

# **“ Red Apron Project”**

## **Evaluation Research Report**

Evaluation Research Team

Teikyo University Graduate School of Public Health Kayako Sakisaka (Principal Researcher)

2021.10-2022.12 Reported by:

Tohoku Seikatsu Bunka Junior College Yuri Kinoshita (Research Collaborator)

Teikyo University Graduate School of Public Health Ai Kuroda (Researcher, Research Collaborator)

# Contents

1. General Comments
2. Outcomes from the Perspective of “Local Community”
3. Outcomes from the Perspective of “Food and Nutrition”
4. Evaluations by Partner Organizations and Core Participants
5. Activities for the Ajinomoto Group as Proposed by Employee Volunteers
6. Lessons and Recommendations
7. Status and Plans of Research Presentations

# 1. General Comments

- This project was **an innovative intervention model to “energize people's minds and bodies”** to revive destroyed local communities and human connections.
- The experience of this project will be useful in Japan, a country prone to natural disasters, in terms of raising awareness and improving practices to strengthen community ties and local disaster prevention systems during normal times.
- Components of the intervention model
  - 1) **Collaboration** with various local agencies
  - 2) **Outreach** (visiting residents)
  - 3) **Sustainability**
  - 4) **Promoting communication** through **food**
  - 5) Fully **beneficiary-oriented** contents

Table 1: Framework for the Evaluation Research

Perspectives of evaluation	Items of evaluation		Evaluation methods
Relevance of plan	Consistency with organization policies	Was the project consistent with the policies (mission, vision, values) of the organization (TAF)?	Review of existing resources
	Consistency with target needs	Did the project meet the needs of the target geographical area and its beneficiaries?	Interviews Questionnaire surveys
Validity of results	Achievement of project goals	<ul style="list-style-type: none"> <li>How did the beneficiaries' awareness and behavior toward food and nutrition change?</li> <li>How did the project contribute to the revitalization of communities in the target region?</li> </ul>	Review of existing resources Interviews Questionnaire surveys Analysis of menus and recipes
	Other impacts	<ul style="list-style-type: none"> <li>Were there any spillover effects that were not anticipated during the planning stages?</li> <li>Were there any negative impacts on the target regions or beneficiaries?</li> </ul>	
	Relevance from comparative advantage	What comparative advantage does the project's support have over other organizations working in the field of food and nutrition?	
	Sustainability of results	<ul style="list-style-type: none"> <li>Based on the progress of self-organized health and nutrition seminars, can these activities be continued in the future?</li> <li>What challenges do self-organized events face? What kind of support do organizers expect from TAF?</li> </ul>	
Appropriateness of process	Factors affecting effectiveness	<ul style="list-style-type: none"> <li>What factors contributed to achieving the project's goals?</li> <li>Were there any factors that inhibited the goals?</li> </ul>	Review of existing resources Interviews Questionnaire surveys Analysis of menus and recipes
	Responses to needs	<ul style="list-style-type: none"> <li>During the post-disaster recovery, how did the project respond to the changing needs of the target regions and beneficiaries?</li> <li>What specific efforts helped to provide support in the target regions?</li> </ul>	

→ Yes

→ Yes

- Understood local needs
- Identified issues (food, nutrition)

Evaluated based on two outcomes

“Food and nutrition”

“Local community”

# Results of Cooking Class Participant Survey: Background of Participants

## 【Survey Overview】

Period: January to February 2020  
 Subjects: 271 cooking class participants  
 Location: 17 cooking class sites in 16 cities and towns in 3 prefectures

Iwate Prefecture	Yamada-cho	5.9%
	Ofunato-shi	6.6%
	Otomo-cho, Rikuzentakata-shi	9.6%
Miyagi Prefecture	Yahagi-cho, Rikuzentakata-shi	3.3%
	Takizawa-shi	2.6%
	Kesenuma-shi	5.2%
	Higashimatsushima-shi	1.4%
	Natori-shi	5.9%
Fukushima Prefecture	Watari-cho	8.8%
	Shirakawa-shi	6.6%
	Naraha-cho	6.6%
	Hirono-cho	4.4%
	Iwaki-shi	2.9%
	Aizuwakamatsu-shi	4.8%
	Koriyama-shi	4.8%
	Motomiya-shi	3.7%
Miharu-cho	7.0%	

