

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

## The 5th Survey of Nuclear Disaster Evacuees from Futaba, Fukushima, Summary of Results 2019

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### 1—Basic Information

Surveys on the damage, living environment and reconstruction under the Great East Japan Earthquake have been conducted via a research project called the "International comparison of reconstruction of living infrastructure from disasters" (Yasuyuki Sawada, Professor, Graduate School of Economics, The University of Tokyo; Keiko Iwasaki, Researcher, NLI Research Institute) of the University of Tokyo since 2013. The surveys target 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 that occurred in 2011. Surveys were conducted in July 2013, December 2014, July 2016, December 2017 and July 2019. This paper reports the summary of results of the fifth survey conducted in July 2019.<sup>1</sup>

Table 1. Basic Information

Target	All household heads of Futaba, Fukushima
Number of questionnaires distributed	2,950
Distribution date of questionnaires	July 1, 2019
Collection period of questionnaires	July 1, 2019 - October 31, 2019
Number of responses	707
Response rate	About 24%

The survey includes questions about basic attributes such as age and gender, as well as questions related to connections with others (social capital) and health conditions (see the 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 2,950 households) that receive the regular town mail from Futaba. We also distributed a simplified version of the questionnaires excluding already available information gathered in previous rounds of the surveys to 534 residents who had filled out their names and addresses in previous surveys. We received responses from 707 Futaba residents

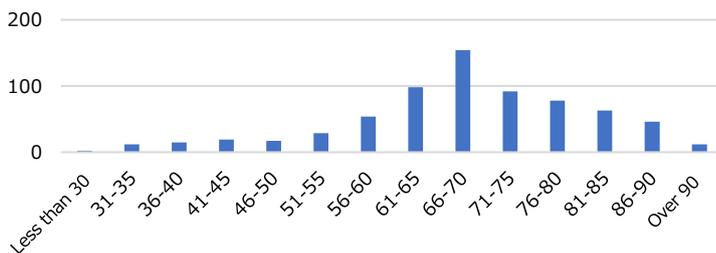
<sup>1</sup> This research was supported by the following research grants.

Grant-in-Aid for Scientific Research (15 J09313, 26220502, LZ003), Research Grants of the Japan Center for Economic Research. This study is approved by the Ethics Committee of the University of Tokyo (19 -73).

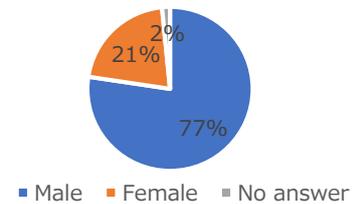
who had evacuated nationwide (365 responses from questionnaires included in the town mail, 342 responses from the simplified version of the questionnaires; the response rate was about 24%).

The survey targeted heads of households and Figures 1 and 2 show the distribution of age and gender of the respondents. As we can see from these figures, compared to the age and gender distribution reported in the national census, the age distribution of the respondents is left-skewed, with the majority of respondents in their late 60s. The gender distribution 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.

**Figure 1: Age Distribution of Respondents**



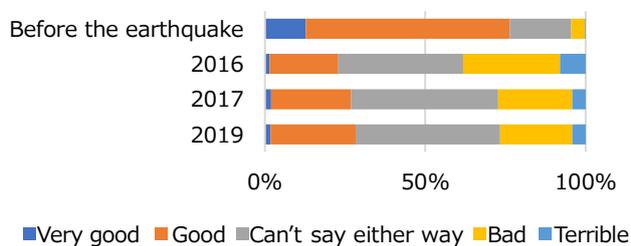
**Figure 2: Gender Distribution of Respondents**



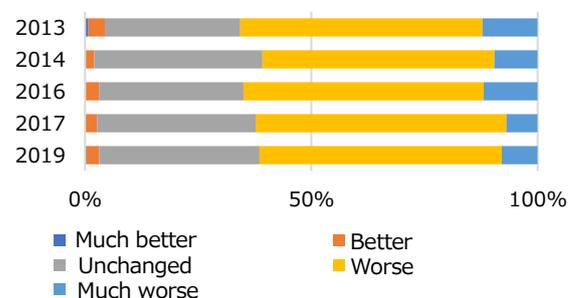
## 2—Health Condition

Regarding the health condition of the respondents, as shown in Figure 3, many rated their own health condition before the earthquake as "good" or "very good," while many rated their health status after the disaster as "bad," "terrible" or "can't say either way." Compared to the 2016 survey results, the portion of respondents who rated their current health status as "good" increased in the 2019 survey, while the portion of respondents who rated their current health status as "bad" decreased slightly, indicating that the overall health status of Futaba residents has been gradually recovering. On the other hand, as shown in Figure 4, when asked about changes in health condition compared to pre-disaster status, many respondents rated their own health condition as worse than that of their pre-disaster status and the distribution has hardly changed since 2013.

