encourage good health behaviors can prevent such a decline⁷.

⁵ Iwasaki, K., Lee, M.J., Sawada, Y., 2019. Verifying Reference-Dependent Utility and Loss Aversion with Fukushima Nuclear-Disaster Natural Experiment, *Journal of the Japanese and International Economies* 52, 78-89.

⁶ Iwasaki, K., Sawada, Y., Aldrich, D., 2017. Social Capital as a Shield against Anxiety among Displaced Residents from Fukushima. *Natural Hazards* 89.

⁷ Sawada, Y., Iwasaki, K., Ashida, T., 2018. Disasters Aggravate Present Bias Causing Depression: Evidence from the Great East Japan Earthquake, CREPE DISCUSSION PAPER NO. 47.

Overview of the implication about the relationship between damage and present bias is available at page 6 of the report below: Keiko Iwasaki (2020.3.11) The 5th Survey of Nuclear Disaster Evacuees from Futaba, Fukushima, Summary of Results 2019, NLI Research Institute Report. (https://www.nli-research.co.jp/files/topics/63949_ext_18_0.pdf?site=nli, Accessed on Jan 10, 2023)

These results have been presented in international and domestic academic conferences. Also, these results have been published in international academic journals. Furthermore, a book, *Fukushima Nuclear Disaster and Mental Health* was published from Nippon hyoron sha in March 2021. We intend to continue our analysis and contribute to improve disaster preparation/rehabilitation policies.

Participants of our surveys are approximately 23% of households of Futaba and the results do not represent all Futaba residents. Since the survey was conducted after a major disaster, the characteristics of respondents may be very different from general surveys and there is a possibility that our data do not show the overall Futaba trend without any bias. Therefore, we need a special caution in interpreting the results, and any definitive judgments based solely on these findings should be avoided.

Appendix: Summary Tables

Who is filling out this questionnaire?

	Freq	%
Household head	499	76.42
Spouse	97	14.85
Other	19	2.91
No answer	38	5.82
Total	653	100.00

1. Please tell us about the household head.

(1) Basic information of the household head

A) Average age: 71 yrs Oldest: 99 yrs Youngest: 35 yrs

B) Sex distribution, Male: 77.6% Female: 21.3%

No response: 1.1%

C) Current prefecture

We received answers from all over Japan. Thank you.

(The aggregate result is omitted.)

(D) Current job of the household head

	Freq	%
Company employee	97	14.85
Civil servant	23	3.52
Agriculture and Forestry	12	1.84
Fisheries	0	0.00
Free practice of medical practitioners, attorneys, etc.	0	0.00
Self-employed business	22	3.37
Part-time job	31	4.75
Housekeeper	30	4.59
Retired	226	34.61
Unemployed or on leave of absence	165	25.27
Other	34	5.21
No answer	13	1.99
Total	653	100.00

(E) Job before the Great East Japan Earthquake.

	Freq	%
Company employee	137	46.92
Civil servant	26	8.90
Agriculture and Forestry	22	7.53
Fisheries	0	0.00
Free practice of medical practitioners, attorneys, etc.	0	0.00
Self-employed business	40	13.70
Part-time job	7	2.40
Housekeeper	7	2.40
Retired	24	8.22
Unemployed or on leave of absence	12	4.11
Other	14	4.79
No answer	3	1.03
Total	292	100.00

(2) Current and pre-disaster dwelling type

A) Current dwelling type

	Freq	%
Temporary shelter	4	0.61
Post disaster public-funded rental accommodation (deemed temporary shelter)	28	4.29
Public reconstruction housing	61	9.34
Rented	32	4.90
Owned house (different from the one before the earthquake)	459	70.29
Owned house in Futaba	11	1.68
Relative's house	20	3.06
Company housing	2	0.31
Other	25	3.83
No answer	11	1.68
Total	653	100.00

·If you live in a public reconstruction housing, please choose the application process you used.

(The aggregate result is omitted.)

·If you live in the public reconstruction housing and applied for the group, please choose the one with who you applied.