## 【Basic Characteristics of Survey Subjects】

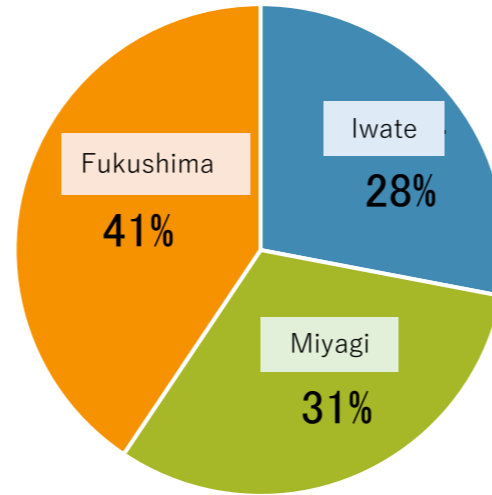


Figure 1: Prefecture

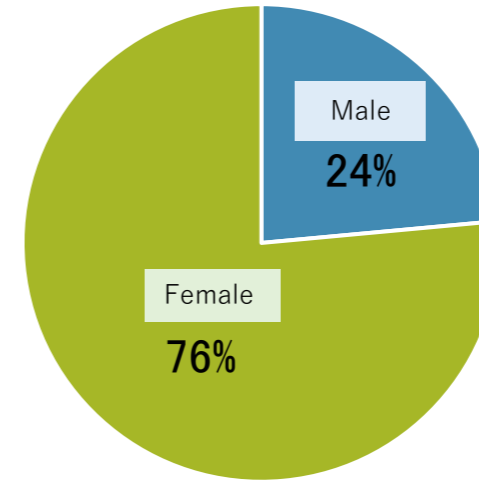


Figure 2: Sex

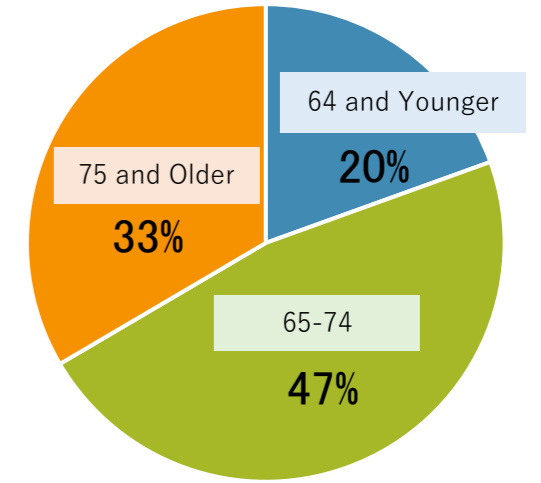


Figure 3: Age Group

### Proportion of Age Groups by Prefecture

Age Group	Iwate		Miyagi		Fukushima	
	n=76	%	n=85	%	n=110	%
64 and Younger	9	11.8	11	12.9	33	30.0
65-74	27	35.5	45	52.9	56	50.9
75 and older	40	52.6	29	34.1	21	19.1

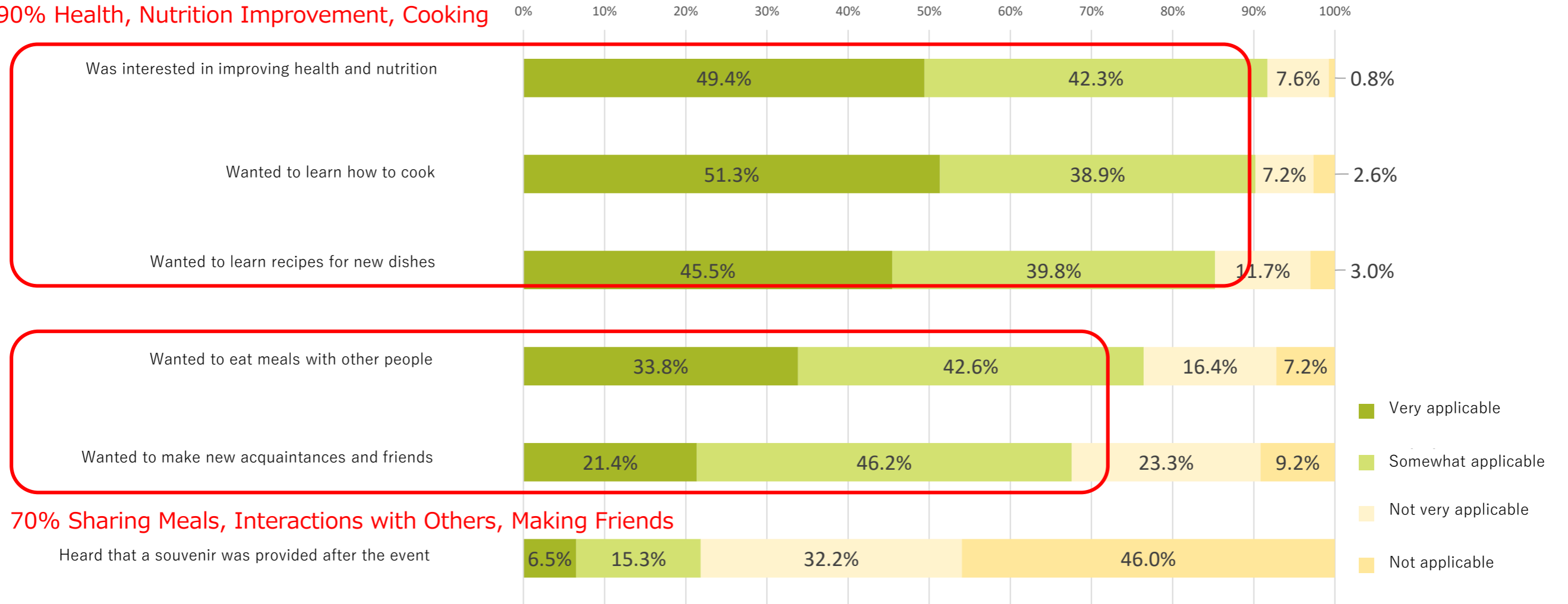
Table 2: Impact of the Disaster on Red Apron Project Participants (N=260, Main Results Only)\*

	%					
Type of disaster (multiple responses allowed): main results only	Iwate		Miyagi		Fukushima	
Tsunami	58.0%		95.0%		11.5%	
Nuclear power plant accident	0.0%		2.5%		82.3%	
Damage from harmful rumors	7.6%		5.0%		28.1%	
Fire	3.9%		2.5%		1.0%	
Was at a different location during the disaster	13.3%		12.5%		11.5%	
No particular damage	18.5%		2.5%		7.3%	
Details of damage (multiple responses allowed): main results only	Iwate		Miyagi		Fukushima	
Drastic change in housing environment	32.8%		52.5%		68.4%	
Illness or death of family member or relative	39.8%		37.5%		46.3%	
Illness or death of acquaintance or friend	33.6%		20.0%		27.4%	
Suffered from physical or mental illness	20.2%		20.0%		35.8%	
Change in work environment, loss of job, etc.	19.3%		17.5%		38.9%	
Family members were separated	4.2%		12.5%		36.8%	
Previously separate family members started living together	5.0%		7.5%		4.2%	
Tends to eat meals alone	[Pre-disaster]	[Current]	[Pre-disaster]	[Current]	[Pre-disaster]	[Current]
	5.0%	→12.4%	10.0%	→ 20.5%	9.2%	→ 21.6%

\*: These results are based on the number of respondents who answered “Yes, applicable” to each question and does not necessarily represent the overall situation of disaster-affected regions.