**Figure 3: Current Health Status**



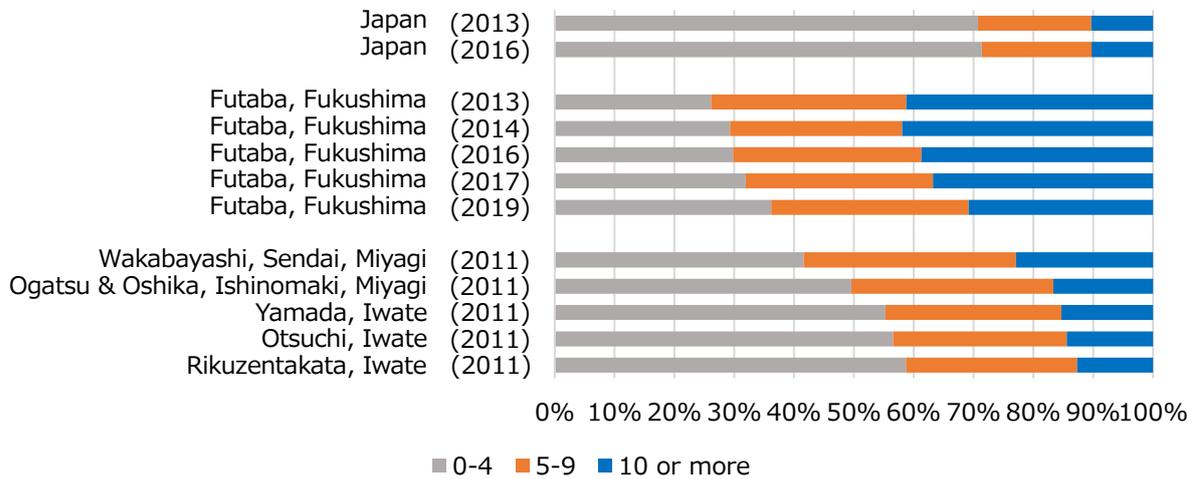
**Figure 4: Change in Subjective Health Status**



As for mental health, the distribution of K6 score, a clinically validated index for diagnosing the overall stress state, of Futaba residents gradually improved from 2013 to 2019 (see Figure 5). However, the scores are still higher in Futaba compared to those for Japan or in the surveys conducted immediately after the disaster in the other

disaster affected areas, indicating that the mental health recovery of Futaba may take a very long time. (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 stressed.)

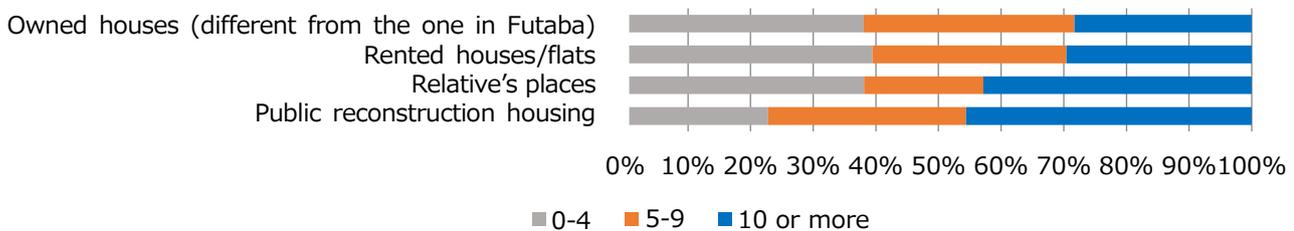
**Figure 5: Distribution of K6 Scores for Japan, Futaba, and Other Disaster Affected Areas**



(Note) K6 score indicates the level of psychological distress, and the higher the value, the higher the level of stress.  
 (Source) Futaba: Past research 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

In addition, the previous rounds of surveys showed that the K6 score among Futaba residents living in temporary shelters had been increasing year by year, but only a few (6 people) lived in temporary shelters among respondents of the 2019 survey since many who used to live in temporary shelters had moved to public reconstruction housing. Therefore, instead of checking the distribution of the K6 score among temporary shelter residents, we compared the distribution of the K6 score by dwelling type this time. As shown in Figure 6, the distribution of the K6 score among residents of public reconstruction housing tends to be higher than that of residents living in other kinds of dwellings such as their own house or rental housing. This suggests the importance of continuous mental health support even after moving to public reconstruction housing from temporary shelters.

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

However, the results of this survey do not necessarily apply to all residents of Futaba, and a 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 to the Government or other administrative agencies.

