Graduate Program in Sustainability Science

Global Leadership Initiative

Graduate School of Frontier Sciences

THE UNIVERSITY OF TOKYO

2020

Master's Thesis

RECIPES FOR RISK AND RESILIENCE: ANALYZING THE ROLE OF LOCAL SCHOOL MEALS AND FOOD EDUCATION IN THE DISASTER RECOVERY OF SHINCHI, FUKUSHIMA

Submitted August 2020

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ABSTRACT

Shinchi is a coastal town with a population of slightly over 8,000 located at the northernmost end of Fukushima prefecture that was heavily impacted by the triple disaster on March 11th, 2011. Although the town was relatively spared from nuclear radiation due to its distance from the Fukushima Daiichi nuclear power plant and favorable winds at the time of the disaster, like many other areas Fukushima prefecture, Shinchi has had to continuously grapple with the immense risk and uncertainty surrounding the potential contamination of local food products. This was a particular problem for Shinchi, which is largely dependent on agricultural and fishing industries and so bore the uneven risk burden of TEPCO's and the Japanese government's failures in ensuring the safety of nuclear power in Japan.

After the disaster, school meals commonly served by the vast majority of public elementary and middle schools throughout Japan have represented a focal point of the fears and concerns over the extent and effect of radioactive contamination in food as they are consumed by children, the most radiation-vulnerable population. In this context, Japan's national food education policies, which are designed to shape the eating habits of the nation and are intimately related with the national school lunch program, have been heavily problematized as negatively contributing to the communication of risk and safety of food since the disaster.

In Shinchi's tight-knit community, food education activities and school meals have long been supported by strong connections between many different local stakeholder groups. These groups have allowed Shinchi's school meals to consist of primarily local ingredients and facilitated hands on educational activities that have allowed Shinchi to excel under the national food education policy framework. However, concerns over radiation after the disaster meant that the safety of local food was called into question, and both the school and local producers suffered damage beyond physical measurement. Subsequently, in their status as an institution

that feeds and educates children, an arm of the local government, and an avenue for the dissemination state-promoted ideologies, Shinchi's schools served as a critical landscape upon which risk was communicated, legitimated and negotiated by the entire town.

As such, this study aims to understand what role school meals and food education have played in the recovery of Shinchi following the 2011 disaster. In order to accomplish this aim, the research first historically contextualizes Shinchi's food education and school lunch efforts as they relate to nationally prescribed ideologies surrounding food education and school lunches. It then describes the post-Fukushima landscape utilizing discourses of risk, trust, and resilience in order to identify the specific challenges facing Shinchi as they related to school meals and food education. Next, it seeks to understand the changing background of food culture and constructions of locality surrounding food in Shinchi by tracing food-related memories of several informants. The study then analyzes the changing state of school meals and food education in Shinchi and how they served to communicate risk in the after math of the disaster from the perspective of both the school and parents. Finally, it explores how the system of school meals and food education in Shinchi, as a regenerating area, have served to build social and cultural resilience in the community.

In order to fulfill these research objectives, the primary methodologies include semi-structured key informant interviews obtained through snowball sampling, participation in local food and culture related events, document review and analysis, and field observation. From October 2019 to January 2020, several key documents have been collected, 12 formal and many informal interviews were conducted, and 4 key events were attended.

The study ultimately demonstrates that Shinchi's food education and school meals line up closely with state-promoted pedagogy and ideologies, which support and are in turn supported by a strong stakeholder network. While changing in broad ways over time, the activities of the school have shown a remarkable capacity for adaptation and resilience themselves, which has

in turn bolstered the cultural and social resilience of the area itself, particularly with respect to the disaster. In its capacity as an arena in which the local people have grappled with risk legitimization and uncertainty through discussions on what food is 'safe' for children and how that 'safety' is proven, the school demonstrated its ability to effectively communicate risk and shape the risk perception of the local people in way that most benefitted local producers while at the same time maintaining levels of safety that were deemed suitable by the local community. These discussions point to the significance of interpersonal trust and trust networks operating to navigate risks, even when institutional trust at different levels may differ. Finally, although Shinchi's schools have gained national attention for their successful post-disaster food education activities, it was found that many food-related cultural practices and traditions have disappeared and are still in danger of disappearing in Shinchi due to the force of broader social changes as well as the disaster. Although food culture and the importance of locality is emphasized by national food education frameworks, the actual ability of Shinchi's schools to preserve cultural heritage is undoubtedly limited. However, the possibility still remains for the reconstruction of new forms of locality through food education and school meals provided by Shinchi's schools.

(Word Count: 866)

Key words: food education, school meals, risk, trust, resilience, locality, disaster recovery, state-promoted ideologies, food culture, cultural heritage, post-Fukushima

ACKNOWLEDGEMENTS

First and foremost, my sincere gratitude goes to my advisors, Mayumi Fukunaga and Motoharu Onuki, as even before I was an official student of the University of Tokyo they both kindly and earnestly encouraged my growth as a researcher. Associate Professor Fukunaga has served as a deep well of wisdom, a spring of inspiration, and an ocean of support that has supported my academic journey. Her genuine passion and insightful critiques have encouraged me to endeavor far out of my academic and personal comfort zone in completing this research. Associate Professor Onuki's welcoming and open presence has grounded me throughout my time in this program. The many lessons learned from him, both formal and informal, have given me a platform on which to stand and look out over the academic horizon. Thank you both for letting me explore.

Next, I must wholeheartedly thank the people of Shinchi, particularly all of those who patiently and thoughtfully answered my endless questions. I owe a great debt to the many people in Shinchi who welcomed me without any reservations and opened their hearts, minds, homes, and kitchens to me. Shinchi will forever be etched in my memory as a beautiful, soulful place full of delicious food and people of unrivaled spirit and toughness. You all have my respect and admiration, and I hope that I have done justice to the stories you have shared with me.

I would also like to recognize all of the dear family and friends who have supported me throughout my life and in the process of writing this paper. My unparalleled mother, father and sister have anchored me with love and comfort when I felt I was adrift far away from home. My cousin Shivn actually brought a piece of that home to me and helped me rediscover a sense of wonder and curiosity when the skies were gray. My incredibly talented friends Gabriela, Haley and Tyuki have inspired me with their own journeys and provided the compass of true

honesty and acceptance against the misdirection of self-doubt. Finally, there is my incredible partner and fellow adventurer Ayaka, whose compassion, intelligence, and strength has kept me afloat when nothing else could.

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1 Introduction

1.1 The Relationship of Food, Culture, Sustainability, Resilience & Disaster Recovery

Before diving into the arguments of this paper, a brief exploration of some the relevant concepts that frame the space in which this paper was written is sought below.

Food, some form or another, is essential to all life. Without energy and basic chemical elements provided by some external source, even the most autotrophic organisms would eventually perish. Human needs are more complex, as heterotrophs we need to consume complex organic substances found in other living organisms in order to survive. Thus, humankind's relationship with food is at least as old as humanity itself, and indeed even older.

In that sense, as one of the base needs of humans as living creatures, food has defined and shaped human behavior and culture long before the beginnings of such 'culture' itself. It is for this reason that among our oldest evidence of ancient human settlements and cultures are artefacts of the need to procure food via hunting, foraging, farming, and fishing, as well as the complex preparation of food beyond its raw state, such as the making of breads and alcohol (Bar-Yosef 1998). Furthermore, food has long been and remains a key signifier and defining element of culture, tied to different localities, regionalities, nationalities, religions, political ideologies, classes, races, ethnicities, gender roles, and age groups - though this list can go on (Boutaud et al., 2016).

So, while food is not the only element of culture, it is a basic and critical one. And culture, in turn, is critical to everything else. In one of the earlies and most widely cited classical definitions of 'culture,' British anthropologist Edward B. Tylor (1871, pp. 1) stated, "Culture, or civilization, taken in its broad, ethnographic sense, is that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society." In short, culture is everything that fits into the label of "the integrated pattern of human knowledge, belief, and behavior," though to this the Merriam-

Webster Dictionary adds, “that depends upon the capacity for learning and transmitting knowledge to succeeding generations,” fitting with the shift toward a cognitive understanding of culture in the 20th century. However one makes the distinction between what is and is not ‘culture,’ (versus ‘society,’ for example), it remains that our culture and the way we act are inextricably linked.

Then, what about ‘sustainability?’ Insofar as we ascribe sustainability as an inherent element of an inhuman object or system, such as the ability of an ant colony to sustain itself, it may be treated as separate from (human) culture, but this is not the case when the word is applied to any system subject to human interference. The concept of sustainability encompasses ‘knowledge, belief, and behavior.’ It is by nature at once product of and a term used to describe different factors of human culture and society. Especially in the context of dealing with increasingly apparent and dangerous disruptions of planetary ecological systems due to various consequences of human activity (i.e. behavior) has the concept of ‘sustainability’ taken on new and deepened meaning. It is within this context that the UN’s Brundtland Commission famously stated, “Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987).

This declaration not only tied the concept of sustainability to that of development, it clearly labelled the effort to achieve such sustainable development as dependent upon human ‘knowledge, beliefs, and behavior.’ In other words, culture. Indeed, since the Brundtland Commission, a socio-cultural shift has been seen worldwide in relation to sustainability, exemplified variously by the adoption of the UN Sustainable Development Goals (SDGs) in 2015 and the growth of a new scientific field over the last several decades, termed ‘sustainability science.’ The cultural shift towards (or away from) sustainability at large has permeated the scientific institution as well, and the normativity of sustainability science in the

face of the supposedly (and largely imaginary) value-free scientific neutrality of the past has been widely recognized (Kajikawa, 2008; Ziegler and Ott, 2011) and, in the author's point of view, is a more honest acknowledgement of the normative value structure of and cultural influences on scientific practice and ethics. In fact, the concept of sustainability is so intimately tied with the idea that science is necessary to achieve it that some even consider the term 'sustainability science' to be redundant (Nelson and Vucetich, 2012). Without going further into an overview of sustainability and sustainability science, it is clear at a glance that sustainability can be understood in the broader terms of culture. Simultaneously, culture is also a subject of sustainability and sustainability science.

'Cultural sustainability' has grown to become a significant part of the sustainability policy and science discourses, and there are several views on the relationship between culture and sustainability (Throsby, 1995; Soini and Dessein, 2016). In broad terms, some groups consider culture as either a fourth so-called 'pillar' of sustainable development alongside more the firmly recognized ecological, economic, and social pillars, or a foundational element that supports them (Soini and Birkeland, 2013). This argument is further developed by Soini and Dessein (2016), who identify culture in sustainability, culture for sustainability, and culture as sustainability as three representations that encapsulate the complexity of culture-sustainability relationships. Though, like the definition of culture itself, the understandings of 'cultural sustainability' are varied, and Soini and Birkeland (2013) identify seven "interlinked and overlapping" "storylines" in the discourse on cultural sustainability, namely "heritage, vitality, economic viability, diversity, locality, eco-cultural resilience, and eco-cultural civilization." These storylines cast a wide net, and nearly all topics of sustainability science are at least tangentially related to one of these categories.

Food, as fundamental as it is, plays a significant role in each of those storylines. As a necessary component of life, the security and sustainability of food and food systems, as well

as the management of the direct and indirect effects of food-production, distribution and consumption on ecological systems, are primary concerns in achieving the UN-prescribed vision of sustainable development. This is most obvious in goals 2 (no hunger), 3 (good health and well-being), 11 (sustainable cities and communities), 12 (responsible consumption and production), 13 (climate action), 14 (life below water), and 15 (life on land) of the SDGs, though concerns related to food are related to nearly all the goals in some way (UN Department of Economic and Social Affairs, 2019).

In addition, food as a characteristic element of culture ('food culture') not only informs our habits of food production, distribution, and consumption, but, as mentioned above, also plays a key role in individual and group identity formation, and is thus intimately connected with many other facets of sustainability at a cultural level as well, particularly discussions about heritage and locality (Soini and Birkeland, 2013). Furthermore, because what we eat and the way we eat it naturally influence the systems from which we get what we eat function, it logically follows that food systems and food cultures are closely linked, from the global to the local scale. While in depth discussions about food culture and food systems on a global scale are out of the scope of this paper, the local sustainability of food systems, particularly is in this cultural context, is a concern of the present research.

The term 'resilience' is often applied to discussions about the sustainability of such systems, and though the relationship between the concepts of resilience and sustainability in are still varied, we can at least understand resilience to be "the ability of a system to prepare for threats, absorb impacts, recover and adapt following persistent stress or a disruptive event" (Marchese et al., 2018). Given that many global and local ecological, sociological, economic, and cultural systems are currently under such persistent stress or facing disruptive events on unprecedented scales, it is clear that there is large overlap between a system that is 'resilient' and one has the

ability to sustain itself. Indeed, the resilience of vital systems, such food supply systems, against uncertainties is a key concern across global and local scales (Tendall et al., 2015)

However, whether a 'resilient' system can be called 'sustainable' is as much a matter of the normative values attached 'sustainability' as it does with the actual 'ability to sustain itself.' For example, a patriarchal socio-economic system that enforces strict gender roles has been very resilient to pressures to change over time, and has shown an ability to adapt and 'sustain' itself despite disruptive events, but, as a matter of judgement based on lived experience, cultural background, etc., such a system may be recognized as sustainable by some, but not by others. This is not to say, however, that resilience is free of such value judgements. As mentioned above, it is deeply tied to discussions about sustainability, as it is here as well.

From here, we can clearly see issues of personal and institutional bias become clear when discussing what and what is not sustainable. For example, the push for 'just sustainability' draws the distinction between purely 'environmental sustainability' and sustainability that takes into consideration various issues of human inequality and inequity along lines of race, class, gender, sexual orientation, and other factors (Agyeman, 2008).