# Figure 4: Motivation for Participating in Cooking Class

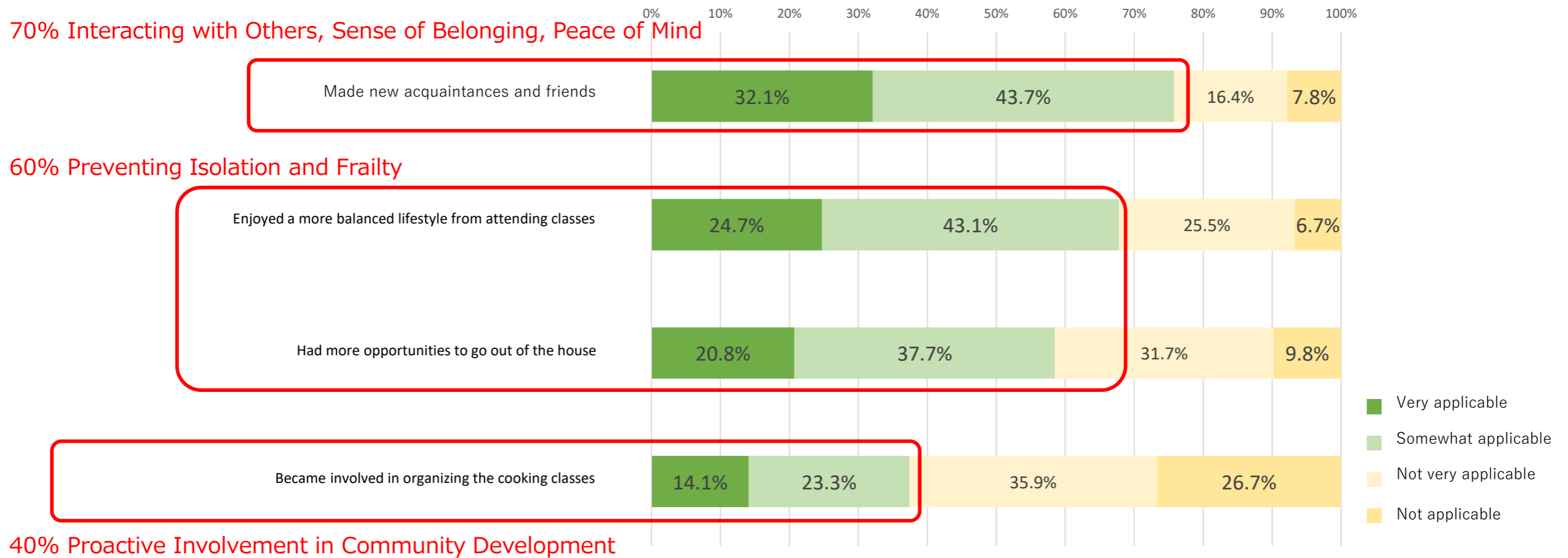
90% Health, Nutrition Improvement, Cooking



70% Sharing Meals, Interactions with Others, Making Friends

## 2. Outcomes from the Perspective of “Local Community”

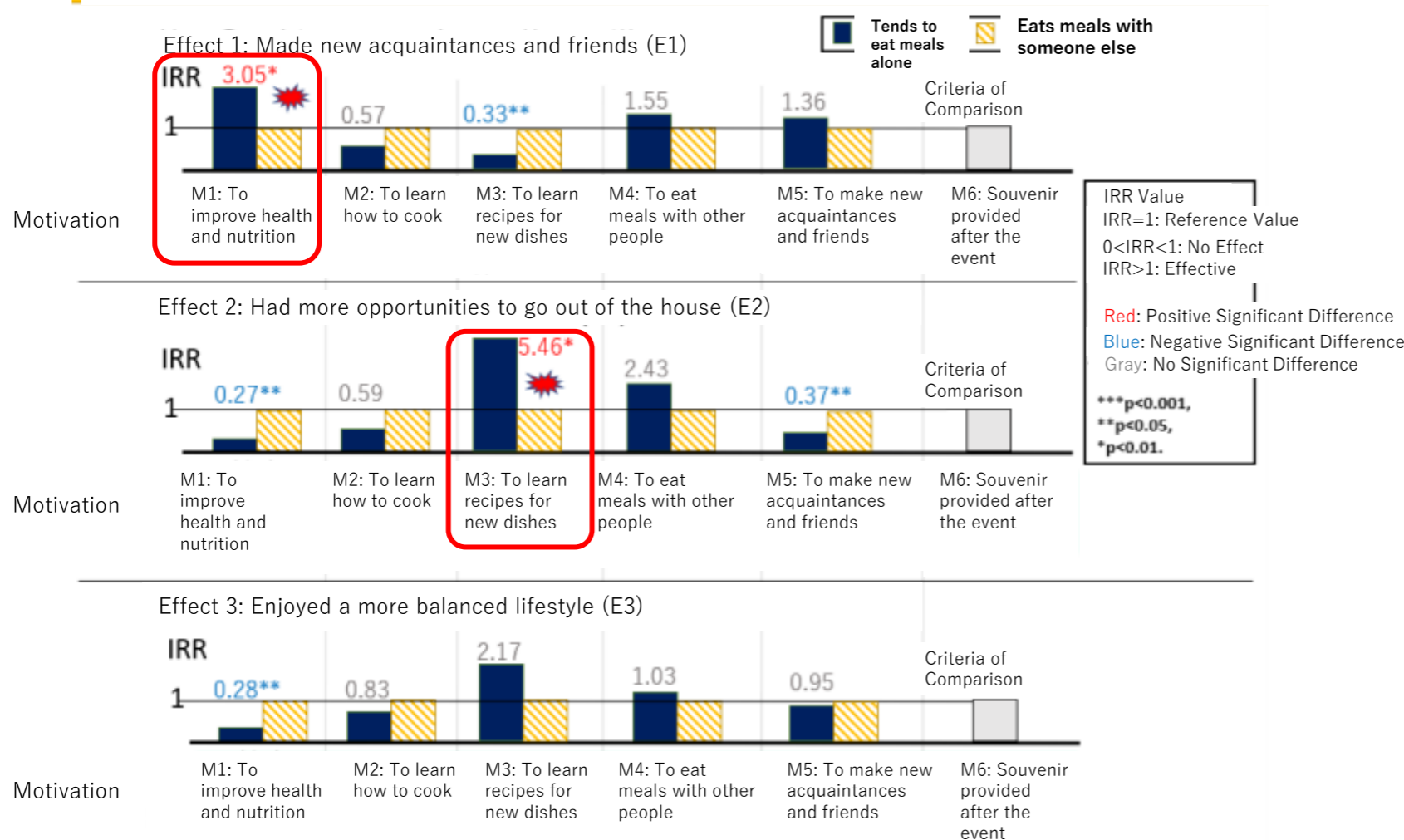
Figure 5: Changes due to Participating in Cooking Class (Lifestyle)





# Figure 6: Motivations for Participation and Perceived Benefits for Participants Who Tend to Eat Alone

For each motivation, the figures show how much more the participants who eat alone felt the effects of the class compared to others. Participants who responded "eats meals with someone else" are the reference value.