### 3—Change in Social Capital

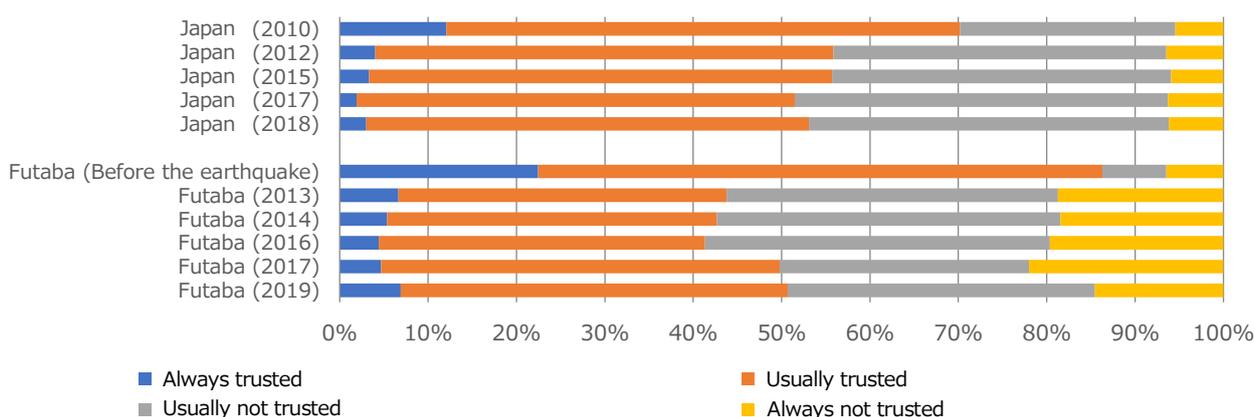
Social capital refers to trusting relationships and networks, and is sometimes referred to as "kizuna" in Japanese. Social capital is getting attention as a key notion to achieve successful disaster recovery and has been one of the major focuses of our study. In previous studies, we showed social capital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

There are several indicators that are commonly used to measure social capital, but we focused on three items. First, we checked the level of "generalized trust" using the GSS trust question, which is one of the most commonly used social capital measures. Generalized trust among Futaba residents had been decreasing from 2013 to 2016 (portion of those that think people can be trusted had been decreasing). However, since 2017, the portion of those that think people can be trusted has been gradually increasing (see Figure 7). The overall distribution has almost recovered to the same level as that of Japan in 2019, eight years after the disaster. On the other hand, since Futaba had a very high generalized trust level before the **disaster**, recovery to its original high level will take much longer.

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 of 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.

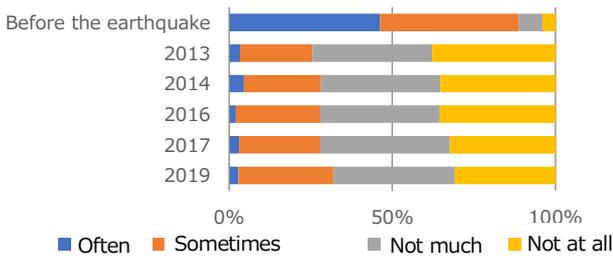
**Figure 7: Generalized Trust (GSS Trust)**

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



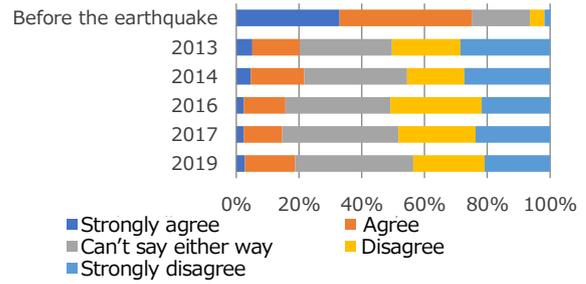
(Source) Japan: The Japanese General Social Surveys 2010, 2012, 2015, 2017, 2018; Futaba: Past research conducted by the University of Tokyo's "International comparison of reconstruction of living infrastructure from disasters" project

**Figure 8: Frequency of Mutual Assistance with Neighbors**



**Figure 9: Trust of Neighbors**

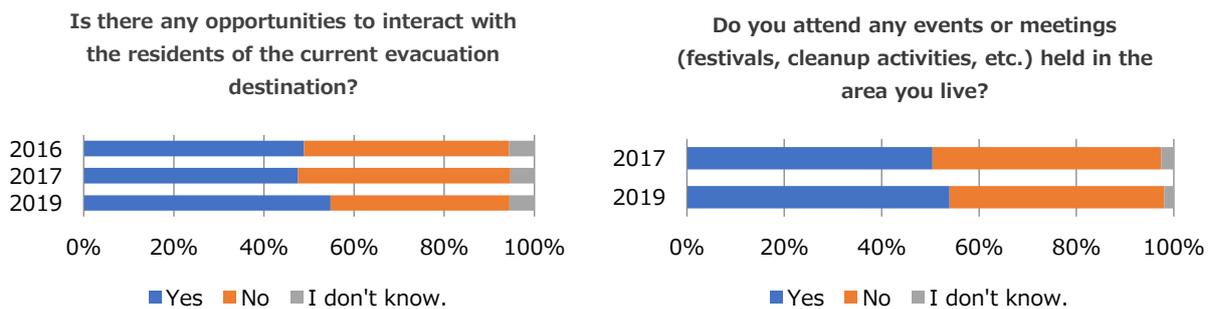
"My neighbors help me when I'm in trouble."