Disaster recovery is a key arena in which the terms concepts of resilience and sustainability are used to evaluate and propose recovery pathways and methods, with various terms such as 'sustainable recovery' and 'resilient recovery' holding places in the academic and policy discourse (Smith and Wegner, 2007; Sou, 2019, OECD, 2020). Among the immediate pressing needs after a disaster is the ensuring of vital food supply systems in the short term and ensuring their recovery in the long term. Of course, this need stands alongside that for physical recovery of damaged infrastructure and economic recovery of damaged industries and economic systems. However, food systems, like all other human systems, are structured socio-culturally, and as such their recovery hinges on social and cultural recovery as well as physical and economic recovery. The literature on disaster recovery is rich with examples of how sociocultural factors

are vital to the recovery of disaster-affected areas and communities, demonstrated in influential works such Daniel P. Aldrich's book (2012) *Building Resilience: Social Capital in Post-Disaster Recovery* and Susanna M. Hoffman's chapter (2015) "Culture: The Crucial Factor in Hazard, Risk and Disaster Recovery: The Anthropological Perspective" in *Hazards, Risks and Disasters in Society*, among others (see: Tierney and Oliver-Smith, 2012). Several groups both in the academic literature and elsewhere have criticized what is perceived to be a lack of attention given to local sociocultural needs in disaster recovery policy (Sou, 2019) and there are several efforts for advancement of alternative, art and culture-based approaches to long term disaster recovery in Japan, such as the Reborn Art Festival in Miyagi[1] and the multi-faceted Future-Labo Tohoku Project[2]. Especially in rural communities whose economies and social systems largely revolve around food producing industries, one can imagine that sociocultural resilience of food systems both locally and in any connected markets would be a key factor to eventual recovery.

In addition to importance of sociocultural factors being crucial to disaster recovery, there is also a relationship between culture, resilience, and sustainability in the widespread concern over the resilience of cultural heritage during disasters and in their aftermath (G7 Academies' Joint Statements, 2017), something that fits into one of the "storylines" of cultural sustainability mentioned above (Soini and Birkeland, 2013). For some, this concern is exemplified by dangers to established "cultural heritage assets" and officially recognized elements of cultural heritage is museums (Okamura et al., 2013). However, damage to very local, less externally recognized forms of cultural heritage are also possible, and indeed this paper goes on to highlight several such losses as they relate to recovery from the 2011 triple disaster in Japan

[1] An installation-based triannual art festival based in the Ishinomaki area, one of the areas affected by the March 11th, 2011 earthquake and tsunami.
[2] An extended project organized to create collaborative artistic expression and exchange between disaster-affected communities in Tohoku with several international artists, see: FLT

(see Chapter 5). Of course, as an important element of culture, food and foodways also function as a form of cultural heritage that faces challenges of resilience and sustainability, particularly in disaster recovery contexts (Di Giovine and Brulotte, 2014).

So, how can we understand the relationship between food, culture, sustainability, resilience and disaster recovery? Though the varied meanings of these terms and their connections to each other were only but lightly touched upon, it is clear that their relationship is complex and deep. In an attempt to visually simply this relationship, a framework is presented in Figure 1 below.

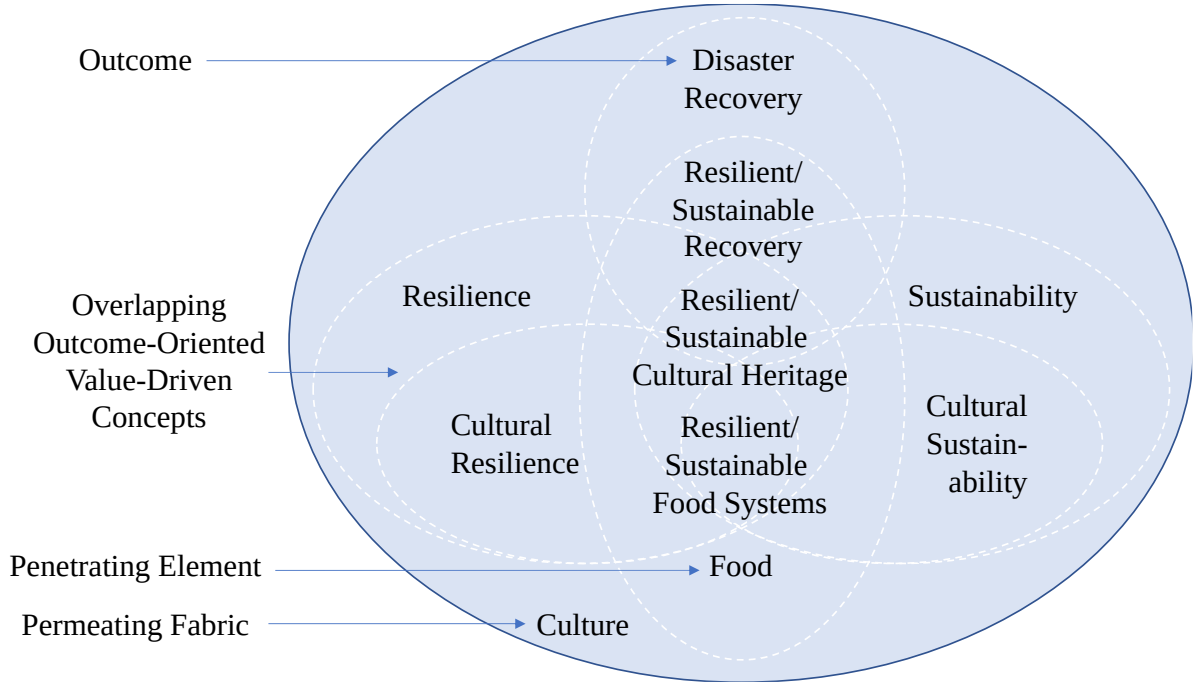

Figure 1 Relationship space of food, culture, sustainability, resilience, and disaster recovery

Following the definitions of culture highlighted earlier, this framework visualizes culture as a permeating fabric that provides the contextual background to each of the other terms and their relationships, while simultaneously being their subject and source of influence. Food, as an important element of culture and of base biological importance, is an element that penetrates the other concepts and forms critical subject matters within them, ranging from concerns over the cultural heritage value of foodways to the critical socio-economic status of food systems.

In the overlapping space in the middle are the various value-driven and outcome-oriented concepts related to resilience and sustainability, which themselves can be seen as desirable outcomes based on a certain value set. At the top is disaster recovery, which is labeled as an outcome, albeit an outcome that is at once influenced by and judged in terms of the permeating cultural fabric and the various concepts listed below it.

1.2 Food in Japan

The topic of food in Japan is something to which much attention has been devoted, and naturally so, as its component foodways, food cultures, food systems and otherwise are rich in history, diversity, and socio-eco-political significance. This section seeks to very briefly and selectively touch upon the parts of these aspects mostly directly related to the research at hand in order to contextualize the later sections

1.2.1 The Japanese Diet Over Time

Before beginning a conversation about food in Japan as 'Japanese food,' or '*washoku*' as a (politically loaded and academically contested conception of a) national cuisine, it is pertinent to understand on a broad scale what it is that Japanese people actually eat and how it has changed. Vaclav Smil and Kazuhiko Kobayashi's (2012) *Japan's Dietary Transition and Its Impacts* offers a thorough, data-rich look into precisely that. Focusing on the period from 1900 to 2010, the scope of the text is aligned with the rapid transformation of Japan from a fledgling industrial, 'modernizing' nation to a global superpower, and its subsequent decline. The changes of Japan's dietary habits during this time reflect a general pattern seen in other most other countries that have undergone 'modernization,' namely decreased consumption of coarse grains, staple carbohydrates, and legumes, and increased consumption of greater varieties of wheat-based carbohydrates, fruits, animal products, other processed foods, fats and oils, sugar, and overall calories (Smil and Kobayashi, 2012, pp. 74). The primary factors in driving these changes during this period has been increases in disposable per-capita income driven by

urbanization together with major increases in the productivity of agriculture and animal husbandry, and more recently the aging population (Smil and Kobayashi, 2012, pp. 72-3). Among these general changes, there are several details worth noting that are relevant to the present study.

First, that rice, a food item rich with layers of sociocultural meaning and symbolism in Japan, and one that is tied to Japanese identity itself (Ohnuki-Tierney, 1993), is only a relatively recent staple item. Having considerable value, rice was not the main carbohydrate staple for most of the Japanese population until at least the Meiji Period, if not until the late 1930's (Smil and Kobayashi, 2012, pp. 13; Nakane, 1967, pp. 56). Other sources of carbohydrates, such as barley, wheat, buckwheat and sweet potatoes were primary sources of calories until the mass production of rice was established (Smil and Kobayashi, 2012, pp. 11; Nakane, 1967, pp. 57). While per capita rice production and consumption has declined following post-war peaks, it is still the preferred staple of Japanese people, being associated with attributes of 'healthiness' and 'Japanese-ness' (Smil and Kobayashi, 2012, pp. 18). However, due to the increasing preference for other processed carbohydrates, spending on rice is surpassed in gross monetary terms by spending on bread and noodles in the average Japanese household (Smil and Kobayashi, 2012, pp. 18). In tandem with the decline of domestic rice consumption and the rapidly aging rural population is the decline of domestic rice production in terms of both land area and total yield (Smil and Kobayashi, 2012, pp. 18).

Second, that despite declines in domestic seafood production, the Japanese consume the greatest variety of plant, animal, and invertebrate marine products and boast the largest per-capita seafood supply in the world, depending increasingly on imported seafood (Smil and Kobayashi, 2012, pp. 37). This points to the exceptional importance which seafood occupies in the Japanese diet on a broad scale. However, this trend is changing, particularly among the younger generations, with average daily per capita consumption of meat surpassing fish in 2006

(Smil and Kobayashi, 2012, pp. 201). Furthermore, the results of several opinion polls and surveys show an increasing preference for meat over fish in a variety of settings, and one statistic from the Ministry of Agriculture, Forestry and Fisheries (MAFF)'s White Paper for Fisheries FY 2009 highlighted by authors as an indicator of long-term decline indicated that "70 percent of women in their 30s do not cook fish—and their main reason is that less than 50 percent of children like it" (Smil and Kobayashi, 2012, pp. 202, citing MAFF, 2008). The same MAFF document paints a dire picture for the future of the Japanese fishing industry, "as fewer than 20 percent of today's fishery workers have a successor for their job" (Smil and Kobayashi, 2012, pp. 201, citing MAFF, 2008).

Third, that the rise in milk consumption among the Japanese population seen beginning 1950s is directly traceable to the inclusion of milk in the national school lunch program, and this increase in milk consumption has been credited as the main contributing factor for the rapid growth in average height of children over the 1960s and early 1970s (Smil and Kobayashi, 2012, pp. 64). Although milk consumption has declined from the 20th century peak values, Japanese people still consume a large amount of milk and dairy products compared to pre-war values, and two of the 10 largest Japanese food processors are dairy companies: Meiji Dairies and Morinaga Milk Industry (Smil and Kobayashi, 2012, pp. 194)

Fourth, that despite largely following the expected universal trends of dietary changes, Japan still retains uniqueness in its rather low consumption of lipids and sugar compared to other affluent countries (Smil and Kobayashi, 2012, pp. 78). Thus, lipids and sugars form a small percentage of the Japanese diet overall compared to European countries and particularly America, despite overall calorie intake being only slightly lower, a fact that pointed to as a reason for Japan's lower obesity rates – although such rates are rising (Smil and Kobayashi, 2012, pp. 97).

Fifth, that currently Japan is generally heavily reliant on imported food, disproportionately so relative to its population size (Smil and Kobayashi, 2012, pp. 198). In terms of food energy, the self-sufficiency rate has continued to drop since Japanese imports first rose significantly in the post-war era, and recently fell to a record low 37% in 2018 (MAFF, 2019). However, in terms of land area value needed to produce food commodities, the Japanese self-sufficiency rate was calculated conservatively at only 25% based on values from 2000 (when the food energy based self-sufficiency rate was 40%), meaning that roughly 75% of the land used to produce food consumed in Japan is located abroad, first among the 10 largest economies (Smil and Kobayashi, 2012, pp. 148). However, in terms of per capita values, while large compared to many other countries, this demand on foreign land is still less than a quarter of America's per capita value (Smil and Kobayashi, 2012, pp. 149). This low self-sufficiency rate is a source of great concern in terms of Japan's economic dependence on food imports and the vulnerability of its food security, and the Japanese government has long set targets and implemented policies to increase the rate to 45% in terms of food-energy (originally to be accomplished by 2010, now postponed to 2030) (Smil and Kobayashi, 2012, pp. 148; MAFF, 2019). Smil and Kobayashi predict that as food demand declines in tandem with Japan's aging population, "a combination of several demographic, social, and economic factors makes it almost inevitable that Japan's domestic capacity to feed itself will decline further, and imports will have to fill an even higher share of consumption" (Smil and Kobayashi, 2012, pp. 201). Among these factors are the shrinking number of Japan's farmers and fishermen, greater global competition, and long-lasting decline of cultivated land. (Smil and Kobayashi, 2012, pp. 201)

Finally, although there clear influences of 'Westernization' on the Japanese diet, particularly among recent generations, in terms of changed types and amounts of food consumed (increased amounts meat, dairy and bread, for example) and the ubiquity of convenience store chains and fast-food restaurants, there is still an observed trend of certain

Japanese foodways being resistant to change and retaining popularity over time, such as the preferences for several dishes to be consumed concurrently rather than in sequence[3], preference raw or minimally cooked food, attention given to food presentation, and a strong appetite for seafood (Smil and Kobayashi, 2012, pp. 93, 98). As will be explained further in the next sections, the preservation of such traditional Japanese foodways as exemplified by *washoku* is not simply a matter of 'preference' stemming from personal or shared sociocultural tastes for certain foods, it is something that is actively promoted by the Japanese national government through a variety of different channels with clear political aims in mind.