(As there are few people applied, we omit the result)

B) Size of the land and living space of your current residence

Land size (Residential)	Freq	%
0 ~ 100 square meters	49	7.50
100 ~ 200 square meters	78	11.94
200 ~ 300 square meters	106	16.23
300 square meters ~	193	29.56
No answer	227	34.76
Total	653	100.00

Land size (Other)	Freq	%
0 ~ 100 square meters	49	7.50
100 ~ 200 square meters	78	11.94
200 ~ 300 square meters	106	16.23
300 square meters ~	193	29.56
No answer	227	34.76
Total	653	100.00

Living space size	Freq	%
0 ~ 40 square meters	9	1.38
40 ~ 80 square meters	56	8.58
80 ~ 120 square meters	140	21.44
120 square meters ~	197	30.17
No answer	251	38.44
Total	653	100.00

C) Dwelling type before the Great East Japan Earthquake

	Freq	%
Owned house (detached house)	229	78.42
Owned house (condominium)	2	0.68
Rental (detached house)	8	2.74
Rental (condominium)	1	0.34
Rental (apartment)	7	2.40
Public housing	21	7.19
Company housing	11	3.77
Relatives' house	2	0.68
Other	1	0.34
No answer	10	3.42
Total	292	100.00

D) Size of the land and living space of your residence before the Great East Japan Earthquake?

Land size (Residential)	Freq	%
0 ~ 100 square meters	7	2.40
100 ~ 200 square meters	17	5.82
200 ~ 300 square meters	23	7.88
300 square meters ~	137	46.92
No answer	108	36.99
Total	292	100.00

Land size (Other)	Freq	%
0 ~ 100 square meters	7	2.40
100 ~ 200 square meters	6	2.05
200 ~ 300 square meters	2	0.68
300 square meters ~	28	9.59
No answer	249	85.27
Total	292	100.00

Living space size	Freq	%
0 ~ 40 square meters	3	1.03
40 ~ 80 square meters	7	2.40
80 ~ 120 square meters	22	7.53
120 square meters ~	129	44.18
No answer	131	44.86
Total	292	100.00

E) Was your house before the earthquake got hit by the tsunami?

	Freq	%
Yes	45	6.89
No	563	86.22
No answer	45	6.89
Total	653	100.00

F.) Damage to a home in Futaba

	Freq	%
Completely destroyed	111	17.00
Large-scale partial collapse	109	16.69
Partial collapse	195	29.86
Partial destruction	130	19.91
No major damage	57	8.73
Other	20	3.06
No answer	31	4.75
Total	653	100.00

(3) Total number of moves after the Great East Japan Earthquake

	Freq	%
Less than 3 times	70	10.72
3 ~ 5 times	334	51.15
6 ~ 8 times	197	30.17
More than 9 times	34	5.21
No answer	18	2.76
Total	653	100.00

(4) Have you ever lost in the lottery for public reconstruction housing entry?

	Freq	%
Yes	21	3.22
No	374	57.27
No answer	258	39.51
Total	653	100.00

(5) Academic history of the household head

	Freq	%
High school	158	54.11
Vocational school	25	8.56
Junior college	12	4.11
University	44	15.07
Other	37	12.67
No answer	16	5.48
Total	292	100.00

(6) Family and relatives of the household head before and after the disaster.

A) Current family structure

① Are you married now?

	Freq	%
Yes	484	74.12
No	49	7.50
Divorced	40	6.13
Bereaved	61	9.34
No answer	19	2.91
Total	653	100.00

② Do you have any children?

	Freq	%
Yes	546	83.61
No	82	12.56
No answer	25	3.83
Total	653	100.00

③ Do you have any grandchildren?

	Freq	%
Yes	393	60.18
No	209	32.01
No answer	51	7.81
Total	653	100.00

④ Do you have any pets?

	Freq	%
Yes	144	22.05
No	472	72.28
No answer	37	5.67
Total	653	100.00

⑤ How many family members does the household head live with including himself/herself ?

	Freq	%
1 person	121	18.53
2 people	263	40.28
3 ~ 4 people	191	29.25
5 or more	54	8.27
No answer	24	3.68
Total	653	100.00

⑥ Family members whom the head of the household live with

(Aggregate result omitted)

⑦ How many family members lived together with the household head before the Great East Japan Earthquake including the household head himself/herself?

	Freq	%
1 person	29	9.93
2 people	66	22.60
3 ~ 4 people	98	33.56
5 or more	72	24.66
No answer	27	9.25
Total	292	100.00

⑧ Family members who the head of the household live with before the Great East Japan Earthquake

(Aggregate result omitted)

⑨ Among the family members who you lived together with before the Great East Japan Earthquake, are there any family members who died after the earthquake?