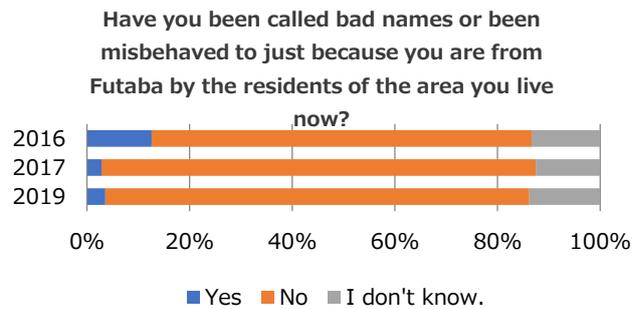
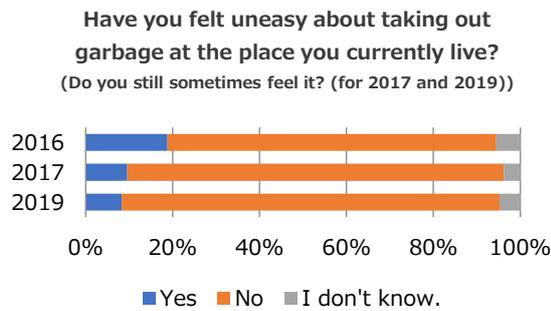
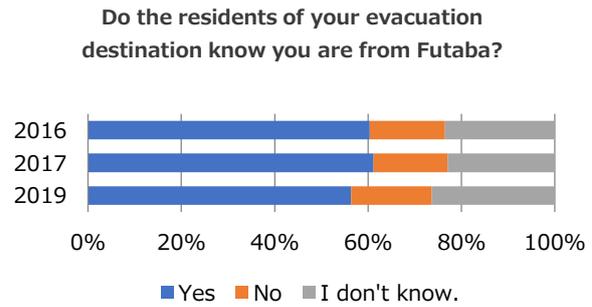
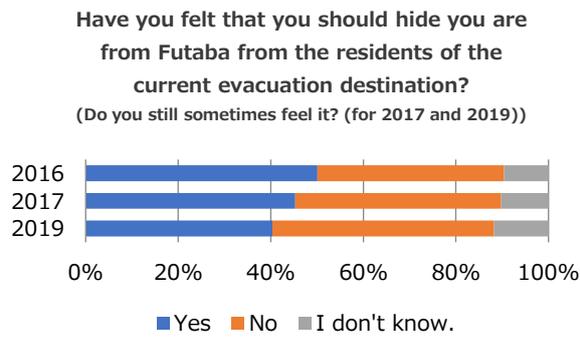


#### 4—Building Relationships with Residents at Evacuation Destinations

Some Futaba residents had told us that building a new social relationship with residents in evacuation destinations is a challenge that needs to be addressed in prolonged evacuation periods, in which the policies and understandings of residents of evacuation destinations vary widely. To capture this challenge, since the 2016 survey, the questions on relationships with residents of the evacuation destinations have been included. As shown in Figure 10, the percentage of residents with opportunities to interact with the residents of the evacuation destinations and the percentage of residents that participate in events held in the evacuation destinations are gradually increasing. In addition, the percentage of those that feel it is better to hide that they are from Futaba, those that feel uneasy about taking out the garbage, and those that are called bad names or been misbehaved to because they are from Futaba have been decreasing. However, we can see that about 40% of the residents still feel it is better to conceal that they are from Futaba, and that they do not have any opportunities to interact with residents at the evacuation destinations, indicating that building new relationships with residents at the evacuation destinations is still an important challenge for Futaba residents.

**Figure 10: Relationships with Residents in Evacuation Destinations**





## 5—Relationship Between Damage and Present Bias

We found exposure to a disaster aggravates an individual's present bias and this causal relationship can be a key mechanism behind the disaster and mental health deterioration nexus (see Figure 1).

Present bias is an individual's procrastination tendency

known to be intimately linked to harmful behaviors against health, such as overeating, smoking, and excessive alcohol drinking. In disaster affected areas, various activities and policies to improve health and to encourage communication have been introduced, such as regular lunch programs, radio gymnastics and other events, the installation of free running machines in community centers, and the use of architectural design in public reconstruction housing which encourages interactions among residents. These activities and policies are considered to prevent the deterioration of mental health caused by procrastination tendencies, and our study results support the effectiveness of such activities and policies. However, it should be noted that not everyone faces aggravation of present bias or mental health deterioration after a disaster and the purpose of our study is to provide policy implications.

**Figure11: Disaster, Present Bias and Mental Health**



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

## 6— Summary of Findings from the Five Rounds of Surveys

(1) Futaba residents could be under more serious psychological distress than those in other disaster affected areas.

More than eight years have passed since the Great East Japan Earthquake, and their mental health status has

been gradually improving, but recovery may take much longer.

- (2) In particular, there was a possibility that the mental health of those who had lived in temporary shelters for a long time was in a serious condition. However, currently, even after many of the residents have already moved from temporary shelters to public reconstruction housing, the mental health of residents in public reconstruction housing tends to be in a serious condition, and continuous support is important.
- (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 so that the original state of the survivors' well-being can be recovered.
- (4) The disaster has weakened the social capital of Futaba residents, and recovery may take a very long time.
- (5) Keeping in touch with friends from pre-disaster times as well as participating in hobbies and volunteer activities after the disaster may help people maintain good mental health.
- (6) Though relationship building with the residents of the evacuation destinations shows some gradual progress, the progress is subtle and it is still thought to be an important challenge that evacuees are facing.
- (7) Aggravated present bias (procrastination tendencies) due to disasters can lead to a decline in mental health condition, but policies that promote interaction among residents and encourage good health behaviors can prevent such a decline.