1.2.2 Japanese Cuisine as Cultural Heritage and a Political Tool

Defining the cuisine or food practices of a nation in detail is difficult, as there are inevitably elements of regionality, changes over time, and cross-cultural exchanges that must be dealt with. This is true of Japan's cuisine as well, which has long been influenced by cultural exchange, has richly distinct regional variations, has undoubtedly undergone many changes over time. However, the idea of a unique, traditionally rich Japanese national cuisine is one that has been promoted by the Japanese government over the course of twentieth century as a means of promoting the construction of a unified national identity that is intertwined with images of Japanese ethnic homogeneity, even if the cuisine itself was noted to have elements of food from the West and China (Cweirtka, 2006). As Japan during this time period and leading into the present day has sought to promote the cultural and national construction of 'Japanese-ness' through food both to its own citizens and the outside world, the idea of a Japanese cuisine has taken on blatantly political tones. Variously termed "culinary nation-making," "culinary nationalism," and "gastronationalism," several authors note how the conception of a 'national cuisine' is a central element to the concept of 'nationhood' as an

[3] A practice known as *sankakutabe* (三角食べ).

identity that exists above those associated with ethnic, religious, class, or regional constructions of identity (Cweirtka, 2006; Cang, 2019; Kimura, 2017).

One of the incidents pointed to by critics as a clear example of this nationalism was the short-lived attempt by the Japanese government in 2006 to implement a program to certify the authenticity of Japanese restaurants outside of Japan (Cang, 2019, Kimura 2017). These efforts were designed to try to stop 'inauthentic' representations of Japanese food and ensure a tightly controlled view of the image of Japanese cuisine that existed in the international imaginary. Although this initiative was stopped after being widely criticized, Japan's Ministry of Agriculture, Forestry, and Fisheries (MAFF) began preparing in 2011 for a bid to get some element of Japanese cuisine recognized as intangible cultural heritage under the UNESCO World Heritage framework, and in 2013, *washoku* was officially recognized on the Representative List of the Intangible Cultural Heritage of Humanity (Cweirtka, 2018). This was not the first time a food culture or representative national cuisine had been recognized and many other food-related applications have been since, sparking criticisms about UNESCOs facilitation of a global trend towards culinary nationalism (Cang, 2019). For Japan, this represented a significant accomplishment in launching *washoku* into greater international recognition and for the nation's domestic and international image branding post-disaster, particularly amidst concerns of radioactively contaminated foods (Cweirtka, 2018; Kimura, 2017). As Kimura states (2017, pp. 464):

"Government policies have positioned Japanese food and *washoku* as quintessential Japanese soft power. Just as Japan embarked upon its 'soft power' diplomacy to push 'cool Japan', the nuclear accident cast profound doubt over its technological sophistication and exposed cultures of corruption and mismanagement. The nuclear accident seemed to further tarnish the image of Japan in the international community at a time when Japan was already struggling with its national branding."

As Kimura sates, the Japanese government pushed for *washoku* to officially be labeled as intangible cultural heritage is part of a long-standing effort by the nation to use cultural heritage conservation in general as part of its cultural diplomacy to cultivate 'soft power' (Akagawa, 2015). These efforts can be seen in Japan's numerous UNESCO World Heritage Sites and the adoption of other international heritage recognition certification systems like FAO's Globally Important Agricultural Heritage Systems (GIAHS) (Akagawa, 2015; FAO, 2020). Although this use of cultural heritage for cultural diplomacy is undoubtedly part of Japan's foreign policy strategy and international image-building, these actions also are intended to have a direct effect on domestic issues through influence on cultural policy making. As Akagawa writes (2015, pp. 2):

"With the emerging global emphasis on the need for regional and international cooperation, Japan's international cultural policy has been designed to contribute to the broader domain of economic development and security issues. Its cultural diplomacy is interwoven with efforts to elevate Japan's position in the region through the use of heritage conservation funds and its technical expertise."

In this sense, *washoku*, like other Japanese concepts related to heritage conservation, such as '*furusato*' (hometown), are used by the Japanese government in cultural policy to facilitate the construction of a desired identity and sense of authenticity (Akagawa, 2015). This is done in order to influence Japanese citizens to act in certain ways that fit the policy agenda of the Japanese government. In the contemporary context of food in Japan, culinary nationalism centered around the notion of *washoku* is embodied in the policies promoted by MAFF since the 1990s designed in some way to boost the consumption of locally produced foodstuffs in order to support declining Japanese agriculture and improve the food self-sufficiency rate. As

Japan's reliance on imported food, the 'Westernization' of its dietary habits and the decline rural areas in tandem with the domestic agricultural industry was increasingly linked and problematized in the late 20th century, movement to consume locally produced food called '*chisan chishō*' (locally produced, locally consumed) was proposed as a solution for the Japanese food system in the 1990s (Kimura, 2008).

However, these problems did not fade even as the popularity of the *chisan chishō* movement and philosophy grew. Rather, as discussed in the previous section, Japan's self-sufficiency rate continued to decline further and there were increased concerns about the negative effect of 'Westernized' eating habits on the health of the Japanese population. As will be discussed further in the next section, in response to these concerns, in 2003 MAFF pushed for the inclusion of 'food education' (*shokuiku*) into the national educational, health, and cultural policy of Japan (Assmann, 2017). This new policy framework included the promotion of 'Japanese style dietary habits' (*nihongata shokuseikatsu*) as being the healthiest manner of eating for Japanese citizens of all ages and further framed the consumption of local food as being not only a matter of patriotic duty, but a healthier choice than eating domestic food (Reiher, 2012; Takeda et al., 2016). In this sense, the food education policy push can be understood in terms of culinary nationalism as part of the Japanese government's promotion of a constructed idea of a Japanese national cuisine, whether it is coded as *washoku* or 'Japanese style dietary habits.' Leading into the post-disaster era, as discussed further in Section 2.2, the emphasis on culinary nationalism was seen through MAFF initiatives under the food education policy platform that encouraged eating food produced in disaster affected areas as a form of patriotic support for one's countrymen, even when there were valid concerns about the safety of those food items (Assmann, 2015; Kimura, 2017).

The current Japanese discourse on the registration of *washoku* as intangible cultural heritage as summarized by Kohsaka (2017) makes it clear that the push for *washoku*

recognition coincides with the Japanese government's push to increase its food exports (which declined after the 2011 disaster due to safety concerns). Furthermore, MAFF in 2016 renewed efforts to try to 'certify' the authenticity of Japanese food abroad following the failure of its 2006 initiative to "correct *washoku*" that was likened to "sushi-police" (Kohsaka, 2017, pp. 5). These findings further make it clear that the notion of Japanese food as cultural heritage within the broader setting of culinary nationalism continues to be used to further a specific policy agenda. The next section expands upon this by detailing by how these same notions of Japanese food have been made into nationally implemented pedagogy with well-defined political aims.

1.3 Food Education in Japan

1.3.1 Historical Overview and Legal Definition

The term 'food education' (*shokuiku*) in can Japan can be traced back to Ishizuka Sagen[4], an imperial doctor who pioneered the concept in the Meiji era as part of a broader educational concept that also included so-called intellectual education (*chiiku*), cultural wisdom (*saiiku*), and physical education (*taiiku*) (Takeda et al., 2016). Under this theory, food was linked to through these various types of education through the cultivation of knowledge and behaviors based in understanding of cooking methods, table manners, what foods make up a healthy diet, and how to establish overall healthy eating and living habits – part of which consisted of a recommendation to eat locally available food (Assmann 2017). As Ishizuka's teachings coincided with the nationalist development politics of the Meiji Period, during which Japan sought to modernize and close the power gap between itself and Western powers, the nationalistic overtones and political agenda behind Ishizuka's philosophy is noted (Assmann 2017). According to Assmann, this was clearly seen in the political nature of nutritional debates driven by claims of what constitutes a healthy diet found in *shokuiku* and sparked by Japanese

[4] All Japanese names are written in the Japanese style, with the family name preceding the given name

encounters with a Western diet that was perceived as superior and worthy of emulation, as made evident with the introduction of meat into the diet of Japanese soldiers and the emperor himself (Assmann, 2017).

Eventually, this public discourse faded and the term *shokuiku* fell out of use, but it began to be re-popularized beginning the 1970's by journalist Sunada Toshiko, who used it in the context of diet and nutrition education for children intended to combat issues like diabetes and obesity that were associated with a 'Western diet' (Assmann, 2017). As explored in Section 1.2.1, during the gap in time between when *shokuiku* was first coined and its resurgence in the late 20th century, the Japanese diet changed dramatically coinciding with its rise in affluence and the increasing reliance on imported foods, and in many ways came to reflect Western dietary trends (Smil and Kobayashi, 2012). Amidst the growing reliance on imported foods and declining self-sufficiency rate, safety scandals, rising obesity rates and worries that traditional food cultures were in danger of being lost, the Cabinet Office in collaboration with the Ministry of Education, Culture, Sports, Science and Technology (MEXT), the Ministry of Health, Labor and Welfare (MHLW), and MAFF began to deliberate on a comprehensive policy measure that could tackle these issues in a more effective manner than the previous *chisan chishō* push (Reiher, 2012, Takeda et al., 2016). Sunada Toshiko was credited by Takebe Tsutomu, the head of MAFF in 2003, for introducing him to the term as he introduced it to the National Diet proceedings to begin the process that would eventually lead to the establishment of the 'Basic Act on Shokuiku (Food and Nutrition Education)[5]' in 2005 (Assmann 2017, Reiher 2012).

[5] Official English translation of 食育基本法 (*shokuiku kihonhō*). All translations of Japanese terms and text were done by the author unless otherwise noted. Commonly translated terms follow conventional translations unless otherwise noted.

The text of the law explains the context in which the Japanese government decided to implement it, and makes direct reference to “issues such as nutritional imbalances, irregular eating patterns, increases in obesity and noncommunicable diseases, and obsession with being extremely thin, new issues concerning "food and nutrition" have arisen, such as food safety and food import dependency,” and “diverse and rich” culture that “is at risk of being lost” (Naikakufu, 2005; official English translation, preface, paragraph 3). It goes on to state that through the implementation of food education, “a trusting relationship between consumers and producers regarding "food and nutrition" will be built through the linkages and interrelations between cities and rural areas whose economy is based on agriculture, forestry or fisheries, which will contribute to vitalizing local communities, passing down and developing our rich food culture, promoting environmentally friendly food production and consumption, and improving Japan's self-sufficiency rate” (Naikakufu, 2005; official English translation, preface, paragraph 4). These statements clearly demonstrate the intention of the law to tackle domestic issues within the realms of economic development, citizen health and welfare, and cultural heritage conservation.

The law defines *shokuiku* by stating that “Shokuiku (food and nutrition education) must be provided with the principle that it contributes to the promotion of the citizens' physical and mental health and the cultivation of humanity by helping them develop the ability to make appropriate decisions on their diet and keep healthy dietary habits throughout their lifetime” (Naikakufu, 2005; official English translation, Article 2). Picking up on the term “appropriate decisions,” multiple authors have understood and criticized the law as part of a neoliberal approach to national governance in shifting responsibilities onto local authorities and individual citizens, who are to be provided with government-sanctioned information and guidance but are ultimately expected to make “appropriate decisions” of their own accord (Reiher, 2012; Kimura, 2017; Assmann, 2017). In addition, it is clear from the quotes above

that the Japanese government's determination of what decisions are "appropriate" is based on how those decisions can effectively contribute to the broad goals of the act. The food education policy framework has been criticized even further in the aftermath of the March 11th, 2011 triple disaster due to its negative contributions to risk communication and its reinforcement of nationalistic and gendered public discourses on food and food safety in Japan, (see Section 2.2).

Leaving critical views aside for now, it is apparent that although the phrase 'food education' at a glance implies academic implementation of particular curricula, the law's target is food education for all Japanese citizens, not just schoolchildren. This means that Japan's food education policy framework is wide ranging and includes many measures that are implemented outside the scope of the Japanese school system. Indeed, this is indicated by the joint work by MEXT, MAFF, and MHLW to develop the Basic Act on Shokuiku and implement it according to their own policy spheres. For example, in the Annual Health, Labor and Welfare Report for 2007-2008, one of the stated goals is the "Promotion of 'Shokuiku" through Risk Communication with Consumers," under which it is acknowledged that because food education conducted under the Basic Act on Shokuiku has the imperative to offer information on food that enhances public knowledge and understanding of food, including food safety, the MHLW seeks to "contribute to the appropriate dietary habits of citizens" by making efforts to promote risk communication regarding food safety through food education (MHLW, 2008, Chapter 1, Section 3, Subsection 2). Here, it is indicated that risk communication regarding food safety was already tied to the implementation of food education even several years before the nuclear disaster.

1.3.2 Current Examples of Classroom Based Food Education Policy

Although there are many other examples of food education policy implementation outside the classroom setting, for the purposes of this paper it is pertinent to examine how food education policy aims to shape the practices of the nation's schools. While the Basic Act on

Shokuiku was under development, there was a concurrent effort to establish a framework for improving dietary health in Japan (again, in response to concerns over rising lifestyle-related diseases) through the creation of the Diet and Nutrition Teacher System (Ishida, 2018). This system, made into law in 2004 and started concurrently with the first Shokuiku Promotion Basic Plan, saw the assignment of a requirement for diet and nutrition teachers who possessed the qualifications of a nutritionist as well as teaching credentials in schools throughout the nation (Ishida, 2018). Under the Shokuiku Promotion Basic Plan, these diet and nutrition teachers were assigned the primary responsibility for implementing food education in schools via a combination of lectures and hands-on activities, as well as the reshaping of school lunch menus. As will be further explained in the next section, school meals quickly became one of the main avenues of school-based food education in Japan. The details of food education lectures and activities are left to individual schools to determine, although they generally fall into the overlapping categories of healthy eating habits, diet and nutritional science, food production, food preparation, food safety, and so on.

The entire range of activities implemented under Japan's food education policy framework even under only the scope of school-based food education are too extensive to be listed here. Instead, the most recent examples of national school food education promotion programs are examined as representative of the current policy objectives and how they are intended to be implemented by schools.