\* Motivation: To improve health  
 Effect: Made new acquaintances and friends  
 About 3 times more

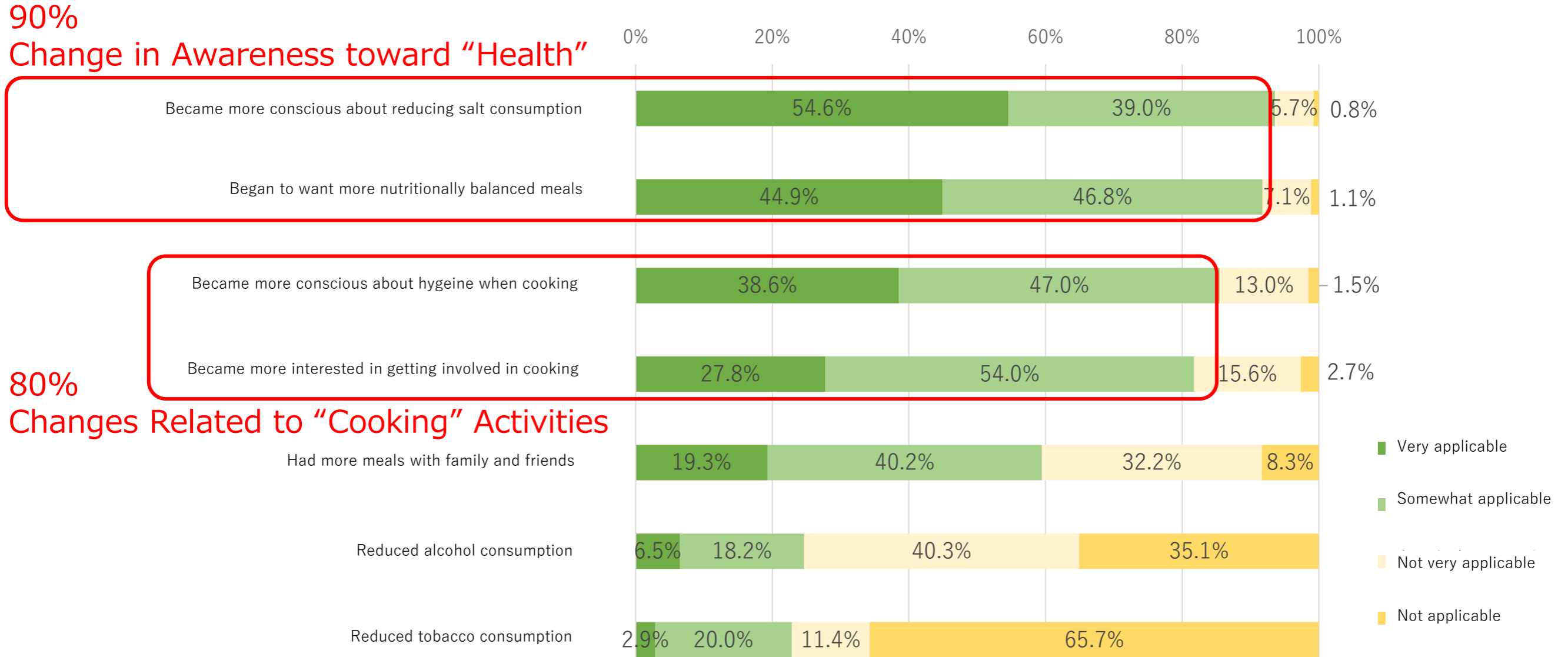
\* Motivation: To learn new recipes  
 Effect: More opportunities to go out of the house  
 About 5 times more

Even for participants with food- and nutrition-related motivations, long-term support through cooking classes likely improves social connections and provides more opportunities to go out, which may help prevent social isolation for people who tend to eat alone.

Moderator variables: eating alone or not, age, sex, employment, number of co-residents, economic status, years of residence, coastal residence, size of disaster, type of disaster, self-catering, subjective health, stress (K6≥13), number of times of previous participation

# 3. Outcomes from the Perspective of “Food and Nutrition”

Figure 7: Changes due to Participating in Cooking Class (Nutrition and Eating Habits)