These results have been presented at international and domestic academic conferences. In addition, these results have been published in international academic journals. We intend to continue our analysis and contribute to the improvement of disaster preparation/rehabilitation policies.

Our survey results are based on aggregates and analyses of responses from approximately 24% of the households of Futaba and 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 of an overestimation in our results due to the deterioration of physical and mental health conditions. Therefore, special caution is required 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	546	77.23
Spouse	112	15.84
Other	20	2.83
No answer	29	4.10
Total	707	100.00

1. Please tell us about the household head.

(1) Basic information of the household head

A) Average age: 68 yrs Oldest: 104 yrs Youngest: 25 yrs

B) Gender distribution, Male: 77.4% Female: 21.1%

No response: 1.5%

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	105	14.85
Civil servant	27	3.82
Agriculture and Forestry	6	0.85
Fisheries	0	0.00
Free practice of medical practitioners, attorneys, etc.	0	0.00
Self-employed business	32	4.53
Part-time job	20	2.83
Housekeeper	26	3.68
Retired	240	33.95
Unemployed or on leave of absence	171	24.19
Other	65	9.19
No answer	15	2.12
Total	707	100.00

(E) Job before the Great East Japan Earthquake.

	Freq	%
Company employee	157	43.01
Civil servant	34	9.32
Agriculture and Forestry	26	7.12
Fisheries	0	0.00
Free practice of medical practitioners, attorneys, etc.	1	0.27
Self-employed business	46	12.60
Part-time job	13	3.56
Housekeeper	10	2.74
Retired	36	9.86
Unemployed or on leave of absence	12	3.29
Other	19	5.21
No answer	11	3.01
Total	365	100.00

(2) Current and pre-disaster dwelling type

A) Current dwelling type

	Freq	%
Temporary shelter	6	0.85
Post disaster public-funded rental accommodation (deemed temporary shelter)	35	4.95
Public reconstruction housing	62	8.77
Rented	34	4.81
Owned house (different from the one before the earthquake)	444	62.80
Relative's house	23	3.25
Company housing	9	1.27
Other	72	10.18
No answer	22	3.11
Total	707	100.00

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

Answer	Freq	%
Group application	2	3.23
Individual application	54	87.10
No answer	6	9.68
Total	62	100.00

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

(As few people applied, we omitted the result.)

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

Land size (Residential)	Freq	%
0 ~ 100 square meters	39	5.52
100 ~ 200 square meters	80	11.32
200 ~ 300 square meters	129	18.25
300 square meters ~	197	27.86
No answer	262	37.06
Total	707	100.00

Land size (Other)	Freq	%
0 ~ 100 square meters	51	7.21
100 ~ 200 square meters	9	1.27
200 ~ 300 square meters	3	0.42
300 square meters ~	18	2.55
No answer	626	88.54
Total	707	100.00

Living space size	Freq	%
0 ~ 40 square meters	24	3.39
40 ~ 80 square meters	76	10.75
80 ~ 120 square meters	141	19.94
120 square meters ~	222	31.40
No answer	244	34.51
Total	707	100.00

C) Dwelling type before the Great East Japan Earthquake

	Freq	%
Owned house (detached house)	288	78.90
Owned house (condominium)	5	1.37
Rental (detached house)	11	3.01
Rental (condominium)	1	0.27
Rental (apartment)	11	3.01
Public housing	12	3.29
Company housing	12	3.29
Relatives' house	3	0.82
Other	6	1.64
No answer	16	4.38
Total	365	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	4	1.10
100 ~ 200 square meters	29	7.95
200 ~ 300 square meters	29	7.95
300 square meters ~	174	47.67
No answer	129	35.34
Total	365	100.00

Land size (Other)	Freq	%
0 ~ 100 square meters	15	4.11
100 ~ 200 square meters	2	0.55
200 ~ 300 square meters	1	0.27
300 square meters ~	34	9.32
No answer	313	85.75
Total	365	100.00

Living space size	Freq	%
0 ~ 40 square meters	9	2.47
40 ~ 80 square meters	16	4.38
80 ~ 120 square meters	26	7.12
120 square meters ~	167	45.75
No answer	147	40.27
Total	365	100.00

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

	Freq	%
Yes	57	8.06
No	607	85.86
No answer	48	6.08
Total	707	100.00

F.) Damage to home in Futaba

	Freq	%
Completely destroyed	111	15.70
Large-scale partial collapse	122	17.26
Partial collapse	207	29.28
Partial destruction	121	17.11
No major damage	81	11.46
Other	38	5.37
No answer	27	3.82
Total	707	100.00

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

	Freq	%
Less than 3 times	63	8.91
3 ~ 5 times	373	52.76
6 ~ 8 times	201	28.43
More than 9 times	38	5.37
No answer	32	4.53
Total	707	100.00

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

	Freq	%
Yes	13	1.84
No	407	57.57
No answer	287	40.59
Total	707	100.00

(5) Academic history of the household head

	Freq	%
High school	191	52.33
Vocational school	39	10.68
Junior college	13	3.56
University	48	13.15
Other	49	13.42
No answer	25	6.85
Total	365	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	504	71.29
No	61	8.63
Divorced	38	5.37
Bereaved	81	11.46
No answer	23	3.25
Total	707	100.00

② Do you have any children?