The first of these promotion programs is MEXT's "Super Food Education School Project," (*sūpā shokuiku sukūru jigyō*, スーパー食育スクール事業) which ran from 2014 to 2016 (MEXT, 2014b). Under this program, several 'model schools' were chosen as places that would receive funding to support food education implementation in the form of lectures or practical activities while simultaneously using the schools as research sites to assess food education

outcomes. The results of the program were compiled and intended to inform further changes to food education policy and practice. The stated objective of this program is written as follows (MEXT, 2014b):

"Centered on diet and nutrition teachers with the additional application of outside experts and based on practical goals established beforehand, [this project] aims for the further completeness of food education through cooperation between universities, the private sector, the public sector (agriculture, forestry, and fishery [department] and health department), and food producers, as well as verification based on scientific data of the multiple effects of food education on children and students, including improvement of scholarly knowledge, increased health, promotion of *chisan chishō*, appreciation of food culture, and international exchange."

栄養教諭を中心に外部専門家等を活用しながら、予め具体的な目標を設定した上で、大学、企業、 行政機関（農林、保健部局）、生産者等と連携し、児童・生徒の食育を通じた学力向上、健康増進、 地産地消の推進、食文化理解、国際交流など、食育の多角的効果について科学的データに基づいて検証を行い、食育の一層の充実を図る。

From this objective, it can be first seen that the core values of food education remain unchanged, namely the improvement of scholarly knowledge, increased health, promotion of *chisan chishō*, appreciation of food culture. International exchange is added to the fold as a means of increasing children's knowledge about the diversity of food (while still promoting *washoku* as the healthiest option). The call to action to include other stakeholder groups like universities and food producers as cooperators in implementing food education is also along the core philosophy of school-based food education. By including outside stakeholders, food

education can make a claim to providing extra opportunities for learning while simultaneously facilitating increased stakeholder connectivity. In particular, the imperative to include local food producers is tied to ultimate goals of shaping children's food preferences towards locally produced food in an effort to boost domestic food production.

The objective quoted above was based on the following three observed current problems facing food education in Japan (MEXT, 2014b):

1. There is a gap in the distribution of nutrition teachers among prefectures.

2. There is a regional gap in the set-up of food education instruction.

3. There is a necessity to scientifically verify the outcomes of food education efforts.

1. 栄養教諭の配置は都道府県により差がある。

2. 食育の指導体制に地域で差がある。

3. 食育に取り組んだ成果を科学的に検証する必要が有る。

From these three objectives, it is clear that the implementation of the diet and nutrition teacher system is still 'incomplete' in the sense that not all prefectures and localities have access to these teachers. Naturally, this leads to disparity in the ability of schools in different regions to implement food education instruction, which is an issue of equity of educational opportunity among Japanese children who live in different areas. However, these first two objectives also highlight the desire of the Japanese government to expand the reach and effectiveness of food education to more of its population in order for it to further its overarching and underlying policy goals. Finally, the third objective highlights the recent efforts to legitimize the results of food education with concrete data. Obtaining this data would allow the Japanese government to gain credibility in stating the outcomes of its food education efforts.

Evolving from the results of the Super Food Education School Project, from 2017 to 2019 MEXT implemented “Promotion of Connected Food Education Project” (*tsunagaru shokuiku suishin jigyō,* つながる食育推進事業) with a similar but slightly changed focus (MEXT, 2020). The following overview of the program is listed on the website homepage (MEXT, 2020):

“In recent years, things such as unbalanced nutritional intake, disarray in children’s food lifestyles, and tendencies towards obesity and underweight have been seen, and in order to enable children to acquire proper knowledge related to food and desirable eating habits, the promotion of food education in schools is becoming a pressing matter. Additionally, as the environment surrounding food is undergoing large changes, in order to solve issues related to children’s food, implementation at home, the foundation of children’s daily lives, is essential.

For that reason, with nutrition teachers at the center and while the school acts as a core of cooperation between local food producers and related organizations and groups, as the school conducts more hands-on food education, and guardians also participate in planning such activities, a practical model for food education that is also connected to the continuous implementation of desirable food lifestyles practiced at home shall be constructed.”

近年、偏った栄養摂取など子供たちの食生活の乱れや肥満・痩身傾向などが見られ、子供たちが食に関する正しい知識と望ましい食習慣を身に付けることができるよう、学校において食育を推進することが喫緊の課題となっている。また、食を取り巻く環境が大きく変化する中、子供の食に関する課題を解決するには、子供の日常生活の基盤である家庭における実践が重要である。

このため、栄養教諭が中心となり、学校を核として地域の生産者や関係機関・団体等とも連携しつつ、学校においてより実践的な食育を行うとともに、その活動に保護者も参画し、家庭における望ましい食生活の継続的な実践にもつながる食育の実践モデルを構築する。

Elaborating on the overview above, the project holds the following aims (MEXT, 2019a):

1. Based on the development of approach methods towards households based on a connected network of people with nutrition teachers at the core, the implementation of hands-on experience activities for parents and children with the goal of facilitating an understanding of desirable food lifestyles, the promotion of efforts centered on the school that incorporating households, and the deepening of a comprehension of food at the household, which forms the foundation of children's daily lives, the cultivation of children's self-management ability in regards to food is aimed for.

2. Alongside the promotion of a food education curriculum including cross-sectional perspectives based on links between the school, household, local area, and food producers, based on the development of instructional and evaluation methods at the school-wide organization level centered on nutrition teachers alongside the strengthening of the cooperation among nutrition teachers and conducting of training, the improvement of the practical instructional ability of nutrition teachers is aimed for.

1. 栄養教諭を中核とした関係者の連携による家庭へのアプローチ手法の開発や、望ましい食生活への理解促進を目的とした親子による体験活動等の実施など、学校を核 として家庭を巻き込んだ取組を推進し、子供の日常生活の基盤である家庭にお

ける食に関する理解を深めることにより、子供の食に関する自己管理能力の育成を目指す。

2. 学校において、家庭、地域、生産者等と連携した食育を教科等横断的な視点をもって推進し、栄養教諭を中核とした全校体制による指導・評価方法の開発を行うとともに、栄養教諭間の連携強化、研修を行うことにより、栄養教諭の実践的な指導力の向上を目指す。 あわせて、新しい学習指導要領に基づき食育を推進するため、給食の時間や各教科等の中で活用できるよう食育を体系的にまとめた中学生向けの教材の作成を行う。

Compared to the Super Food Education School Project, the overview and aims for the Promotion of Connected Food Education Project indicate a greater focus on addressing health concerns related to children's dietary habits through school-based food education. Recognizing the limit of activities only related to the school, the overview and first aim identify that food education efforts need to expand beyond the scale of the classroom and have an effect on household practices as well in order to foster 'desirable' life habits. For this purpose, hands-on educational experiences are given a higher focus, particularly those that involve parents and guardians and thus have a potential extend the impact of information and messaging of food education beyond only students. The reference to 'desirable' life habits in the overview plus the reference in the first aim regarding the 'self-management ability' of children are reflections of the continued neoliberal tendencies found in the Japanese government's food education policy.

The call to involve local food producers in the overview and second aim is similar to that which was found in the Super Food Education School Project. The inclusion of this aim signals that the support of domestic agriculture is still a priority of Japanese food education policy. Interestingly, no reference is made to any regional disparity in the distribution of diet and nutrition teachers or implementation of food education, nor the need for better scientific monitoring of food education outcomes. This indicates that the Japanese government may now be satisfied with the level of saturation of food education in the nation and could be confident it its ability to quantify and thus legitimate the effectiveness of the program.

While these two programs are not complete representations of food education policy as it is practiced on the ground level in Japanese schools, they do offer insight into the direction of Japanese food education. Examples of how a model school chosen for these projects has implemented the objectives of these programs can be found throughout Chapter 5.

1.4 History of Japanese School Meals

In Japan, the school meals provided by nearly all of the nation's elementary and middle schools are called '*gakkō kyūshoku*.' While '*gakkō*' can be simply translated as 'school,' Ishida (2018) defines '*kyūshoku*' as an 'institutional food service' and describes that it carries a legal definition as having to be nutritionally managed under the Health Promotion Act. In the context of this research and in line with the general usage of the word, *gakkō kyūshoku* will be translated alternatively as 'school meals' or 'school lunches,' and any reference to just '*kyūshoku*' is taken to be shorthand for *gakkō kyūshoku*.

In his 2018 book *Kyūshoku no Rekishi* (The History of Kyūshoku), historian Fujihara Tatsushi divides the history of school meals in Japan into four periods: germination (*hōga*, 萌芽), occupation (*senryō*, 占領), development (*hatten*, 発展), and reform (*gyōkaku*, 行革). These periods corresponding to the time from the late 19th century to the end of WWII for

germination, the end of the war until 1952 for reform, the end of the US occupation until the 1960s for development, and then the era beginning from the 1970s until the present day for reform. In brief, in the germination period school lunches began as a project to support poor and malnourished children at end of the 19th century, and gradually came to be expanded to larger and larger groups of children regardless of economic or physical status, eventually becoming institutionalized and expanded to 3 million children across several cities in Japan by 1947 (Fujihara, 2018; Ishida, 2018). Following Japan's defeat in WWII, under the government of the US occupation the national school lunch program was kept and expanded to fighting the widespread malnourishment of the war-devastated population, although with the additional political and economic layers of being a captive market for US food exports, particularly wheat (Fujihara 2018). The school lunches offered nationwide from this point on were very different from previously traditional Japanese diets, as they centered on milk, initially in the form of powdered skim milk (*dasshifunyū*, 脱脂腐乳), and bread typified by *koppepan* (a hot-dog bun like bread roll) (Fujihara, 2018; Ishida, 2018). This system was formally codified in 1954 with the legislation of the School Lunch Act, which included the following four goals as described by Ishida (2018, pp. S6):

1) Promote a better understanding of diet in everyday life and cultivate desirable dietary habits.

2) Enrich school life and cultivate bright sociability.

3) Promote streamlining of dietary life, improvement of nutrition and enhancement of health.

4) Lead to a proper understanding of food production, distribution and consumption.

From these goals, it is clear that even in the original conception of the School Lunch Act school lunches were intended to influence children's dietary habits towards patterns considered 'desirable,' improve health and nutrition, and teach children about the food system – all core tenets of modern *shokuiku*. It is important to note that in goal 3, school meals are also tied to the cultivation of 'sociability,' meaning that the school lunch experience is intended to impart lessons to the children regarding desirable social behaviors (such as camaraderie).

As time passed, school lunches changed in response to changing nutritional and educational standards as well as political motives. For example, following the declining domestic consumption of rice as Japanese diets changed in the post-war decades, the Japanese government was seeking ways to improve domestic demand for rice. As the eating habits of citizens changed, they looked to the school meal system as a captive market that could buy domestic rice, similar to the way in US government once used the Japanese school meal system as a guaranteed market for its surplus wheat (Fujihara, 2018). So, in 1976 cooked rice was formally incorporated in school lunches after decades of mostly only bread served as a staple carbohydrate, and the proportion of rice served in school meals has increased since then (Fujihara, 2018; Ishida, 2018).

In the last decades of the 20th century, some schools at individual municipal levels were responsive to efforts to consume more local food under the national push for *chisan chishō* by sourcing local ingredients, although there was no official national policy change (Ishida, 2018). This trend continued as did the growing public consciousness of increasing incidence of lifestyle related diseases like obesity, although ironically the changing tastes of Japanese society towards 'Western' diets that were perceived to cause these problems was itself promoted for decades by dairy and wheat forward school meals across the nation (Fujihara 2018).

Nonetheless, as part of the policy flow responding to these social challenges the school lunch system changed following implementation of the Diet and Nutrition Teacher System and Basic Act on Shokuiku in the mid-2000's. As mentioned in the previous section, diet and nutrition teachers under this system are not only expected to supervise school meal menus to ensure that they meet appropriate nutritional standards, but they are also tasked with implementing food education activities to improve overall dietary habits of children. As shown above, much of the intent behind school meals was already closely aligned with modern *shokuiku* principles, and so immediately school meals became a powerful tool for food education. This phenomenon was demonstrated institutionally in the revision of the School Lunch Act in 2008, which officially tied school meals with the food education framework and defined the eating of school meals as an 'educational activity' (Ishida, 2018).

Under the revised law, new goals added to the School Lunch Act as described by Ishida (2018, pp. S6) include "the maintenance and enhancement of health through appropriate nutrition," "the ability to make sound judgements about eating throughout life," "an attitude that contributes to environmental conservation," and "a better understanding of the excellent traditional food culture in our country or in each region." Thus, the marriage of ideologies behind *kyūshoku* and *shokiku* was made complete with additional references to the neoliberal shift of responsibility for individual well-being from the state onto individuals, such as the mention of 'sound judgements,' and continued the use of 'food culture' to signify a construction of a national or regional identity. These changes further underscored the position of school lunches as a part of food-based pedagogy designed to educate and shape citizen behavior according to defined policy agenda (Ishida 2018, Takeda et al 2016).

Despite these criticisms, however, it remains that Japanese school lunches as a whole have been found largely to have a positive impact on the nutrition and health of Japanese youth in terms of adequate nourishment for growth and reduction of childhood obesity rates (Kaneda

and Yamamoto 2015), although this discourse has been complicated somewhat in the post-disaster criticisms of the school lunch program (see Section 2.2, Kimura 2016; Reiher 2016).

In order to visualize the converging ideological and implementation pathways of food education and school lunches in Japan, a simplified timeline is offered in Figure 2.