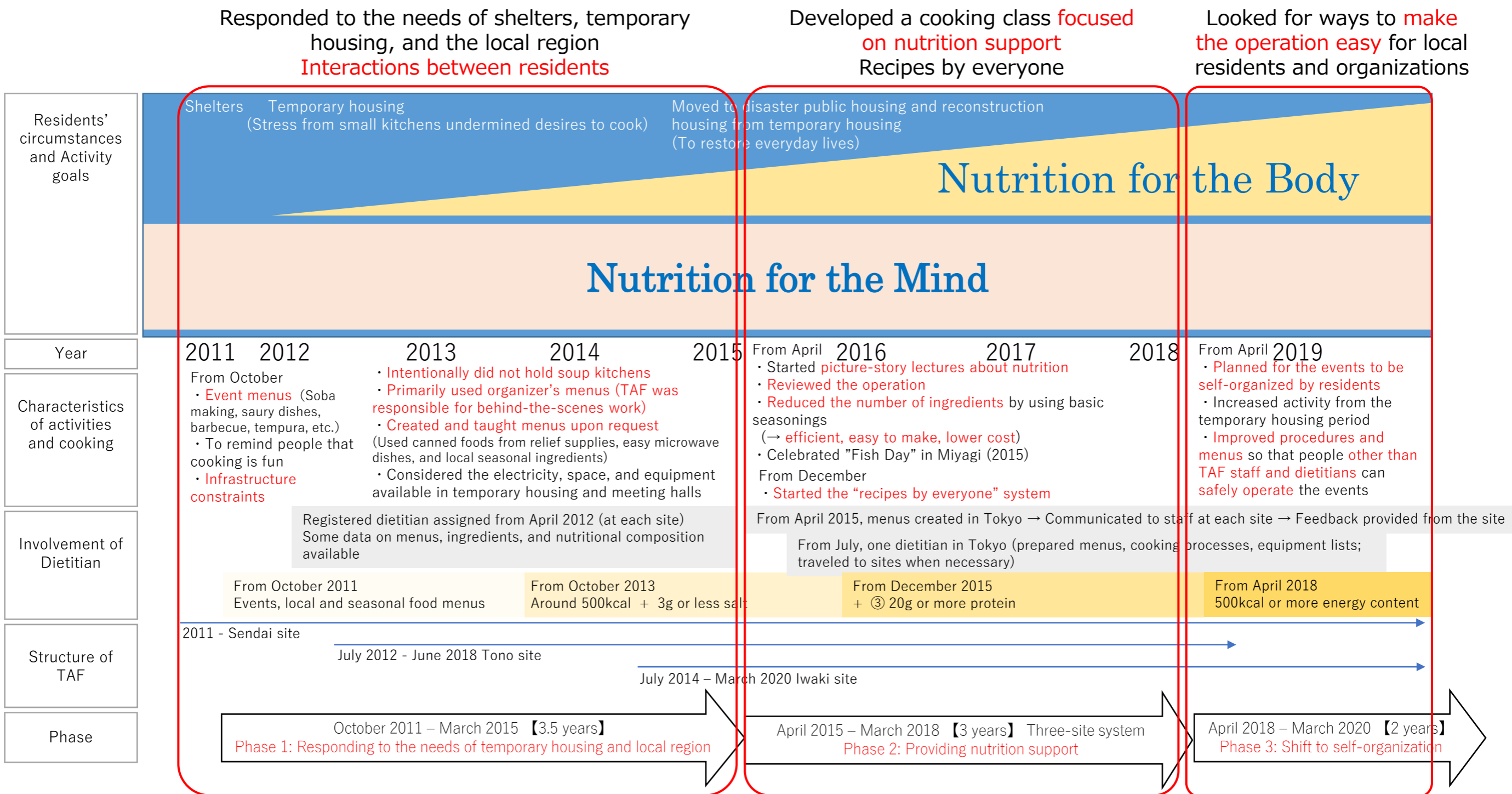


Figure 8: Changes in the Circumstances, Activities, and Menus in Disaster-Affected Regions

## 【Basic Criteria for TAF's Menu】

- ① 1 menu set with 1 staple and 2-3 side dishes
- ② Ingredient costs 300 yen or less (from December 2017)
- ③ Energy content Around 500kcal (from October 2013)
- ④ Protein 20g or more (from December 2015)
- ⑤ Salt equivalent 3g or less (from October 2013)  
→ Average 2.54±0.50g
- ⑥ Simple cooking methods
- ⑦ Hygienic procedures



Cooking table installed in a meeting place  
at a disaster public housing



Cooking practice

## 【Efforts to Reduce Salt Consumption】

- Held cooking classes focused on “low sodium”, which is an important issue internationally, in the Tohoku region, and in disaster-affected regions.
- Participants likely become more aware of salt reduction by cooking recipes, using ingredients, and tasting dishes that are low-sodium.
- Of the 403 dishes, the number (percentage) of dishes with low-sodium support ingredients

Condiments/flavored vegetables 290 dishes (72.0%)

Spices 130 dishes (32.3%)

Umami (mushrooms, dried bonito flakes, kelp) 117 dishes (29.0%)

Sour ingredients (vinegar, lemon juice) 71 dishes (17.6%)

Sesame oil 82 dishes (20.3%)



栄養と健康【風邪に負けないからだを作ろう!】  
乾燥した冬は、風邪の原因となるウイルスや細菌に感染しやすくなります。そこでポイントとなるのが免疫力や抵抗力です。これらが高めるのが、肉・魚・卵・大豆製品などのたんぱく質や、かぼちゃ・ほうれん草・ブロッコリーなど、抗酸化作用のある食材です。これらを取り入れ、バランスの良い食事を心がけましょう。  
また、免疫力を担う細胞の多くが腸に存在する為、腸内の善玉菌を増やし、腸内環境を整えることも大切です。

### ★トマト缶を使ったハヤシライス

【材料：4人分】

牛ごま切れ肉	180g
小麦粉	大さじ1
玉ねぎ	1個
しめじ(大1パック約200g)	1/2パック
オリーブオイル	大さじ1/2
水	100cc
トマトカット缶	1缶
中濃ソース	大さじ2
ケチャップ	大さじ2
バター	10g
赤みそ	大さじ1と1/2
ご飯	1.4合分
カロリー	398kcal
塩分	1.8g

※トマトカット缶⇒1缶400g(内容総量)

### ★焼き野菜のさっぱりサラダ

デミグラスソースは使わず、身近な調味料で作ります！隠し味の旨味がポイント♪



【作り方】

- ①牛肉は食べやすい大きさに切り、玉ねぎは薄切りにする。しめじは根元を切り、ほくす。
- ②フライパンにオリーブオイルを熱し、牛肉、玉ねぎを加え炒める。肉の色が変わってきたら、しめじを加えてさらに炒め、小麦粉をふり入れ全体にからむようによく混ぜる。
- ③②にトマトカット缶、水、ケチャップ、中濃ソースを加え、混ぜ合わせる。沸騰したら火を弱火にし、みそを溶き入れ、バターを加え5分程煮込む。

まいたけとパプリカを焼くことで、香りや甘味が増します！



Recipes created by TAF (December 2019)

Dishes created by TAF



# 4. Evaluations by Partner Organizations and Core Participants

Results of questionnaire survey to partner organizations (open-ended questions) Respondents: 157 people from 46 organizations (22 public administration staff, 63 Social Welfare Council staff, 65 private/NPO staff, 7 neighborhood council members)