	Freq	%
Yes	573	81.05
No	97	13.72
No answer	37	5.23
Total	707	100.00

③ Do you have any grandchildren?

	Freq	%
Yes	400	56.58
No	239	33.80
No answer	68	9.62
Total	707	100.00

④ Do you have any pets?

	Freq	%
Yes	164	23.20
No	498	70.44
No answer	45	6.36
Total	707	100.00

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

	Freq	%
1 person	143	20.23
2 people	272	38.47
3 ~ 4 people	194	27.44
5 or more	65	9.19
No answer	33	4.67
Total	707	100.00

⑥ Family members with whom the head of the household lives

(Aggregate results 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	41	11.23
2 people	85	23.29
3 ~ 4 people	118	32.33
5 or more	84	23.01
No answer	37	10.14
Total	365	100.00

⑧ Family members with whom the head of the household lived before the Great East Japan Earthquake

(Aggregate result omitted.)

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

	Freq	%
Yes	207	29.28
No	459	64.92
No answer	41	5.80
Total	707	100.00

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

	Freq	%
Yes	68	32.85
None	109	52.66
No answer	30	14.49
Total	207	100.00

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

	Freq	%
Very good	12	1.70
Good	184	26.03
Can't say either way	315	44.55
Bad	157	22.21
Terrible	29	4.10
No answer	10	1.41
Total	707	100.00

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

	Freq	%
Much better	2	0.28
Better	20	2.83
Remains unchanged	245	34.65
Worse	371	52.48
Much worse	55	7.78
No answer	14	1.98
Total	707	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	241	34.09
5 ~ 8 points	220	31.12
9 ~ 12 points	96	13.58
13 ~ 16 points	59	8.35
17 points or more	50	7.07
No answer	41	5.80
Total	707	100.00

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

	Freq	%
In the beginning of summer vacation	59	8.35
Rather toward the beginning	155	21.92
Almost equally every day	87	12.31
Rather toward the end	227	32.11
At the end	113	15.98
Didn't do it	10	1.41
Didn't have any summer homework	12	1.70
No answer	44	6.22
Total	707	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 0.7 times/week  
Currently: average 1.3 times/week

(12) Has your weight changed after the disaster?

	Freq	%
Increased	121	17.11
Slightly increased	193	27.30
Remains unchanged	154	21.78
Slightly decreased	145	20.51
Decreased	81	11.96
No answer	13	1.84
Total	707	100.00

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

	Before the disaster (Freq)	After the disaster (Freq)
Less than 18.5	23	37
18.5 ~ 25	395	375
25 ~ 30	196	183
30 or more	29	50
No answer	64	62
Total	707	707

(14) Health concerns have been raised for the limitation of activities of 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: 2.3, Current average: 1.7

B) Did you buy a car after the disaster?

	Freq	%
Yes	540	76.38
No	129	18.25
No answer	38	5.37
Total	707	100.00

(15) Average sleep time before and after the disaster

Before the disaster: 7.1 hrs, Currently: 6.6 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	108	11	83	4	206
	Sometimes	2	12	17	0	31
	Don't smoke.	1	3	420	19	443
	No answer	0	0	9	18	27
	Total	111	26	529	41	707

Pre-disaster and current drinking habits

		Currently				Total
		Every day	Some-times	Don't smoke	No ans.	
Before the disaster	Every day	177	29	25	4	235
	Sometimes	54	113	47	1	31
	Don't drink.	5	18	193	13	443
	No answer	0	1	7	20	27
	Total	236	161	272	38	707

(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 we set "Very happy" at 10 and "miserable" at 0, what do you think would be your score?

	Freq	%
0 (Miserable)	14	1.98
1	23	3.25
2	25	3.54
3	70	9.90
4	59	8.35
5	175	24.75
6	94	13.30
7	84	11.88
8	89	12.59
9	22	3.11
10 (Very happy)	17	2.40
No answer	35	4.95
Total	707	100.00

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

	Freq	%
Life span is shortened	212	29.99
Life span is unchanged	399	56.44
Life span is lengthened	58	8.20
No answer	38	5.37
Total	707	100.00

(19) How long do you want to live?

	Freq	%
Up to 75 years old	50	7.07
Up to 80 years old	139	19.66
Up to 85 years old	175	24.75
Up to 90 years old	123	17.40
Up to 95 years old	28	3.96
Up to 100 years old	32	4.53
100 years of age or older	14	1.98
Want to live as long as possible	111	15.70
No answer	35	4.95
Total	707	100.00

2. Relationship with neighbors

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

	Freq	%		Freq	%
Ishiguma	6	1.64	Konokusa	11	3.01
Yamada	27	7.40	Hosoya	12	3.29
Matsuzako	0	0.00	Shimohadori	10	2.74
Mizusawa	2	0.55	Nakata	2	0.55
Mesaku	11	3.01	Nagatsuka	110	30.14
Koriyama	10	2.74	Morotake	5	1.37
Kamihaatori	2	0.55	Nakahama	10	2.74
Niiyama	71	19.45	Nakano	5	1.37
Matsukura	2	0.55	Maeda	29	7.95
Terasawa	4	1.10	No answer	31	8.49
Shibukawa	5	1.37	Total	365	100.00

(2) How often do you help or receive help from your neighbors before and after the disaster?