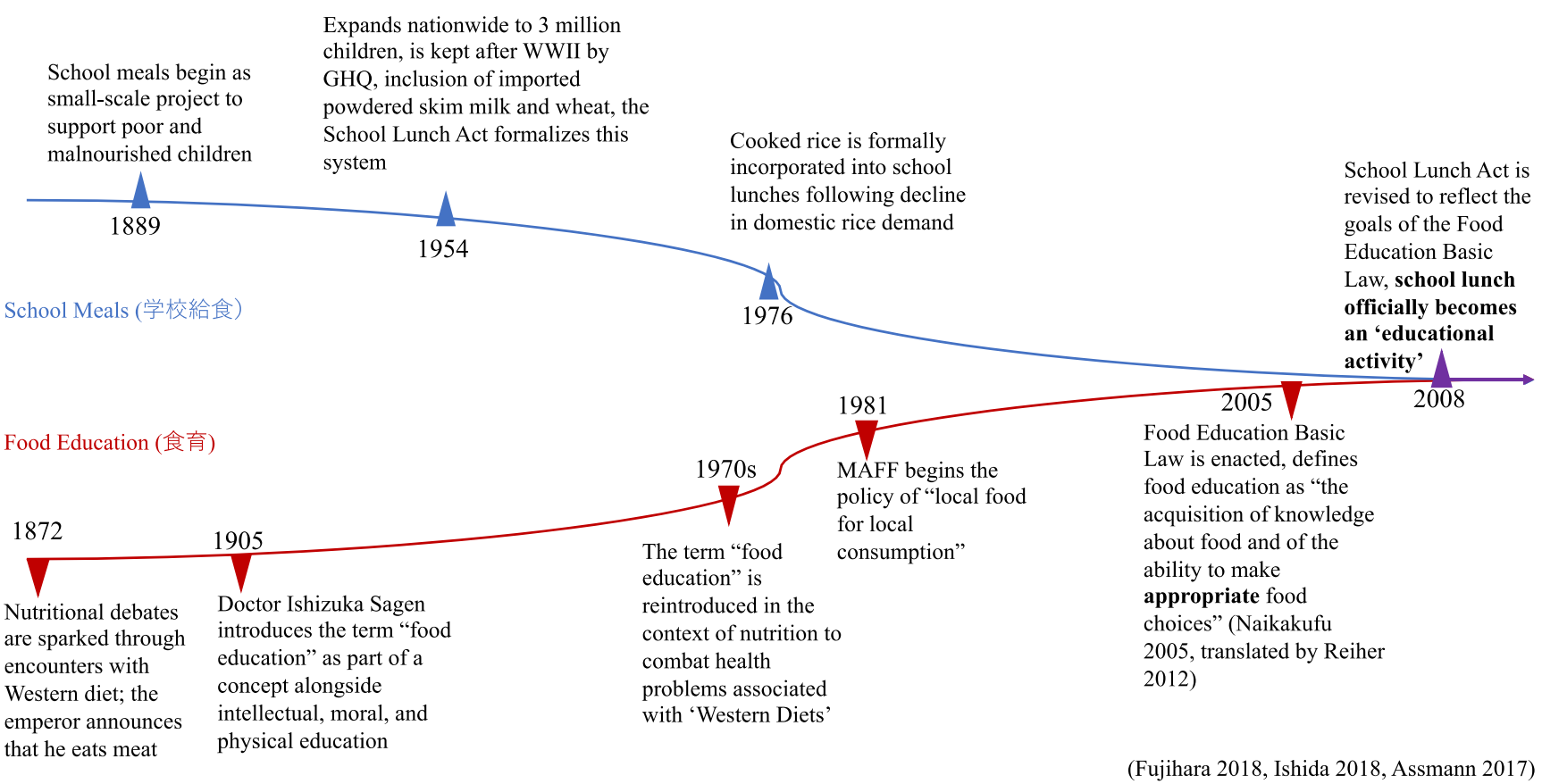

Figure 2 Converging timeline of school meals and food education in Japan

2 Literature Review

2.1 Risk and Trust Post-Fukushima

The concept of the 'risk society,' was first introduced by German sociologist Ulrich Beck and expanded by British sociologist Anthony Giddens, whose works have proven to be extraordinarily influential in our understanding of modernity and its features (Beck, 1986, 1992; Giddens, 1990, 1999). The 'risk society' or 'world risk society' is one in which the process of modernization itself has induced wide range of human-created hazards and uncertainty which present complex problems that require legitimation and recognition in order to be socially recognized as 'risks' (Beck, 1998). The process of the production, recognition and legitimation of, and reaction to, such risks is seen in the terms of the risk society as an expression of the reflexive process of modernization, in which society examines itself and changes further as a result of the changes introduced by modernization, such as the development of new technologies (Beck, 1998). Since Beck's original German text on the risk society, published directly after the Chernobyl nuclear disaster in 1986, the potential danger of nuclear radiation is often presented as a prime example of a risk produced by modern technology that has to be socially recognized and scientifically legitimated in order to become 'realized,' as both external airborne radiation and radiation-contaminated objects and food products are not detectable by human senses (Beck, 1986, 2011). Furthermore, the fact the nuclear accidents have happened continuously since the Chernobyl incident speak to the social role in the need to identify, legitimate, and properly address risks, or, alternatively, the potential to ignore such risks by those who can manipulate this social process. It is clear in the risk society that many risks are beneficial to certain groups, and the burden of such risks is often place disproportionately on groups who are less able to speak or act out against them (Beck, 1998; Yoneyama, 2013).

Indeed, the perception of any given risk is a key factor for how society decides to act to mitigate that risk, and as a result is a high-stakes battleground for manipulation. For many risks, such as the radioactive contamination from a nuclear disaster or the current global pandemic caused by the novel coronavirus SARS-CoV-2, some degree of specialized knowledge is needed in order fully comprehend the risk, which is why community and individual risk perception often relies on sources of scientific legitimation. However, the general portrayal of such risks and how they are communicated to the general population is subject to a wide variety of political, cultural, economic, and social influencing factors, and sources of such scientific legitimation of risk themselves are similarly subject to influence and manipulation. As such, risk communication is a highly important yet also highly manipulatable feature of the social and scientific recognition and legitimation of risk.

With the natural-technological disaster triggered by the Great East Japan Earthquake (GEJE) on March 11th, 2011 and exacerbated by various in failures preparation and foresight by the Tokyo Electric Power Company (TEPCO) and the Japanese government that ultimately resulted in the meltdowns at the Fukushima Daiichi nuclear power plant, Japan found itself at the center of the world risk society (Beck, 2011; Hasegawa 2012; Abe, 2015; Boroinowski, 2017) The Japanese government's risk communication and safety efforts after the Great East Japan Earthquake have been heavily criticized by several authors, particularly in the realm of food safety (Figueroa, 2013; Hobson, 2015; Miller, 2016; Kimura, 2016, Reiher, 2017, among others). These criticisms are based on the post-disaster changing of standards by the Japanese government regarding acceptable radiation levels within foods, the lack of transparency and failures of government radiation testing and decision making - including some cases where contaminated food above government standards was sold to consumers and used in school lunches – and, despite the exposure of such failures, repeated assurances of the safety of food available on the market despite scientific uncertainty of the long term effects of internal

radiation exposure (Sternsdorff-Cisterna, 2015; Kimura, 2016; Assmann, 2017). This occurred amongst the backdrop of a history of similar environmental contamination disasters dating back several decades in Japan, and indeed the issues of food safety, risk, and risk communication raised by the Fukushima nuclear fallout, as well as the uneven burden of such risks on rural and fishing communities, bears a striking resemblance to the case of Minamata disease in the 1950's and 60's (Yoneyama 2013). Several authors highlight how these issues directly relate to food education and the school lunch program in Japan, with particular regard to the state ideologies contained within these top-down, state-enforced political measures, gender politics of the role of food and food providers, and the construction of the neoliberal citizen. Their arguments are summarized in the next section.

As we navigate the academic discourses on risk communication, perception, legitimation, mitigation and so on, 'trust,' especially the loss or lack of it, is mentioned often, and forms a key part of understanding people's relationship with risk both collectively and as individuals. After all, both 'risk' and 'trust,' even in lay terms, are concepts that are key to our understanding of how people behave. Within and beyond the social sciences literature as well, there are many, many discussions on the nature of risk and trust, and their relationship to any number of topics, including food. Though the nuanced definitions and understandings of the role and function of risk and trust are thus numerous, for the purposes of the specific arguments outlined in this paper, it is useful to apply the 'risk-based view of trust' proposed by Das and Teng (2004), a framework which links the two concepts together.

Based on a detailed literature review of the different conceptions of trust and their comparison with different aspects of risk, Das and Teng provide a detailed argument for their assertion that "two very different constructs (trust and risk) are actually theoretically opposites" and are thus intimately related (Das and Teng, 2004). Firstly, regarding perceived risk and 'subjective' trust (in essence the belief that the outcome of a situation or actions of another

party will be beneficial or acceptable), they explain that "[…] both subjective trust and perceived risk represent the assessment of outcome probabilities of the same event. The crucial difference is that, whereas subjective trust portrays the assessment in a positive light — that is, the probability that the outcome will be what is desired — perceived risk describes the situation in disquieting hues — the probability that the outcome will be what is feared" (Das and Teng, 2004, pp 110). Secondly, regarding the relationship between subjective trust and 'behavioral trust' (in essence, the actual 'act' of trusting, in which the trustor relies on the actions of the trustee), they state, "We concur with many scholars that behavioral trust is risk taking. As such, the relationship between subjective trust and behavioral trust is tantamount to, and can be substituted by, that of perceived risk and risk taking" (Das and Teng, 2004, pp 111). Thus, risk and trust can be understood as mirror images of one another, such that "a perception of trust indicates a low level of risk, which then makes the subject more willing to undertake the risk and thus grant trust" (Das and Teng, 2004, pp 111).

This view of risk and trust is from the perspective of the trustor and is useful to understand theoretically and practically how risk and trust are connected. Based on this conception, issues related to risk communication, perception, and legitimation can be understood as problems related to individual and social trust with greater clarity and theoretical grounding. For example, with the complex risks emergent in the risk society that require some form of scientific legitimation, how a risk is perceived is ultimately reliant on the degree of trust individuals and societies have in the organizations or institutions responsible for both the scientific legitimation and the communication of said risk.

This phenomenon can be understood in terms of the relationship between salient value similarity, social trust, and risk/benefit perception offered by Siegrist et al. (2000). First defining social trust as "the willingness to rely on those who have the responsibility for making decisions and taking actions related to the management of technology, the environment,

medicine, or other realms of public health and safety," Siegrist et al. argue that such trust is most necessary when individuals lack "the interest, time, abilities, knowledge, or other resources to personally make decisions and take actions," pointing to science and technology as key areas where this is often the case (Siegrest et al., 2000, pp. 354). Thus, put in terms of the risk society, social trust is a key component to the success or failure of risk legitimation, communication, perception, and mitigation.

Additionally, social trust is not necessarily monolithic, nor are the 'expert' individuals or organizations on which that trust is based. Tying the assessment of risks associated with technology to trust, Siegrest et al. state, "For almost all technologies there are specialists who are in favor of the technology and there are experts who have objections against it. Lay- people will have social trust in experts who appear to hold similar values. People will, therefore, accept as true the risks and benefits identified by experts who share their values" (Siegrest et al., 2000, pp. 359). Thus, risk perception and legitimation that is necessarily based on social trust is subject to determination based on values about who and what can be considered 'trustworthy.' Consequently, as seen in the aftermath of the Fukushima nuclear disaster, in the case that generally socially trustworthy institutions such those associated with the national government are clearly shown to have acted in a way that betrays social trust, then efficacy of their efforts communicate risk and shape risk perception is severely lessened, causing the desire for alternative modes of more trustworthy risk-legitimation (Sternsdorff-Cisterna, 2015; Kimura, 2016; Miller, 2016; Reiher, 2017). Furthermore, this allocation of trust to those that share similar values may then take the form of increased trust in individuals or institutions that are more closely related to oneself. In terms of recovery from the March 11th triple disaster, such a phenomenon was observed in disaster affected communities in Tohoku, where social capital among survivors and area residents increased while social capital between the citizens and the state apparatus decreased (Aldrich, 2017).

As demonstrated in the previous sections on food education and school lunches in Japan, the advancement of state-promoted ideologies and value setting through food education (as well as education in particular) is intended to have significant, tangible consequences on the way people think and behave. This naturally includes decisions on what is considered trustworthy and what is not, as seen, for example, in the national government-supported push to view domestically produced foods as safer (i.e. less risky) than imported alternatives. Extended to the post-Fukushima Japanese social landscape, the perceptions of the risk of nuclear radiation exposure via contaminated food products and trust in institutions that are held responsible for consumer safety have clearly been significantly impacted in the aftermath of the disaster (Aruga, 2017; Walravens, 2017; Feldhoff, 2018). As the primary state apparatuses responsible for educating citizens about food, including its safety, food education and school lunches already played a significant role in shaping social trust and risk perception surrounding food in Japan before the disaster, and this role has taken on new significance in the post-Fukushima era. The next section elaborates on this role through an exploration of the multiple criticisms of the Japanese food education and school meal system in this context.

2.2 Problematizations of Food Education and School Meals Post-Fukushima

To begin with, as demonstrated in Section 1.2 and 1.3, several authors highlight that the protection and promotion of domestic agriculture through the food education campaign in general is tied to the construction of the Japanese national and ethnic identity, and that the explicit goal-setting of promoting ‘Japanese cuisine’ is tied to nationalistic notions of dutiful citizenship (Assmann 2017, Takeda et al 2016, Yotova 2016, Reiher 2012). Kimura (2017) highlights how food education was a part of the rise in nationalist discourses after the disaster in 2011, using the term ‘gastronationalism’ to describe efforts by the Japanese government to protect and promote Japanese food as safe and desirable for consumption both domestically and on the international market. Along these lines, several pieces of research have

demonstrated that under the food education framework the Japanese government prioritized the support of producers in radiation-affected areas at the expense of the safety and trust of consumers who were worried about the possibilities of radioactive food (Assmann, 2017; Takeda et al., 2016; Yotova, 2016; Reiher, 2012). Furthermore, although the Japanese government was largely responsible for exacerbating consumer unease and fears about radiation through their lack of institutional transparency and changing radiation standards, those who spoke up with concerns about radiation standards and questioned the government assurances of safety were harshly criticized as contributing to *fūhyō higai*, or 'reputational damage' (Kimura, 2016, 2017). Under the *fūhyō higai* discourse, those who questioned government narratives of food safety were accused of contributing to harmful stigmas against products produced in radiation-affected areas, especially Fukushima prefecture, with this 'reputational damage' leading to a sharp decrease in the price and demand for products produced by many farmers and fishermen (Kimura, 2016; Aruga, 2017; Sawano et al., 2018). So, those charged with furthering *fūhyō higai* were seen and unpatriotic and irrational actors who failed to support their fellow citizens and ignored the expert scientific advice of the government and associated parties (Kimura, 2016; Aruga, 2017; Sawano et al., 2018).