	Freq	%
Yes	233	35.68
No	385	58.96
No answer	35	5.36
Total	653	100.00

→ For those answered yes, did his/her death was officially certified as a disaster-affected death?

	Freq	%
Yes	60	25.75
None	110	47.21
No answer	63	27.04
Total	233	100.00

(7) How is the current health of the head of the household?

	Freq	%
Very good	14	2.14
Good	195	29.86
Can't say either way	285	43.64
Bad	130	19.91
Terrible	22	3.37
No answer	7	1.07
Total	653	100.00

(8) How is the current health of the household head compared to the condition before the disaster?

	Freq	%
Much better	3	0.46
Better	16	2.45
Remain unchanged	236	36.14
Worse	340	52.07
Much worse	46	7.04
No answer	12	1.84
Total	653	100.00

(9) The following questions ask about how you have been feeling during the past 30 days. For each question, please circle the number that best describes how often you had this feeling.

During the past 30 days, about how often did you feel ... (Point criteria)	None of the time	A little of the time	Some of the time	Most of the time	All of the time
...nervous?	0	1	2	3	4
...hopeless?	0	1	2	3	4
...restless or fidgety?	0	1	2	3	4
...so depressed that nothing could cheer you up?	0	1	2	3	4
...that everything was an effort?	0	1	2	3	4
...worthless?	0	1	2	3	4

Total points (K6 score) distribution:

	Freq	%
0 ~ 4 points	235	35.99
5 ~ 8 points	157	24.04
9 ~ 12 points	119	18.22
13 ~ 16 points	64	9.80
17 points or more	38	5.82
No answer	40	6.13
Total	653	100.00

(10) When did you (household head) do your summer homework when you were in junior high school?

	Freq	%
In the beginning of the summer vacation.	56	8.58
Rather in the beginning	122	18.68
Almost equally every day.	69	10.57
Rather in the end	228	34.92
In the end	109	16.69
Didn't do i	15	2.30
Didn't have any summer homework.	10	1.53
No answer	44	6.74
Total	653	100.00

(11) Due to the environment change, it has become difficult to cook at home for many evacuees, and there are concerns about health hazards for them. Please tell us the frequency of eating out before and after the disaster.

Before the earthquake: average 0.8 times/week

Currently: average 1.0 times/week

(12) Has your weight changed after the disaster?

	Freq	%
Increased	107	16.39
Slightly increased	155	23.74
Remain unchanged	149	22.82
Slightly decreased	130	19.91
Decreased	91	13.94
No answer	21	3.22
Total	653	100.00

(13) Approximate weight and height before and after the Great East Japan Earthquake. (distribution of the BMI values)

	Before the disaster (Freq)	After the disaster (Freq)
Less than 18.5	34	13
18.5 ~ 25	359	390
25 ~ 30	177	166
30 or more	31	24
No answer	52	60
Total	653	653

(14) Health concerns have been raised for disaster victims due to the inconvenience of transportation.

A) The number of cars owned by your family members living together before and after the earthquake

Average before the earthquake: 2.4, Current average: 2.1

B) Did you buy a car after the disaster?

	Freq	%
Yes	536	82.08
No	91	13.94
No answer	26	3.98
Total	653	100.00

(15) Average sleep time before and after the disaster

Before the disaster: 7.0 hrs, Currently: 6.7 hrs

(16) Smoking and drinking habits before and after the disaster

Pre- disaster and current smoking habits

		Currently				Total
		Every day	Some- times	Don't smoke	No ans	
Before the disaster	Every day	89	7	89	4	189
	Sometimes	8	4	9	0	21
	Don't smoke.	3	2	379	28	412
	No ans	0	0	11	20	31
	Total	100	11	488	52	653

Pre- disaster and current drinking habits

		Currently				Total
		Every day	Some times	Don't smoke	No ans	
Before the disaster	Every day	159	37	32	4	232
	Sometimes	40	83	58	4	185
	Don't smoke.	4	12	172	16	204
	No ans	2	0	11	19	32
	Total	205	132	273	43	653

(17) (In recent years, research on "happiness" has been progressing and we ask you a question based on such existing research. However, the answer is optional.) How happy are you (household head) now? If you put "So happy" at 10 and "misery" at 0, what do you think would be your score?