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Quite often	148	20	40.55	2.83
Moderately	160	204	43.84	28.85
Not much	28	261	7.67	36.92
None	25	216	6.85	30.55
No answer	4	6	1.10	0.85
Total	365	707	100.0	100.0

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

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Strongly agree	84	19	23.01	2.69
Agree	160	111	43.84	15.70
Can't say either	84	261	23.01	36.92
Don't agree	17	158	4.66	22.35
Not at all	12	145	3.29	20.51
No answer	8	13	2.19	1.84
Total	365	707	100.0	100.0

(4) Life style before and after the disaster

I often go out and leave the door unlocked.

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Yes	164	56	44.93	7.92
No	185	623	50.68	88.12
Don't know	8	10	2.19	1.41
No answer	8	18	2.19	2.55
Total	365	707	100.0	100.0

I often lend money or goods to friends.

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Yes	91	22	24.93	3.11
No	250	647	68.49	91.51
Don't know	12	18	3.29	2.55
No answer	12	20	3.29	2.83
Total	365	707	100.0	100.0

I have been a victim of burglary, including at my home in Futaba, when I was not home.

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Yes	61	223	16.71	31.54
No	254	350	69.59	49.50
Don't know	35	110	9.59	15.56
No answer	15	24	4.11	3.39
Total	365	707	100.0	100.0

I have been a victim of other crimes

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Yes	19	60	5.21	8.49
No	304	556	83.29	78.64
Don't know	23	62	6.30	8.77
No answer	19	29	5.21	4.10
Total	365	707	100.00	100.00

I think most people try to be fair.

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Yes	192	254	52.60	35.93
No	42	127	11.51	17.96
Don't know	114	293	31.23	41.44
No answer	17	33	4.66	4.67
Total	365	707	100.00	100.00

I think that I am trusted by others.

	Freq		%	
	Before disaster	Recently	Before disaster	Recently
Yes	166	186	45.48	26.31
No	24	64	6.58	9.05
Don't know	162	438	44.38	61.95
No answer	13	19	3.56	2.69
Total	365	707	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	Yes	124	156	6	286
	No	33	364	6	403
	No ans.	2	8	6	18
	Total	159	528	20	707

· I sometimes participate in hobby activities.

		Recent participation			
		Yes	No	No ans.	Total
Participation before disaster	Yes	166	143	13	322
	No	58	285	8	351
	No ans.	4	5	25	34
	Total	228	433	46	707

· 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	79	46	21.64	6.51
Usually trusted	192	292	52.60	41.30
Usually not trusted	53	232	14.52	32.81
Always not trusted	26	97	7.12	13.72
No answer	15	40	4.11	5.66
Total	365	707	100.00	100.00

(7) Your thoughts before and after the disaster.

•The national government is trustable.

Before the disaster	Recently						Total
	Strongly agree	Agree	Don't agree	Not at all	No ans.		
strongly agree	6	5	6	3	1	21	
Agree	1	152	127	34	2	316	
Don't agree	0	13	169	92	10	284	
Not at all	1	1	1	56	3	62	
No answer	0	1	1	1	21	24	
<b>Total</b>	<b>8</b>	<b>172</b>	<b>304</b>	<b>186</b>	<b>37</b>	<b>707</b>	

•Fukushima prefectural government is trustable.

Before the disaster	Recently						Total
	Strongly agree	Agree	Don't agree	Not at all	No ans.		
strongly agree	13	11	3	3	1	31	
Agree	6	310	99	21	12	448	
Don't agree	0	14	114	35	3	166	
Not at all	1	0	3	24	0	62	
No answer	0	2	3	0	29	34	
<b>Total</b>	<b>20</b>	<b>337</b>	<b>222</b>	<b>83</b>	<b>45</b>	<b>707</b>	

•Neighbors are trustable.

Before the disaster	Recently						Total
	Strongly agree	Agree	Don't agree	Not at all	No ans.		
strongly agree	17	24	26	6	3	76	
Agree	5	315	142	29	9	500	
Don't agree	0	9	64	11	3	87	
Not at all	0	0	4	11	1	16	
No answer	0	2	1	0	25	28	
<b>Total</b>	<b>22</b>	<b>350</b>	<b>237</b>	<b>57</b>	<b>41</b>	<b>707</b>	

(8) Communication with residents in evacuation destinations

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

	Freq	%
Yes	377	53.32
No	273	38.61
Don't know	38	5.37
No ans.	19	2.69
<b>Total</b>	<b>707</b>	<b>100.00</b>

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

	Freq	%
Yes	375	53.04
No	306	43.28
Don't know.	14	1.98
No answer	12	1.70
<b>Total</b>	<b>707</b>	<b>100.00</b>

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

	Freq	%
Yes	330	46.68
No	299	42.29
Don't know.	54	7.64
No answer	24	3.39
<b>Total</b>	<b>707</b>	<b>100.00</b>

→ If Yes: Do you still feel that?