However, despite government efforts to promote safety through data and solicitation of expert opinions, there remained a large amount of distrust in the government statistics and associated scientists due to their associations with the so-called 'nuclear village' (*genshiryoku mura*) and perception as being beholden to government authorities (as indicated by the term *goyōgakusha*, roughly translated as 'government-use-scholar') (Kimura 2016). These criticisms clearly highlighted the distinct gender politics of risk communication and the scientific legitimation of risk related to food, as it was often concerned mothers who spoke out over concerns about what their children were eating at home and school lunches (Kimura, 2016). These mothers were subject to heavily gendered criticisms of their irrationality and lack

of scientific literacy, and so many turned to seek alternative methods of legitimation through citizen radiation monitoring stations/organizations (CRMS/Os) and to forms of collective action to demand more comprehensive testing by municipal governments and schools, which in many cases did uncover instances of previously undetected radiation risk (Sternsdorff-Cisterna, 2015; Kimura, 2016). The most famous such incident was the so-called "cesium beef scandal," in which beef contaminated with radioactive Cesium isotopes far above government standards was used as an ingredient in school meals served to children in Kanagawa Prefecture in 2011 (Kimura, 2016).

Amidst such faults of safety measures by the Japanese government, many CRMS/Os were created throughout Japan by people seeking alternative forms of legitimation and visualizing invisible risks (Kimura, 2016; Reiher, 2016). Furthermore, many cooperatives and food suppliers offered standards and testing that were stricter than government standards in order to assure concerned consumers, something that the Japanese government actively discouraged (Sternsdorff-Cisterna, 2015). The actions and 'correct' ways of thinking regarding food set by the government and perpetuated by media and organizations aligned with government agencies amounted to something Kimura termed "food policing," and also has links to governmentality through the state promotion of food pedagogy (Kimura 2016, Assmann 2017). It is in this context that the push for consumers to continue to eat locally produced food and support farmers in disaster affected regions through the national food education campaign is stated as one that "actually endangers the health of Japanese citizens," despite the stated goal of food education to provide knowledge for consumers to make healthy choices about food (Reiher, 2012).

Kimura in particular discusses how the ideal of the neoliberal citizen shifts the burden of maintenance of health and welfare and the responsibility of one's welfare away from the state apparatus and onto the individual citizen, a process she calls "responsibilitization" (Kimura

2011, Takeda et al. 2016). In addition, Kimura demonstrates how the ideal neoliberal citizen is encouraged to take on this burden and responsibility so as not to interfere with the smooth operation of state and economic apparatuses, another factor that discouraged citizens and mothers in particular from raising concerns over radiation after the disaster (Kimura 2016). This was demonstrated in the encouragement of citizens to take their own measures to avoid the risk of radiation exposure, such as avoiding certain foods and areas altogether or adopting certain daily practices like boiling every vegetable and discarding the water before eating to reduce potential harmful radiation exposure. Thus, as ideal of the neoliberal citizen plus individualization and rationalization in the world risk society shifts the burden of health and welfare onto the citizen, any culpability for the structural elements that create the burdens in the first place is ignored (Kimura 2016).

This theme is echoed in Beck's explanation of individualization within risk society, in which problems that are deeply rooted in larger social structures are personalized and imagined as problems of the individual instead (Beck 1998). Furthermore, unevenness of this individualization process under neoliberalism is also seen in the stated goal to mitigate the loss of traditional foodways that are tied to nostalgic ideals of the Japanese family and dining table, which in turn is predicated on a gendered division of labor that is still held as an implicit ideal in upholding Japanese culinary heritage (Kimura 2016). With regard to how neoliberalism at large has affected food education and school lunches, the latter is a business valued at approximately 4.7 billion dollars annually and is thus subject to the same political and economic manipulation as any large industry, including cost cutting measures that tend to prioritize cheaply available food (such as those sourced from disaster affected areas, leading to safety scandals in some cases) (Fujihara, 2018). This incentive for cost cutting is made stronger in the current economic climate of Japan, with declining municipal tax revenue and thus lower budgets amidst due to aging and depopulation, particularly in rural areas (Kimura 2017). All

of these issues related to food education crystallize in the form of the school lunch, particularly because for decades they were compulsory, with children being commonly forced to clear their plates or face punishment (Fujihara, 2018). After several scandals and changing opinions, students are no longer technically forced to eat their meals, but are still highly encouraged to do so. This compulsory nature is unique and is the subject of much discussion and debate, even separated from the context of the post-Fukushima landscape. Fujihara (2018, Preface, paragraph 5), relating the compulsory nature of school meals with its status as a neoliberal exercise in governmental control influenced by market interests, writes:

"Firstly, there is the way of understanding school meals as a direct and collective exercise of authority by America, the government, corporations and schools over children. It is probably okay to include within that understanding a view of school meals as a forced restructuring of food lifestyles for the purpose of cultivating future human resources and market development […] It can be said that forbidding children to leave their seats until they have finished their meal is the single easiest to grasp expression of authority by teachers towards children."

「まず、給食を、アメリカ、政治、企業や学校の、子どもに対する直接的かつ集団的な権力行使ととらえること。将来の人材育成と市場開拓のための強制的な食生活の改造とまとめてもよいだろう[…]食べ切るまで席を立つことが禁止されるのは、先生の児童に対する最も分かりやすい権力の発現と言える。」

In the context of the post-disaster era when many parents were uncertain about the safety of school meals, it has been argued that this expression of authority over children by schools through the compulsory nature of school meals creates a "food dilemma," in which tensions and doubt can often form between parents over who to trust regarding the safety of their children's food and how to approach the navigation of invisible radiation risks (Yotova 2016).

Contributing to this dilemma is the reinforcement of the value of social and cultural 'sameness' through school lunches embodied by the phrase "to eat from the same pot" (*onaji kama no meshi wo kū*), which forms a "praxis of building solidarity and camaraderie" (Kimura, 2017, pp 464). This social valuation of sameness juxtaposed against bullying for being different, as observed in the criticism of Fukushima children who brought boxed lunches to school or those whose parents did not want them to drink milk as part of their school lunches as being against their fellow prefectural citizens (*hikenmin*, 非県民) (Sawano et al., 2018). Moreover, the solidification of school lunches as an official educational activity after 2008 under the revised School Lunch Act made it more difficult for children to opt out of school lunches, as the argument could be made that the child was missing out on official learning time or experiences by not sharing the same meals as their classmates.

Critically building on the principle of solidarity in sameness that is fostered by food education policy, Takeda et al. (2016) state the following:

"In modern Japan, there is a strong post-war ideology that all 100 million Japanese are middle-class (*Ichioku sou churyu*); consequently, public policies overlook the diversity within the society, including socio-economic and urban–rural disparities. By focusing on normative discourses, the *Shokuiku* campaign serves to marginalise socially and emotionally vulnerable populations, as well as rural agricultural producers inside and outside of Japan."

Here, Takeda et al. highlight the contradiction inherent within the valuation of sameness enforced by food education discourses, which is argued to contribute to increasing disparity by working to promote narratives meant to apply to an imaginary homogeneous whole. In the post-Fukushima era, this is especially damaging because such disparities in the uneven risk burden on those living in the vicinity of the Fukushima Daiichi nuclear plant were laid bare, as

the majority of people who actually benefitted in financial or energy terms from the plant were those who did not have to bear the brunt of radiation exposure following the disaster.

Ultimately, several authors understand the various criticism of the school meal and food education practice in Japan after the GEJE as indicative of how pedagogy functions as space for politics, as famously argued by Foucault (Assmann 2017, Kimura 2017, Takeda et al., 2016). At the least, it made apparent here that food education is a highly influential actor in shaping normative ideologies in Japan. In the context of Japan after the 2011 disaster, the discourses surrounding these ideologies have been questioned critically, although whether these criticisms will lead to lasting change remains to be seen. If anything, as seen in the national government-led food education promotion activities Section 1.3, it appears that recent food education efforts rely even more on a focus on issues at the individual and family level in an effort to spark behavioral change, reinforcing 'individualization' and 'responsibilitization' in the neoliberal spirit of governmentality.

2.3 Research Gap

The works highlighted above draw from a variety of methodologies and academic backgrounds to successfully approach numerous issues related to trust, risk, food education, and school lunches from different angles. However, the current research does not yet include any type of analysis of the implementation of state-promoted food education and school lunch activities in a community affected by the full force of the March 11th, 2011 triple disaster. Furthermore, although there are several discussions about other food-related efforts in the realm of rural revitalization (see Love, 2007, for example), little research has been done about the role of food education and school meals in rural communities as a means of revitalization in the context of disaster recovery.

With that being said, existing research that has been conducted regarding food education and school lunches in schools in disaster affected areas, including Fukushima, has focused primarily on applying analytic and survey methodologies that focus on health and nutritional perspectives, such as measuring the capacity of schools in disaster affected areas to provide adequate nutrition to students or investigations of changes in children's eating habits post-disaster (Kogure et al., 2013; Tanabe et al., 2015; Nakaoka et al., 2018; Yamada et al., 2019). Furthermore, unlike the research previously cited, which is highly critical of the role of food education and school lunches, most of this research is published in Japanese and contains positive perceptions of the role of food education and school lunches. For example, consider the following final sentences from Nakaoka et al.'s study on the status of and problems faced by preschools in disaster-affected areas in their food education efforts (2018, pp. 229):

"Based on the present research, we were able to obtain valuable data for the purpose of supporting children's food education. Because food education in early childhood is connected the development of rich human nature, such as the health of the body and mind, and the establishment of appropriate ways of eating and desirable eating habits, further support for the advancement of food education is expected."

「本研究により、子どもたちの食育支援のための貴重 な資料を得ることかできた。幼児期の食育は、適切な 食事のとり方や望ましい食習慣の定着、心と体の健康など豊かな人間性の育成につながることから、今後の 食育推進のための支援か望まれた。」

In this context, it becomes clear that while there is research primarily published in English that has forcefully demonstrated the deeply political and ideologically-driven background of food education and school lunches and their problematic roles in the post-Fukushima Japanese

food landscape, conversely there is research published primarily in Japanese that holds the role of food education and school lunches in a positive light without much acknowledgment or questioning of the issues raised by the former category of research.

So, based on this stark difference and the above-mentioned lack of a study that has attempted to understand the role of food education and school lunches in connecting stakeholders within a rural community, particularly in the context of post disaster resilience and sustainability, there is a clear gap in the present literature. The research outlined in this paper offers an attempt to fill that gap through a study based in 'on-the-ground' methodologies that can offer a deep, critical look into the food education and school lunch practices in a disaster-affected community as an avenue for stakeholder connection and community resilience while simultaneously acknowledging and critically analyzing such activities' contribution to value-setting and the promotion of state-prescribed ideologies. Additionally, the research attempts understand the local community's perception of and involvement in food education and school lunch activities as well as properly take into account the broader historical and cultural context in which those activities occur, including the effect of the disaster.

The site and methodologies to conduct such research are outlined in the next chapter.

3 Research Objectives and Methodology

3.1 Site Selection: Shinchi, Fukushima

In order to address the research gap identified above, a study grounded in a specific case site that employed ethnographic-type methodologies, such as key-informant interviews and participant observation was sought after. The rationale for selecting the chosen case site is outlined below, and the author's experiences in the case site before beginning the research presented in this paper reflexively informed the primary research objectives and choice of methodology, to be explained below.

Shinchi Town is located at the northernmost end of the 'Hamadori' region of Fukushima prefecture, bordering Miyagi prefecture to the north and west, facing the Pacific Ocean to the east, and bordering Soma City to the south. Together with Soma City, it forms the administrative area of Soma-gun (akin to a district or county). Shinchi suffered greatly during the GEJE, during which 118 people were killed and 516 households were either totally, critically, or partially destroyed along coastal areas due to tsunami inundation (Shinchi Town, 2016a). In addition, several vital pieces of infrastructure were destroyed or damaged, such as the JR train station and the fishing port (Shinchi Town, 2016a). The extent of tsunami inundation in Shinchi at the time of the GEJE can be seen below in Figure 2.

Due to favorable wind conditions at the time of the disaster and Shinchi's relative distance from to the Fukushima Daiichi nuclear plant (approximately 50km), the area was not contaminated by radioactive material as much as many other areas of Fukushima, and no evacuation orders were issued for residents. On March 31th, 2011, Shinchi's airborne radiation measured at 0.45 μSv/h, which corresponds to a yearly dose of 3.9 mSv, slightly above the global average yearly radiation dose occurring due to background radiation, 2.4mSv, but still well within the range long considered safe by the Japanese government and international nuclear bodies (Fukushima Prefecture Radioactivity Measurement Map, 2020; MEXT, 2016).

Fortunately, the airborne radiation levels decreased in Shinchi quickly, falling to 0.17 μSv/h within six months. As of June 2020, Shinchi's airborne radiation levels at various locations were measured to range from 0.04 μSv/h to 0.13μSv/h, levels comparable to those of areas several hundreds of kilometers away from the Fukushima Daiichi plant (Shinchi Town, 2020; Fukushima Prefecture Radioactivity Measurement Map, 2020).