	Freq	%
0 (Misery)	6	0.92
1	17	2.60
2	27	4.13
3	51	7.81
4	58	8.88
5	156	23.89
6	76	11.64
7	97	14.85
8	80	12.25
9	23	3.52
10 (So happy.)	19	2.91
No answer	43	6.58
Total	653	100.00

(18) What do you think about your life expectancy before and after the earthquake?

	Freq	%
The life span got shortened.	172	26.34
The life span is unchanged.	371	56.81
The life span got lengthened.	57	8.73
No answer	53	8.12
Total	653	100.00

(19) How long do you want to live?

	Freq	%
Up to 75 years old	47	7.20
Up to 80 years old	98	15.01
Up to 85 years old	148	22.66
Up to 90 years old	136	20.83
Up to 95 years old	48	7.35
Up to 100 years old	29	4.44
100 years of age or older	11	1.68
Want to live as long as possible	99	15.16
No answer	37	5.67
Total	653	100.00

2. Relationship with neighbors

(1) Which area of Futaba did the household head live before the disaster?

Freq		%		Freq		%	
Ishiguma	8	2.74	Konokusa	8	2.74		
Yamada	23	7.88	Hosoya	6	2.05		
Matsuzako	4	1.37	Shimohadori	3	1.03		
Mizusawa	1	0.34	Nakata	1	0.34		
Mesaku	1	0.34	Nagatsuka	91	31.36		
Koriyama	18	6.16	Morotake	5	1.71		
Kamihaatori	4	1.37	Nakahama	1	0.34		
Niiyama	53	18.15	Nakano	3	1.03		
Matsukura	5	1.71	Maeda	26	8.90		
Terasawa	1	0.34	No answer	30	10.27		
Shibukawa	8	2.74	Total	292	100.00		

(2) How often have you help each other with your neighbors before and after the disaster?

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Quite often	98	24	33.56	3.68
Moderately	148	200	50.68	30.63
Not much	29	223	9.93	34.15
None	11	193	3.77	29.56
No answer	6	13	2.05	1.99
Total	292	653	100.0	100.0

(3) My neighbors help me when I'm in trouble.

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Strongly agree	58	21	19.86	3.22
Agree	134	118	45.89	18.07
can't say either	64	235	21.92	35.99
Don't agree	15	134	5.14	20.52
Not at all	10	120	3.42	18.38
No answer	11	25	3.77	3.83
Total	292	653	100.0	100.0

(4) Life style before and after the disaster

I often go out leave the door unlocked.

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Yes	136	46	46.58	7.04
No	145	579	49.66	88.67
I don't know.	4	5	1.37	0.77
No answer	7	23	2.40	3.52
Total	292	653	100.0	100.0

I often lend money or goods to friends

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Yes	67	17	22.95	2.60
No	205	602	70.21	92.19
I don't know.	9	11	3.08	1.68
No answer	11	23	3.77	3.52
Total	292	653	100.0	100.0

I have been a victim of burglary, including one at my home in Futaba, where I was absent.

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Yes	62	183	21.23	28.02
No	194	374	66.44	57.27
I don't know.	23	69	7.88	10.57
No answer	13	27	4.45	4.13
Total	292	653	100.0	100.0

I have been a victim of other crimes

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Yes	21	37	7.19	5.67
No	244	538	83.56	82.39
I don't know.	17	44	5.82	6.74
No answer	10	34	3.42	5.21
Total	292	653	100.00	100.00

I think most people try to be fair.

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Yes	148	240	50.68	36.75
No	36	108	12.33	16.54
I don't know.	92	267	31.51	40.89
No answer	16	38	5.48	5.82
Total	292	653	100.00	100.00

I think that I am trusted by others.

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Yes	123	167	42.12	25.57
No	20	52	6.85	7.96
I don't know.	135	413	46.23	63.25
No answer	14	21	4.79	3.22
Total	292	653	100.00	100.00

(5) Participation in volunteer and hobby gatherings

•I sometimes participate in volunteer activities

	Recent participation				
		Yes	No	No ans	Total
Participation before disaster	86	170	6	262	86
	31	338	6	375	31
	0	2	14	16	0
	117	510	26	653	117

•I sometimes participate in hobby activities.

	Recent participation				
		Yes	No	No ans	Total
Participation before disaster	Yes	138	160	7	305
	No	42	272	6	320
	No ans	3	0	25	28
	Total	183	432	38	653

• Average number of non-family members to exchange greetings in a day: Before the disaster(13) Recently (6)

(6) Generally speaking, would you say that most people can be trusted or you can't be too careful in dealing with people?