	Freq	%
Yes	271	82.12
No	23	6.97
Don't know.	25	7.58
No answer	11	3.33
<b>Total</b>	<b>330</b>	<b>100.00</b>

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

	Freq	%
Yes	388	54.88
No	119	16.83
Don't know.	181	25.60
No answer	19	2.69
<b>Total</b>	<b>707</b>	<b>100.00</b>

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

	Freq	%
Yes	90	12.73
No	568	80.34
Don't know.	30	4.24
No answer	19	2.69
<b>Total</b>	<b>707</b>	<b>100.00</b>

→ If Yes: Do you still feel that?

	Freq	%
Yes	57	63.33
No	26	28.89
Don't know.	3	3.33
No answer	4	4.44
<b>Total</b>	<b>90</b>	<b>100.00</b>

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

	Freq	%
Yes	82	11.60
No	522	73.83
Don't know	77	10.89
No answer	26	3.68
Total	707	100.00

→ If Yes: Do you still feel that?

	Freq	%
Yes	24	29.27
No	35	42.68
Don't know	16	19.51
No answer	7	8.54
Total	82	100.00

(9) Participation in the Futaba respect for the aged gatherings

1. 2018

	Freq	%
Attended	83	11.74
Did not attend	311	43.99
Not applicable (Under 70 years)	265	37.48
No answer	48	6.79
Total	707	100.00

2. 2017

	Freq	%
Attended	70	9.90
Did not attend	311	43.99
Not applicable (Under 70 years)	270	38.19
No answer	56	7.92
Total	707	100.00

3. 2016

	Freq	%
Attended	64	9.05
Did not attend	292	41.30
Not applicable (Under 70 years)	291	41.16
No answer	60	8.49
Total	707	100.00

4. 2010 (Before the Great East Japan Earthquake)

	Freq	%
Attended	113	15.98
Did not attend	189	26.73
Not applicable (Under 70 years)	333	47.10
No answer	72	10.18
Total	707	100.00

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

	Freq	%
Yes	369	52.19
No	322	45.54
No answer	16	2.26
Total	707	100.00

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

	Freq	%
Yes	275	38.90
No	418	59.12
No answer	14	1.98
Total	707	100.00

(12) Acquaintances and friends at the current evacuation site.

1. Do you have any neighbors whom you have known since the pre-disaster period?

	Freq	%
Yes	337	47.67
No	302	42.72
Don't know	53	7.50
No answer	15	2.12
Total	707	100.00

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

	Freq	%
Yes	255	36.07
No	369	52.19
Don't know	60	8.49
No answer	23	3.25
Total	707	100.00

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

	Freq	%
Yes	145	39.73
No	202	55.34
Don't know	6	1.64
No answer	12	3.29
Total	365	100.00

4. Do you have any friends from Futaba whom you became friends with after the disaster?

	Freq	%
Yes	188	26.59
No	458	64.78
Don't know	28	3.96
No answer	33	4.67
Total	707	100.00

5. Do you have any friends that evacuated from other places than Futaba whom you became friends with after the disaster?

	Freq	%
Yes	187	26.45
No	420	59.41
Don't know	67	9.48
No answer	33	4.67
Total	707	100.00

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

	Freq	%
Yes	236	33.38
No	386	54.60
Don't know	38	5.37
No answer	47	6.65
Total	707	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	230	13.74
1 ~ 10	107	17.20
11 ~ 50	242	31.45
51 or more	94	8.73
No answer	34	10.14
Total	707	100.00

\*Among 0, 57 are in mourning and 157 do not send out New Year's Cards regularly.

② For those that sent out New Year's cards this year (2019), when did you post your first New Year's cards?

Average: Around December 24

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

	Freq	%
0	85	12.02
1 ~ 10	46	6.51
11 ~ 50	243	34.37
51 or more	255	36.07
No answer	78	11.03
Total	707	100.00

\*Among 0, 8 are in mourning and 72 do not send out New Year's Cards regularly.

④ For those who sent out New Year's cards for New Year's Day in 2011, when did you post your first New Year's cards?

Average: Around December 22 in 2010

### 3. Future plans

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

	Freq	%
Yes	53	7.50
Haven't decided	161	22.77
No/Cannot	483	68.32
No answer	10	1.41
Total	707	100.00

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

	Freq	%
Decided	389	55.02
Haven't decided/	170	24.05
Don't know		
No answer	148	20.93
Total	707	100.00

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

	Freq	%
Less than 10 years	51	7.21
10 to less than 20 years	52	7.36
20 to less than 50 years	242	34.23
50 years or more	336	47.52
No answer	26	3.68
Total	707	100.00

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

	Freq	%
Yes	80	11.32
No	602	85.15
No answer	25	3.54
Total	707	100.00

### 4. Income

(1) Current household income

Average: 3.21 million JPY, Median: 2.5 million JPY

(2) Household income before the disaster:

Average: 5.26 million JPY, Median: 4.4 million JPY

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

	Freq	%
Yes (Got a job)	126	17.82
Yes (Couldn't get a job)	65	9.19
No	378	53.47
No answer	138	19.52
Total	707	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.