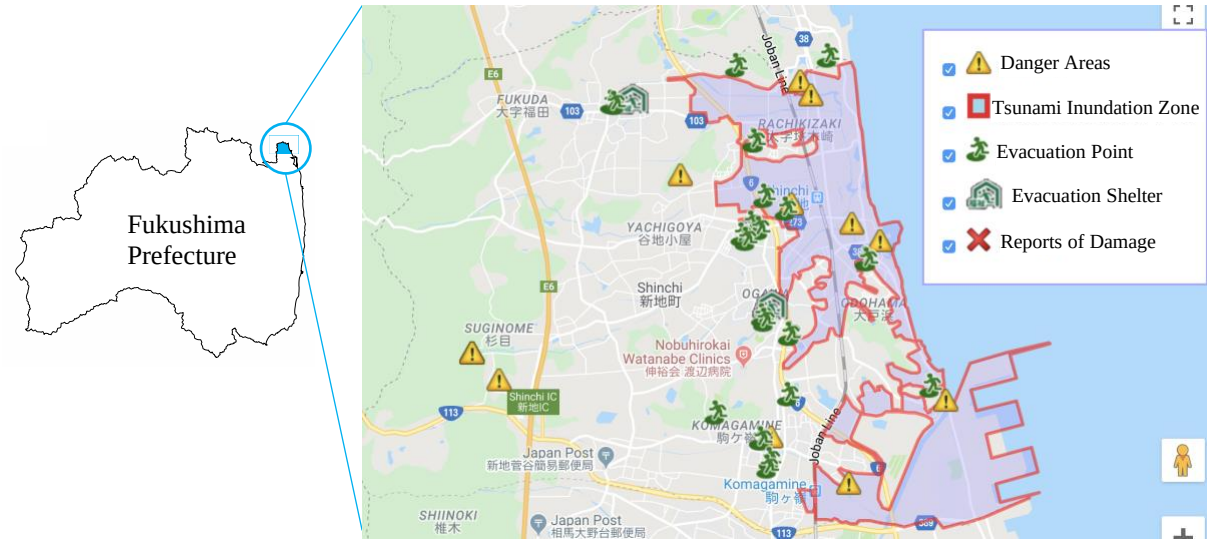

Figure 3 Left: Position of Shinchi in relation to Fukushima prefecture. Right: Shinchi disaster prevention map (adapted from Google Maps by Shinchi Town).

Following the GEJE, in mid-2011 the Japanese government designated Shinchi as a model city as part of its "Future City" Initiative, an initiative established in June, 2010 as a new growth strategy that aimed at promoting the establishment of smart energy grids and power plants utilizing renewable energy in certain strategic cities and towns (GSFS, 2020a; Shinchi Town, 2016b). These efforts in Shinchi center on infrastructure development related to the development of a 'smart' energy system utilizing liquid natural gas (LNG) from the nearby Soma LNG Plant operated by Japan Petroleum Exploration Corporation Ltd. (JAPEX) (Shinchi Town, 2015). The University of Tokyo's Graduate School of Frontier Sciences (GSFS) began cooperating with Shinchi Town in 2016 on a variety of town-planning and community-building projects, and the overall GSFS-Shinchi project was adopted as "The Promotion Projects of

Fukushima Innovation Coast Framework Utilizing Knowledge Possessed by the University[6]" under the framework of the national Fukushima Innovation Coast Framework policy established by the Ministry of Economy, Trade, and Industry (METI) (GSFS, 2020a; METI, 2020).

In line with the project's aim of a public-private-academic partnership, as a part of the GSFS's Shinchi Project framework, select students belonging to the Graduate Program in Sustainability Science - Global Leadership Initiative (GPSS-GLI) conduct research, learning, and exchange activities in Shinchi as part of their field exercise classes in order advance the stated goal of "social dynamics analyses through Graduate School's project exercises regarding 'Sustainability Science' and the assistance to the formation of settlement environments based on the understanding of their needs[7]" (GSFS, 2020b). The author first encountered Shinchi as a participant in these field exercises under the Global Field Exercise (GFE) framework in GPSS-GLI in November of 2018, continuing through January 2020. During the course of these exercises, the author became familiar with Shinchi and had the opportunity to build a trusting relationship with several residents and town government officials. These relationships and key information gathered from observations and interviews during the field exercises reflexively informed the selection of Shinchi as a case site suitable for the present research, as well as much of the research structure itself, for the reasons explained below.

Firstly, Shinchi's schools have been distinguished nationally for their efforts towards food education. In 2014 and 2015, Shinchi's three elementary schools (Komagamine, Shinchi, and

[6] Translation by GSFS, originally: "大学等の「復興知」を活用した 福島イノベーション・コースト構想促進事業"

[7] Translation by GSFS, originally: "「サステイナビリティ学」に関する大学院プロジェクト演習を通した社会動態分析とニーズ把握に基づく定住環境の形成支援"

Fukuda Elementary Schools), and only middle school (Shōei Middle School), applied together and were selected as group of model schools for MEXT's "Super Food Education School Project," representing one municipality out of only 33 chosen nationwide in 2014, and 30 in 2015 (MEXT, 2014a; MEXT, 2015). Furthermore, in 2014, Shinchi's schools were the only to represent any municipality in the prefectures which were most heavily affected by the GEJE, Iwate, Miyagi, and Fukushima (MEXT, 2014a). In addition, Shinchi Elementary School was selected as a model school for MEXTs "Promotion of Connected Food Education Project" for the three-year duration of the project, one of only 15 schools in 2017, one of 13 in 2018, and one of 21 in 2019 (MEXT 2017; MEXT, 2018; MEXT, 2019). During that time, Shinchi Elementary School was the only representative of an elementary school from Fukushima. So, as one of the only municipalities in Japan with such a recent history of national recognition and attention given to its food education efforts, one of only two such municipalities among those selected from Fukushima prefecture (the other being Miharu Town) that had to deal with concerns over local radioactive contamination post-GEJE, and the only municipality that additionally had to recover from heavy physical damage and human casualties, Shinchi presents a unique case for studying the effects of food education and school lunches on recovery in an disaster-affected area in Japan.

Secondly, the ethnographic methodologies employed were facilitated by the personal and institutional relationship network built in Shinchi during the course of the author's field exercises, which included a wide variety of formal and informal interactions with local stakeholders (see Figure 3). This relationship building is often termed 'building rapport' and is a key element of successful ethnographic research, as highlighted in the passage below from LeCompte *Designing and Conducting Ethnographic Research* (LeCompte and Schensul, 1999, pp. 10; emphasis in original):

"[…] *ethnographers must become intimately involved with members of the community or participants in the natural settings where they do research. Intimate involvement means building trust between the researcher and participants and often calls for a special kind of friendship* […] Trust is not built overnight – it takes time and considerable effort. It takes even more time and effort when the researcher is perceived as different from the research community in such distinguishing features as gender, social class, culture, ethnicity, race, language, religion, caste, or role."

This passage applies particularly in the present research, as the author's own positionality as a cisgender, heterosexual, male-expressing, non-native Japanese speaking, American national conducting research and other activities as an official student of the University of Tokyo influenced the ways in which trust and rapport was built. So, especially considering the time constraints on research, building even a small degree of rapport with the people of Shinchi over time was extraordinary critical to allow the present research to be conducted. Although naturally there were still limitations to the extent to which rapport could be built, the author is confident that much of the participant observation conducted in Shinchi would have been unlikely to occur without the trust built over the course of the field exercises and beyond.

Thirdly, the author's prolonged experiences in the case area allowed for a greater understanding of the role of reflexivity in the research process. Reflexivity is a concept important to ethnography, social science in general, and sustainability science in particular, especially in the context of inter- and transdisciplinary research that attempts to bridge scientific and other stakeholders groups in the creation of knowledge and the contribution of solutions to sustainability problems (Knaggård et al., 2018; Popa et al., 2015). In *Reflexive Ethnography: A Guide to Researching Selves and Others*, Charlotte Aull Davies writes (2008, pp. 4-5):

"Reflexivity, broadly defined, means a turning back on oneself, a process of self-reference. In the context of social research, reflexivity at its most immediately obvious level refers to the ways in which the products of research are affected by the personnel and process of doing research. […] While relevant for social research in general, issues of reflexivity are particularly salient for ethnographic research in which the involvement of the research in the society and culture of those being studied is particularly close. […] Furthermore, the relationships between ethnographer and informant in the field, which forms the bases of subsequent theorizing and conclusions, are expressed through social interaction in which the ethnographer participates; thus, ethnographers help to construct the observations that become their data. […] In order to incorporate such insights into research practice, ethnographers in the field – and out of it – must seek to develop forms of research that fully acknowledge and utilize subjective experience and reflection on it as an intrinsic part of research."

Self-awareness of author's own positionality and evolving relationships within Shinchi were developed through layers of interaction with stakeholders and reflection during the field exercises and research period. Considering the significance of reflexivity in ethnography, the extended period of time the author spent in with Shinchi undoubtedly informed the subject matter and ways in which the present research was conducted. Thus, the choice of Shinchi as a case site for the present research was made in tandem with the conception and ideation of the research itself, a process that included a critical self-analysis and questioning of the influence of the author's continued presence and research activities on both the author and stakeholders in Shinchi.

3.2 Research Objectives

After selecting Shinchi as a case site, the following research objectives were developed to address the research gap outlined above and form the basis of a framework for understanding

the relationship between food culture, food education, school lunches, resilience, sustainability, and disaster recovery in Shinchi. They are as follows:

1. Contextualize Shinchi's food education and school lunch efforts as they relate to the local food culture, as well as nationally prescribed political ideologies and broader Japanese social trends.

2. Understand the role of food education and school meals in Shinchi's disaster recovery landscape as a method for building resilience through navigating risk, building trust, and supporting local stakeholder networks, foodways, and (re)constructions of locality.

3. Identify how the system of school meals and food education in Shinchi, as a regenerating area, can adapt in the future to changing social trends and work to build further resilience amidst uncertain risks.

3.3 Key Informant Interviews

In order to satisfy the objectives listed above, an approach focusing on key informant interviews supplemented with participant observation, informal interviews, and relevant document reviews was decided upon in order to capture knowledge that would be difficult to gather from survey-style methods. Furthermore, these methods were chosen to foster a deeper understanding of the attitudes of different stakeholders towards the food education system in Shinchi, as well as the nature of their relationships with that system and each other.

From late October 2019 to late January 2020, the author lived full-time in Shinchi in order to conduct the primary data collection activities. Over this time, the author worked part time in Shinchi for a short-term local construction project and also carried out duties related to GFE activities as part of their GPSS-GLI classwork. Leveraging the network built by the author and his cohorts using 'snowball sampling' during their previous field exercises in Shinchi, key informants for this study were recruited purposefully based on a network informed by further

‘snowball sampling,’ as shown in Figure 4 below. This figure only represents the pathway through which the author came into contact with each informant and is not a complete representation of all the relationships between the individuals shown below.

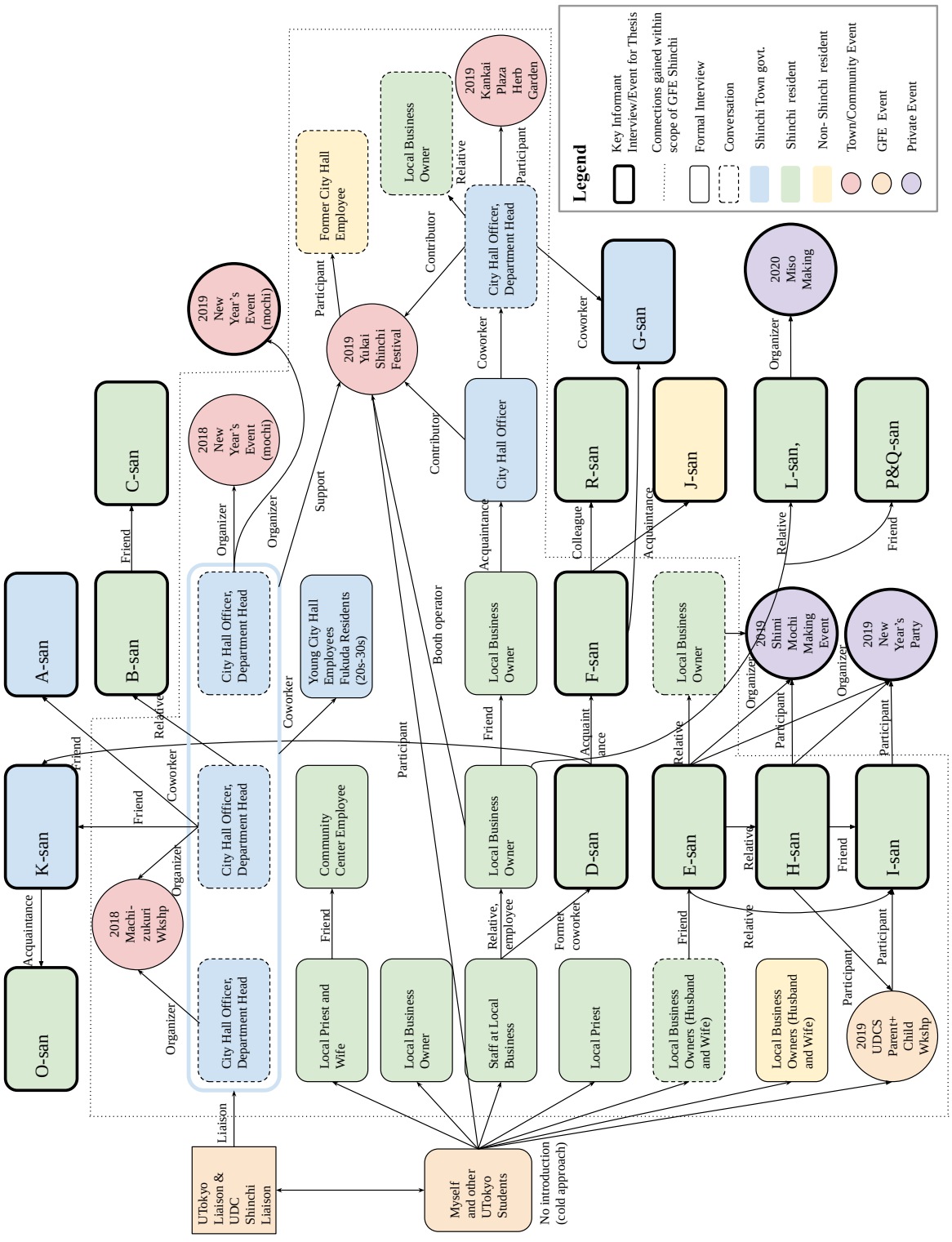

Figure 4 Limited informant connection map

In this context, 'snowball sampling' is taken here in the sense of sampling starting from a 'convenience population' that is relatively easy to reach and expanding the sampling network

based on connections between the initial convenience population and the population of interest, a technique that is referred to in other contexts more specifically as “chain-referral sampling” or “respondent driven sampling” (Goodman, 2011; Heckathorn, 2011). While sampling in this matter inevitably introduces bias into the sampling process, it is a useful and widely used method qualitative research on ‘hard-to-reach’ populations, which may be hard to reach for a variety of reasons, including networks that are difficult for an outsider to penetrate due to language and cultural barriers. (Goodman, 2011; Heckathorn, 2011). Additionally, different kinds of ‘snowballing’ techniques are useful to examine networks between respondents (Goodman, 2011).