Figure 9: Reason for Joining/Continuing the Project



Figure 10: Positive Results From Joining the Project

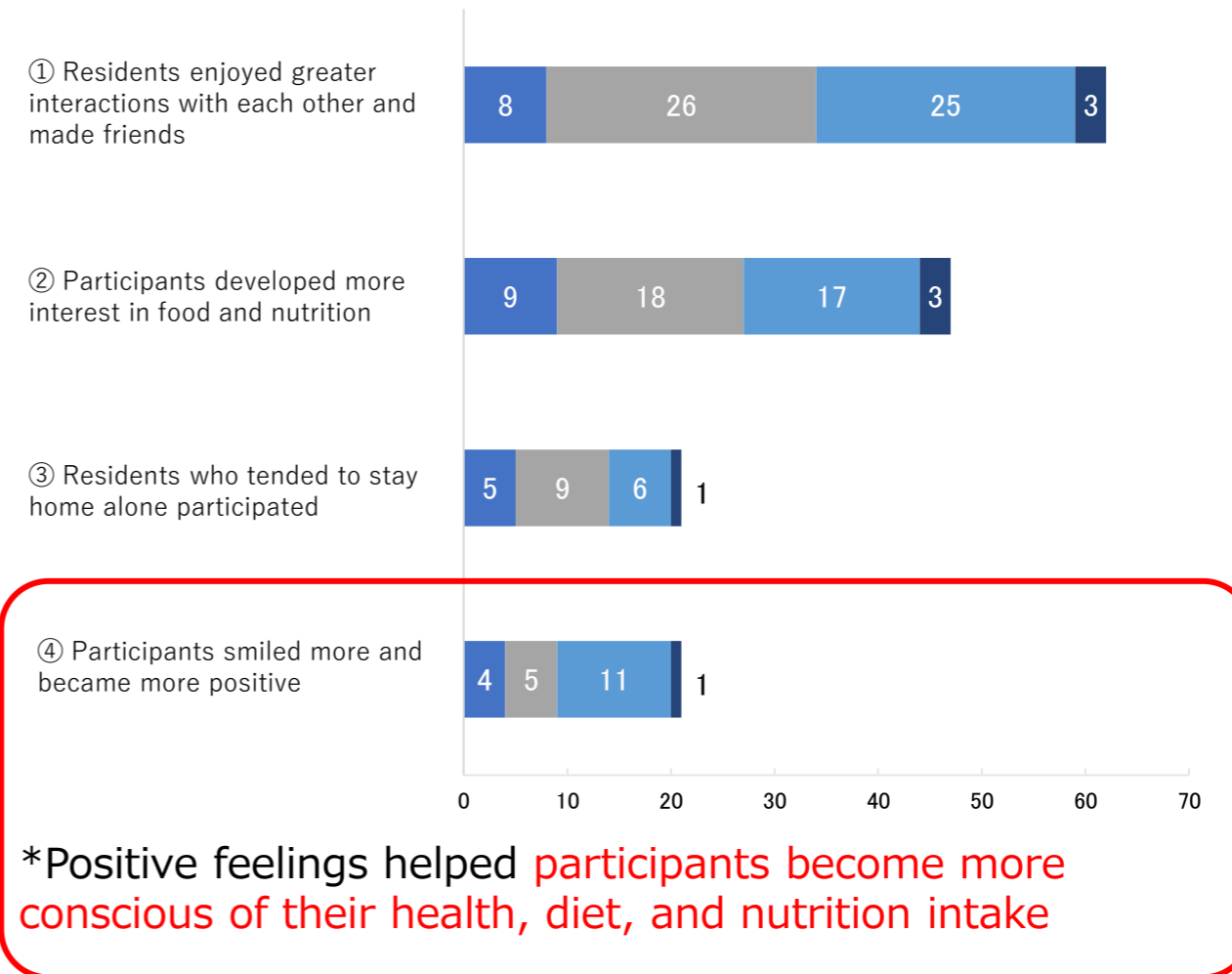
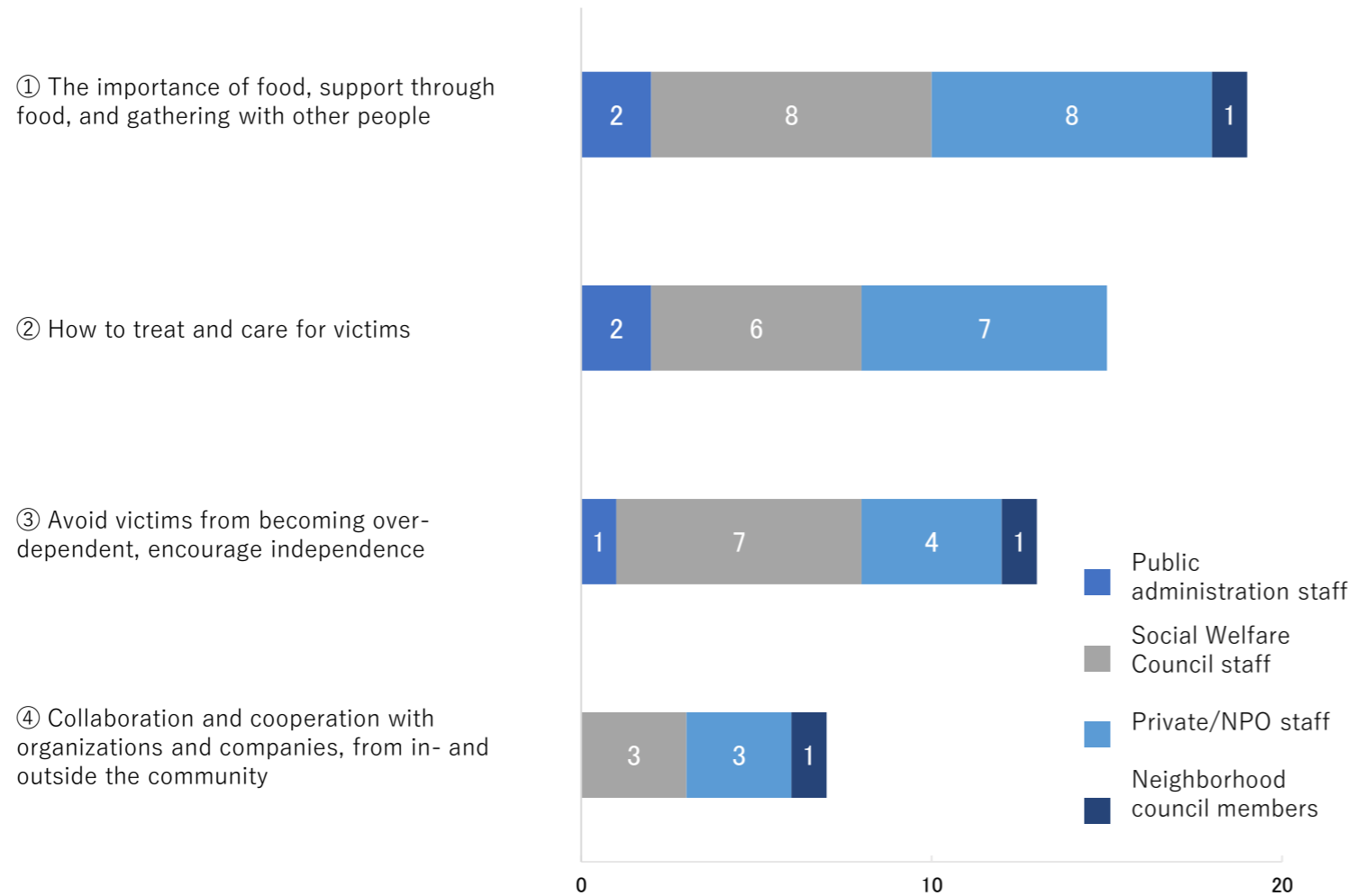