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Always trusted	67	43	22.95	6.58
Usually trusted	153	300	52.40	45.94
Usually not trusted	41	183	14.04	28.02
Always not trusted	13	75	4.45	11.49
No ans	18	52	6.16	7.96
Total	292	653	100.0	100.0

(7) Your thoughts before and after the disaster.

•The national government is trustable.

Before the disaster	Recently					
	Strongly agree	Agree	Don't agree	Not at all	No answer	Total
strongly agree	3	7	7	0	0	17
Agree	1	165	113	43	6	328
Don't agree	0	7	130	63	6	206
Not at all	0	1	1	60	1	64
No answer	0	0	3	2	37	42
Total	4	182	253	166	48	653

•Fukushima prefectural government is trustable.

Before the disaster	Recently					
	Strongly agree	Agree	Don't agree	Not at all	No answer	Total
strongly agree	12	18	6	0	1	37
Agree	13	290	94	14	7	418
Don't agree	1	7	97	25	5	135
Not at all	0	0	0	23	0	23
No answer	0	3	0	1	36	40
Total	26	318	197	63	49	653

•Neighbors are trustable.

Before the disaster	Recently					
	Strongly agree	Agree	Don't agree	Not at all	No answer	Total
strongly agree	12	31	21	11	0	75
Agree	4	286	115	24	9	438
Don't agree	0	6	64	11	4	85
Not at all	0	1	0	14	0	15
No answer	1	5	1	0	33	40
Total	17	329	201	60	46	653

(8) Communication with residents in evacuation destinations

1. Do you have any opportunities to interact with the residents of the current evacuation destination?

	Freq	%
Yes	292	44.72
No	304	46.55
Don't know.	31	4.75
No ans	26	3.98
Total	653	100.00

2. Do you attend any events or meetings (Festivals, cleaning activities, etc.) held in the area where you currently live?

	Freq	%
Yes	288	44.10
No	323	49.46
Don't know.	23	3.52
No answer	19	2.91
Total	653	100.00

3. Have you felt that you should hide you are a Futaba resident from residents in the current evacuation destination?

	Freq	%
Yes	255	39.05
No	315	48.24
Don't know.	56	8.58
No answer	27	4.13
Total	653	100.00

→ If Yes: Do you still feel that?

	Freq	%
Yes	208	81.57
No	20	7.84
Don't know.	18	7.06
No answer	9	3.53
Total	255	100.00

4. Do residents of the evacuation destination know that you are a Futaba resident?

	Freq	%
Yes	384	58.81
No	100	15.31
Don't know.	142	21.75
No answer	27	4.13
Total	653	100.00

5. Have you ever felt uneasy about taking out garbage at the place where you currently live?

	Freq	%
Yes	76	11.64
No	536	82.08
Don't know.	21	3.22
No answer	20	3.06
Total	653	100.00

→ If Yes: Do you still feel that?

	Freq	%
Yes	49	64.47
No	24	31.58
Don't know.	2	2.63
No answer	1	1.32
Total	76	100.00

6. Have you been called bad names or misbehaved by the residents of the area you live now because you are a Futaba resident?

	Freq	%
Yes	61	9.34
No	504	77.18
Don't know	57	8.73
No answer	31	4.75
Total	653	100.00

→ If Yes: Do you still feel that?

	Freq	%
Yes	23	37.70
No	24	39.34
Don't know	11	18.03
No answer	3	4.92
Total	61	100.00

(9) Imagine when our research group provides you additional 5000 JPY (5 of 1000 JPY bills). You can share it with someone randomly chosen from your neighborhood by a lottery. You can decide how to share it with him/her without consulting with him/her who is chosen by the lottery. How much will you keep it for yourself and give it to the person? You will never know the name or face of the person chosen by the lottery and the person will never know the name or face of you.

	Freq	%
5000 to myself and 0 to the other	32	4.90
4000 to myself and 1000 to the other	16	2.45
3000 to myself and 2000 to the other	223	34.15
2000 to myself and 3000 to the other	132	20.21
1000 to myself and 4000 to the other	34	5.21
0 to myself and 5000 to the other	60	9.19
No answer	156	23.89
Total	653	100.00

(10) After the Great East Japan Earthquake, have you attended the gatherings of each residential area in Futaba?