Figure 11: What to Convey to People in Supportive Positions in Other Disaster-Affected Regions



【Keywords】

- Events about food are fun, delicious, and enriching
- Make food together, eat food together
- Energizes the mind and body
- Empathize with disaster victims and work together with them
- Do not take the support for granted
- Encourage independence
- Meet everyone's needs by collaborating and cooperating

## From the Interview Survey

### 1. Support in Line With Local Needs 【Partner Organizations】

- I was grateful that the project closely supported me. At first, when the Ajinomoto staff started talking about nutrition, I said, “No, no, nutrition is not the issue.” I understood what they wanted to do, but nutrition was not what we needed at that moment. (Phase 1: Iwate)
- To move to public reconstruction housing means to build a new community from scratch. If you don't have many opportunities to see each other, you can't build a relationship of trust. Everyone was really looking forward to the cooking class. (Phase 2: Miyagi)
- I told them that we were making progress towards independence, so they shouldn't do anything to reverse that progress and treat us as customers. I am very grateful. I can imagine the Ajinomoto staff had many struggles. I believe they needed to adjust their projects according to the different levels of recovery in each disaster-affected place. It must have been very difficult. (Phase 3: Fukushima)

## 2. Collaborative Work, Communal Meals, Quality of Recipes

【Core Participants, Partner Organizations】

- I think we enjoyed the happiness from eating the same food together. We had great conversations, and I felt comfortable sharing the same space with others.
- The food was light in flavor, but it tasted good. I could eat it and say, “it's delicious”. I realized that I could create this much flavor with only a few ingredients, and that I was adding too much flavor in the past. Everyone ate together, talking about various things. It's fun.
- (From the cooking class,) we thought that we should organize the project ourselves the next time, so we decided to gather. We wanted to cook and serve the food to other residents. At that temporary housing complex, the men made food, invited residents to eat, and delivered food to those who couldn't join. I think the project has made us want to support each other, rather than just being on the receiving end of support.



### 3. Involvement with Ajinomoto Group Employee Volunteers

【Core Participants, Partner Organizations】

- The staff listen to our stories and seem interested in the food culture from different places. I felt like they are friends who have come all the way to visit me.
- The staff listened to our stories with tears in their eyes, saying “I didn't know that”, or “that’s what you have been feeling until now”, or “that’s what it means to leave your hometown”, which I think relieved many of our feelings. I believe this was a very good project, and I am sure everyone is grateful to have people beside them who cared so much.

## 5. Activities for the Ajinomoto Group as Proposed by Employee Volunteers

### 1. Contributions to the community

Inviting alumni to participate, organizing recreational activities, promoting tourism (e.g. beauty of the ocean), providing health care awareness activities and support

### 2. Community

Providing an environment for conversation, fostering a community that encourages interaction between employees and residents, motor function support, purchase of locally produced and consumed products by group companies

### 3. Reconstruction and restoration

Creating a place for conversation appropriate to the stage of reconstruction (considering the circumstances of the residents' relocation, etc.), financial support; ocean cleanup support; and support for agriculture, forestry, and fisheries, such as removal of timber

### 4. Cooking class

Increasing the number of lecturers, conducting lectures on exercise and rest at seminars, offering easy-to-make menus and introducing ways to use Hondashi bonito stock, cooking competitions for all ages, from children to the elderly, set tour that combines cooking class and the Tohoku tourism industry, held at kindergartens and elementary schools

Table 1: Framework for the Evaluation Research

Perspectives of evaluation	Items of evaluation		Evaluation methods
Relevance of plan	Consistency with organization policies	Was the project consistent with the policies (mission, vision, values) of the organization (TAF)?	Review of existing resources
	Consistency with target needs	Did the project meet the needs of the target geographical area and its beneficiaries?	Interviews Questionnaire surveys
Validity of results	Achievement of project goals	<ul style="list-style-type: none"> <li>How did the beneficiaries' awareness and behavior toward food and nutrition change?</li> <li>How did the project contribute to the revitalization of communities in the target region?</li> </ul>	Review of existing resources Interviews Questionnaire surveys Analysis of menus and recipes
	Other impacts	<ul style="list-style-type: none"> <li>Were there any spillover effects that were not anticipated during the planning stages?</li> <li>Were there any negative impacts on the target regions or beneficiaries?</li> </ul>	
	Relevance from comparative advantage	What comparative advantage does the project's support have over other organizations working in the field of food and nutrition?	
	Sustainability of results	<ul style="list-style-type: none"> <li>Based on the progress of self-organized health and nutrition seminars, can these activities be continued in the future?</li> <li>What challenges do self-organized events face? What kind of support do organizers expect from TAF?</li> </ul>	
Appropriateness of process	Factors affecting effectiveness	<ul style="list-style-type: none"> <li>What factors contributed to achieving the project's goals?</li> <li>Were there any factors that inhibited the goals?</li> </ul>	Review of existing resources Interviews Questionnaire surveys Analysis of menus and recipes
	Responses to needs	<ul style="list-style-type: none"> <li>During the post-disaster recovery, how did the project respond to the changing needs of the target regions and beneficiaries?</li> <li>What specific efforts helped to provide support in the target regions?</li> </ul>	

Areas with comparative advantage

- Interactions among residents of disaster-affected regions and improvement of their nutritions
- Making food together and eating together
- Seminars targeted toward men
- Mobility (mobile cooking tables, etc.)
- Safety and hygiene management
- Voluntary participation from within and outside the organization
- Provided support for the longest time period
- Support for self-organization

Factors and efforts that helped to achieve the goals

- Putting the local situation, needs, and people first
- Respecting residents' independence and their processes of developing autonomy
- Careful consultation with partner organizations.

Issues (conflicts) for future reference

- On-site (emergencies) and Tokyo headquarters
- Equality between and limitations of regional activities

# 6. Lessons and Recommendations

## Lessons

Sustainability    Autonomy    Support tailored to characteristics    Observation of activities and interactions

1. From partner organizations to people responsible for support in other disaster-affected regions

“This time, imagine that you are the one providing support”

- 1) The importance of food, support through food, and gathering with other people
- 2) How to treat and care for victims
- 3) Avoid victims from becoming over-dependent, encourage independence
- 4) Collaboration and cooperation with organizations and companies, from in- and outside the community

## Recommendations

1. Provide continued support for partner organizations that continue their activities
2. Actively communicate and publicize previous activities to the public

\*Reflect with TAF and partners → Summarize the lessons learned (action learning)

# 7. Research Presentations

1. Ai Tashiro, Kayako Sakisaka, Yuri Kinoshita, Kanako Sato, Sakiko Hamanaka, Yoshiharu Fukuda. Motivation for and Effect of Cooking Class Participation: A Cross-Sectional Study Following the 2011 Great East Japan Earthquake and Tsunami. Int J Environ Res Public Health. 2020 Nov; 17(21)7869. PMID: 33121136 (Impact Factor=3.390)
2. 崎坂香屋子, 竹田響, 佐藤香菜子, 浜中咲子. 「東日本大震災の被災地を元気づけたアウトリーチ型料理教室の効用 ～ふれあいの赤いエプロンプロジェクトと被災した人々の9年にわたる活動～」地域ケアリング.2020年5月.Vol.22.No.5: 93-101.
3. 崎坂香屋子, 浜中咲子, 黒田藍, 喜多桂子, 西野真理, 福田吉治. 「東日本大震災の被災3県におけるアウトリーチ型料理教室の影響と関連要因に関する研究」第79回日本公衆衛生学会総会. 京都 (オンライン開催).2020年10月21日.
4. 崎坂香屋子, 齋藤由里子, 木下ゆり, 蒲生哲, 吉田恵子, 片岡君江「東日本大震災の被災地を元 気づけた赤いエプロンプロジェクトが次の大規模災害に伝えたい事」第23回日本 NPO 学会 パネルディスカッション.仙台(オンライン開催).2021年6月19日
5. 木下ゆり, 佐藤香菜子, 崎坂 香屋子, 福田吉治「東日本大震災後のアウトリーチ型料理教室の評価 1:レシピの特徴と変遷」第29回日本健康教育学会年次総会. 青森 (オンライン開催). 2021年9月11-12日.
6. 佐藤香菜子, 木下ゆり, 崎坂 香屋子, 福田吉治「東日本大震災後のアウトリーチ型料理教室の評価2:-食品・栄養面からの分析」 29回日本健康教育学会年次総会. 青森 (オンライン開催). 2021年9月11-12日.
7. 木下ゆり, 佐藤香菜子, 崎坂 香屋子, 福田吉治「東日本大震災後のアウトリーチ型料理教室の減塩の取り組み:献立分析による評価」第68回日本栄養改善学会学術総会. オンライン開催. 2021年10月1-2日.
8. Tashiro A, Sakisaka K, Saito Y, Fukuda Y. Post-Disaster Solo Dining and Healthy Food Behavioral Change through Cooking Class Participation. The 2021 Global Health Conference. Hong Kong and Online. Nov 16-18, 2021.
9. 崎坂香屋子, 山本秀樹, 高橋謙造. 「東日本大震災の被災3県での『アウトリーチ型』食と栄養改善介入プロジェクトの効果の検証」第27回日本災害医学会. 広島. 2022年3月.
10. 黒田藍, 木下ゆり, 齋藤由里子, 山田幹夫, 福田吉治. 「東日本大震災後のアウトリーチ型料理教室の第三者評価:ステークホルダーへの報告会の試み」第30回日本健康教育学会. 栃木 (オンライン開催). 2022年7月17日.
11. Yuri Kinoshita, Kanako Sato, Yuka Miura, Natsumi Ishii, Kayako Sakisaka, Yoshiharu Fukuda. Characteristics of Low-Sodium Diets Found in Cooking Classes following the Great East Japan Earthquake. The 8th Asian Congress of Dietetics. Yokohama and Online. Aug 20, 2022.
12. 木下ゆり, 佐藤香菜子, 黒田藍, 石井なつみ, 伊東尚美, 益田裕司, 福田吉治. 被災地で始めた「いっしょに作っていっしょに食べる」料理教室の変遷と特徴. 第69回日本栄養改善学会学術総会. 岡山 (オンライン開催). 2022年9月18日.
13. 伊藤常久, 木下ゆり, 黒田藍, 佐藤香菜子, 伊東尚美, 福田吉治. 東日本大震災後の8年半にわたる料理教室の活動体系と自主開催への移行事例の特徴. 第81回日本公衆衛生学会総会. 甲府(オンライン開催). 2022年10月9日.
14. Yuri Kinoshita, Kanako Sato, Yuka Miura, Natsumi Ishi, Naomi Ito, AI Kuroda, Kayako Sakisaka, Yoshiharu Fukuda. Characteristics of Cooking Class Recipes following the Great East Japan Earthquake: Analysis of Dishes, Foods, and Nutrition. 22<sup>nd</sup> International Congress of Nutrition. Tokyo and Online. Dec 9, 2022.

## 今後の予定

15. 木下ゆり. 東日本大震災後の「ふれあいの赤いエプロンプロジェクト (アウトリーチ型料理教室)」の第三者評価. 福島県栄養士会主催栄養研究会. オンライン開催. 2022年12月17日.
16. 赤いエプロンプロジェクト事例報告、インタビュー分析、ケースリポート、ありがとうレシピ集の評価等 論文発表