	Freq	%
Yes	320	49.00
No	311	47.63
No answer	22	3.37
Total	653	100.00

(11) Have you ever attended a gathering of Futaba residents in the current residential area?

	Freq	%
Yes	239	36.60
No	386	59.11
No answer	28	4.29
Total	653	100.00

(12) Acquaintances and friends at the current evacuation site

1. Do you have any neighbors whom you have known since the predisaster period?

	Freq	%
Yes	275	42.11
No	314	48.09
Don't know	46	7.04
No answer	18	2.76
Total	653	100.00

2. Do you have any neighbors who you had not know each other before the disaster but got to know each other during the evacuation?

	Freq	%
Yes	213	32.62
No	357	54.67
Don't know	58	8.88
No answer	25	3.83
Total	653	100.00

3. Do you have any relatives living near your current place?

	Freq	%
Yes	271	41.50
No	339	51.91
Don't know	14	2.14
No answer	29	4.44
Total	653	100.00

4. Do you have any friends from Futaba whom you got to be friends with after the disaster?

	Freq	%
Yes	158	24.20
No	436	66.77
Don't know	22	3.37
No answer	37	5.67
Total	653	100.00

5. Do you have any friends evacuated from other places than Futaba whom you got to be friends with after the disaster?

	Freq	%
Yes	158	24.20
No	405	62.02
Don't know	57	8.73
No answer	33	5.05
Total	653	100.00

6. Do you have any new friends from current living site whom you got to be friends with after the disaster at the current evacuation site?

	Freq	%
Yes	201	30.78
No	369	56.51
Don't know	39	5.97
No answer	44	6.74
Total	653	100.00

(13) I would like to ask you about New Year's cards.

① How many New Year's cards did you (household head) send out this year (2019)?

	Freq	%
0	237	36.29
1 ~ 10	95	14.55
11 ~ 50	193	29.56
51 or more	81	12.40
No answer	47	7.20
Total	653	100.00

*Among 0, 57 are in mourning and 159 do not send out New Year's Cards regularly.

② For those who who sent out New Year's cards this year (2019), when did you post the earliest New Year's cards? :

Average: Around December 23

③ How many New Year's cards did you send out for the New Year's Day before the Great East Japan Earthquake (2011)?

	Freq	%
0	93	14.24
1 ~ 10	47	7.20
11 ~ 50	240	36.75
51 or more	194	29.71
No answer	79	12.10
Total	653	100.00

*Among 0, 12 are in mourning and 73 do not send out New Year's Cards regularly.

④ For those who sent out New Year's cards for the New Year's Day in 2011, when did you post the earliest New Year's cards? : Average: Around December 21 in 2010

3. Future plan

(1) Does the household head plan to return to Futaba in the future?

	Freq	%
Yes (will live in Futaba)	29	4.44
Yes (will live both in Futaba & evacuation site)	35	5.36
Haven't decided	152	23.28
No/ Cannot	396	60.64
Already living in Futaba	2	0.31
Already living in Futaba & evacuation site	7	1.07
No answer	32	4.90
Total	653	100.00

(2) Have you decided where you are going to live for the long term from now?

	Freq	%
Decided	297	45.48
Haven't decided/ Don't know	183	28.02
No answer	173	26.49
Total	653	100.00

(3) How many years did you live in Futaba before the disaster?

	Freq	%
Less than 10 years	51	7.81
10 to less than 20 years	45	6.89
20 to less than 50 years	247	37.83
50 years or more	266	40.74
No answer	44	6.74
Total	653	100.00

(4) Before the disaster, were you planning to live outside Futaba in the future?

	Freq	%
Yes	64	9.80
No	546	83.61
No answer	43	6.58
Total	653	100.00

4.Income

(1) Current household income

Average: 3.25 million JPY, Median: 2.5 million JPY

(2) Household income before the disaster:

Average: 5.51 million JPY, Median: 5.0 million JPY

(3) Did you do job hunting after the disaster?

	Freq	%
Yes (Got a job.)	153	23.43
Yes (Couldn't get a job.)	48	7.35
No	330	50.54
No answer	122	18.68
Total	653	100.00

5. Please feel free to write about any challenges you face, what you have noticed and what you feel.

We received many valuable opinions.

Thank you very much.