The key informant technique is used broadly across social scientific fields for qualitative research, focusing on ‘key’ informants who are able to provide information about a given topic with more breadth and depth than other community members due to their skill set or social position (Marshall, 1996). The advantages of key informant interviews include access to particular specialized knowledge and information that would otherwise be difficult to gather from in-depth interviews alone. Although there are disadvantages to the technique as well, such as the unlikeliness of key informants to be representative examples of individuals in their community (by virtue of their specialty), the potential for the withholding of information on the basis of social norms, and the potential for lack of impartiality due to bias with their own agenda (Marshall, 1996). While these disadvantages were considered and are acknowledged to have occurred in some form by the author, an approach that prioritized the uncovering of information necessary for the purpose of framing the role of food education and school lunches in the resilience and sustainability of Shinchi and its disaster recovery efforts was sought by using key informant interviews. In the case of bias specifically, any relevant biases were identified to the best of the author’s ability through information gained beforehand and during the interview about the given informant.

Accordingly, informants were purposefully chosen as ‘key’ informants based on their current or former professional positions, their participation in certain community groups, and on the recommendation of other informants as someone knowledgeable about a particular topic. Following the literature, the author attempted to select key informants flexibly, including informants that were likely to have a wide range of views and that provide a wide basis of knowledge (Marshall, 1996). In addition to interviews with key informants, the author conducted multiple informal interviews with other community members and was invited to participate in several community and private events. A list of the informants and events participated in by the author for this research is presented in Table 1.

Date	Informant Code	Gender	Age	Description
Oct. 28, 2019	A	M	60's	Shinchi town government elected official
Oct. 29, 2019	B & C	F (both)	20's	Young people who grew up in Shinchi
Nov. 7, 2019	D	F	60's	JA Farmer's Wives Association member
Dec. 4, 2019	E	F	60's	Owner of local restaurant, former school meal preparation worker
Dec. 6, 2019	F & R	F (both)	50's	Principal and nutriton instructor at an elementary school in Shinchi
Dec. 6, 2019	G	M	60's	Town government employee, member of "Nekko no kai"
Dec. 8, 2019	H	F	30's	Parent of elementary school student
Dec. 9, 2019	I	F	40's	Licensed nutritionist, food education volunteer, parent of elementary school student
Dec. 11, 2019	J	F	50's	Former principal of Shinchi Elementary School
Dec. 22, 2019	I, others	-	-	Oka community New Year cultural event
Dec. 29, 2019	E, H, others	-	-	New Year's Party, private event
Dec. 30, 2019	E, H, others	-	-	Traditional 'shimi'-mochi-making, private event
Jan. 10, 2020	K	F	40's	Head nutritionist for Shinchi Town
Jan. 11-13, 2020	L	F (all)	70's	Traditional miso-making, private event
Jan. 24, 2020	O	M	60's	Lifelong Shinchi fisherman
Jan. 25, 2020	P, Q	M, F	40's	Long time Shinchi PTA members

Table 1 Interview and event list. Events are highlighted in purple.

All interviews were conducted in Japanese, and were recorded when possible, transcribed, coded, and analyzed. Transcriptions were checked by a native Japanese speaker for accuracy,

and necessary information was cross-referenced with other credible sources (such as official town documents) when possible. In cases where the interview was not recorded, detailed notes were taken. As such, all quotes offered in the following text will be presented translated in English, with any additions deemed necessary for context placed in brackets. The original Japanese transcripts are available upon request to the author, subject to editing to preserve the anonymity of the sources if necessary.

Consent to conduct the interview was secured verbally after explaining the necessary details, including that the information provided in the interview would be anonymized, that they did not have to answer all the questions asked, and could stop whenever they chose to do so. The interviews ranged from about one to three hours. Interviews were semi-structured, and the questions asked differed from informant to informant based on their specific area of expertise.

The interview data was analyzed first on the basis of the relevant information provided by each key informant along their area of expertise, particularly as it related to food culture, food education, school lunches, and disaster recovery efforts. Information that was deemed important was confirmed when possible through cross-referencing credible document-based sources, such as those published by the town government or the Japanese national government. Other information was analyzed following techniques for interpreting in-depth qualitative interviews described by Lawless and Chen (2019) as 'critical thematic analysis.' These techniques involve identifying patterns of repetition, recurrence, and forcefulness in the interview in order to first understand what the interview discourses reveal about the informants' ideologies and conception of their social positionality, and then to link what is found to broader social ideologies and phenomenon (Lawless and Chen, 2019). The combination of these techniques was utilized to push past a consideration of key informants as only sources of

specialized information and also understand their various relationships to the information that they possess.

3.4 Participant Observation

As shown in Table 1 and mentioned above, in addition to conducting key informant interviews, participation in certain private and community events provided opportunities for information gathering based on observation and informal interaction. Not only was valuable information gathered during these events, but as stated above, they provided an opportunity for building rapport and facilitated further insights into the opinions and attitudes of various informants and the community at large. During these events, notes and pictures were taken when they did not interfere with the participation process itself. Information from the participant observation is provided in as detailed an account as possible where relevant.

4 Tracing Shinchi's Food Memories Pre- and Post-Disaster

4.1 A's Stories

A's interview was not audio recorded, although extensive notes were taken. As such, direct quotes cannot be provided for any statements.

Currently in his 60's and serving as an elected official for the Shinchi town government, A was born and raised in Shinchi. When asked about his recollections of the food that he used eat as a child, A first reminisced about the various kinds of foraged foods that he described as commonplace in Shinchi. The first thing he mentioned, enthusiastically, was *inago*, a general word for grasshopper in this context typically referring to species of the genus *Oxya* (Payne, 2015). A recalled that many people would catch *inago*, and that children would especially enjoy doing so. They were caught among the paddy fields, and were typically cooked as *tsukudani*, a general Japanese cooking method that involves cooking something with soy sauce and sugar.

According to A, *inago* boiled and then prepared as *tsukudani* after removing the wings and legs was a popular snack for children.

A then mentioned *shibaguri*, a general term that refers to small, wild Japanese chestnuts (*Castanea crenata*) as opposed to cultivated varieties. Explaining that he had fond childhood memories of peeling *shibaguri* collected locally from the mountainside, A described that people belonging to 'older generations' claimed that although *shibaguri* were harder to peel, they were more flavorful than larger, cultivated chestnuts.

In keeping with the trend of foraged foods, A also mentioned that a child he often went to catch *shijimi* (a type of bivalve shellfish, *Corbicula japonica*) at the beach. These would be collected by the children and brought home to be cooked and eaten.

These three foraged foods are not rare in Japan, and indeed can be said to represent quite common aspects of rural/coastal food culture. *Hoshigaki*, or dried persimmons, are also not necessarily rare in Japan, but they were specifically mentioned by A as being particularly distinct and delicious in Shinchi. According to A, Shinchi's *hoshigaki* were special in that they would dry quite thoroughly due to the local climate and were tastier that *hoshigaki* found in other areas. Furthermore, A explained that when he was a member of the local PTA, there were events held at local elementary schools every year for making *hoshigaki*. Although people still make *hoshigaki* in Shinchi, A feels that there fewer people doing so in the past, when seeing *hoshigaki* hung from the eaves of houses in the winter was common.

As for foods that could be considered particular to Shinchi, A mentioned several different items, the most prominent of which was *karei no nitsuke*, a dish consisting of simmered flounder (*karei*) commonly eaten during the New Year's holidays in Shinchi due its positive auspices. Rather than any type of *karei*, A explained that it was traditional to eat *ishigarei* (stone flounder, *Kareius bicoloratus*), also known locally in Shinchi as *tsurushigarei*, or

‘angler’s flounder.’ Specifically, it is traditional to eat such flounders while they are carrying roe, which are locally caught in December. In addition to *karei no nitsuke*, A mentioned that Shinchi’s other foods traditionally eaten around New Year’s, known generally in Japan as *osechi ryōri*, was relatively unique to Shinchi, although likely shared several characteristics with surrounding areas, such as Soma City. Generally, such *osechi ryōri* is recognized in Japan as having different composition and characteristics depending on the region it is from.

Additionally, A brought up *shimi mochi*, a type of freeze-dried mochi dating to the Kamakura period found throughout Tohoku that typically has some kind of secondary ingredient added to it besides rice (Nagashima et al., 2011). *Shimi mochi* in Shinchi, as well as several other areas in Fukushima prefecture, is made with the leaves of *Synurus pungens*, a type of wild mountain vegetable that is called by multiple names in Japan, most commonly *oyamabokuchi* or *yamagobō*, but that is called ‘*gonboppa’* in Shinchi and other areas in Fukushima (Nakagawa 2018). The sight of *shimi mochi* hanging from the eaves of houses in the winter was also described as a nostalgic site by A, who stated that the making of traditional food had decreased significantly in Shinchi, even more so than *hoshigaki*. Like *hoshigaki*, A felt that *shimi mochi* made in Shinchi was a distinctive part of the town’s landscape and identity that has now faded.

As an elected official, A believes that food education and the preservation of food culture are connected and vital efforts for the future prosperity of Shinchi. He described himself as personally interested in food, and described how he tried to distribute yuzu plants to households in Shinchi in order to encourage them to cultivate yuzu that could be eventually made into a variety of products, specifically ‘*yuzu cha*,’ or a yuzu ‘tea’ made from yuzu peel and sugar. Although this effort eventually didn’t work, A explained that the original inspiration came from having *yuzu cha* from a famous sweets shop in Sendai.

When asked about other changes in Shinchi over time related to food culture and food education, A claimed that food education was particularly important because children nowadays do not have time to play in nature due to being overly busy with sports and other after-school club activities. In his generation, there weren't such burdens, which according to A allowed them the freedom to enjoy activities like fishing and *ochibohiroi* (gleaning for rice left in the field after harvesting), which were like a natural form of food education.

4.2 B & C's Stories

The interview with B and C was not audio recorded, although extensive notes were taken. As such, direct quotes cannot be provided for any statements.

B and C are childhood friends who were born and raised in Shinchi and attended elementary school in the mid to late 2000s. When asked about their memories related to food in Shinchi, their immediate response was to recall food that they ate as children in school, and two dishes in particular. The first was fried whale (*kujira no karaage*) with '*ōrora sōsu*,' a type of sauce that they described as tasting like a mixture of ketchup and typical Japanese 'sauce' (such as *tonkatsu sōsu*). In Japanese, '*ōrora sōsu*' typically refers to 'sauce aurore,' a type of bechamel-based condiment originally used in French cooking, but that is usually made in Japan with mayonnaise, ketchup, and other ingredients. The memory of this meal was vivid and nostalgic for B and C, who looked forward to eating it as children.

The other school meal that was strongly impressed was '*Shinchan nattō*,' (named after Shinchi) a type of nattō that they described as being mixed with finely diced cheese and vegetables, such as carrots, green onions, and cabbage and eaten over white rice. B and C were confident that this dish, also known to them as '*gomoku natto,*' was unique to Shinchi's schools, and sometimes still crave it, to the point that they would happily order it if it were to appear on a restaurant menu.

Later, through interviews with other informants (such as E) and document review, it was found that '*Shinchan nattō*' and '*gomoku nattō*' actually technically refer to two different things, with the former referencing nattō that was made in Shinchi by the local Japan Agriculture (JA) branch using locally grown soybeans, while the latter refers to the actual dish made by mixing nattō with a variety of diced vegetables and cheese and serving it on top of rice. The name '*gomoku*' (五目) refers to the variety of ingredients mixed into the nattō. The reason for the conflation of the terms seems to stem from the fact that *gomoku nattō* was often made using *Shinchan nattō*. Although no longer made with *Shinchan nattō, gomoku nattō* remains a popular menu item for school lunches in Shinchi.

In terms of other food memories tied to their upbringing, C mentioned that she had strong memories tied to another dish considered a local specialty of Shinchi, '*ichijiku kanroni*' (which can be loosely translated as candied figs), a dish generally made by simmering whole figs with sugar and a small amount of acid, such as vinegar or lemon juice. Figs, considered a local specialty product of Shinchi, were originally planted in Shinchi 1998 following the adoption of prefectural project for rural community development through local specialty products (see Appendix E, pg. 2).

B, alternatively, mentioned that she used to enjoy eating *inago tsukudani* prepared by her grandmother when she was a child up until the time that she entered middle school, when she became grossed out by the idea of eating insects. C, on the other hand, had never even attempted to eat *inago,* being too squeamish about eating them from the beginning. B mentioned that her appreciation of *inago* was rare among her generation, and that even her mother would refuse to eat *ingao*. B credits her grandmother for her interest in eating *inago* despite her mother's dislike for it, with the memory of the dish being an important one regarding B's connection to

her grandmother. When asked if she would be interested in eating *inago* now as an adult, B stated that she wouldn't be likely to try them as she is still put off by them.

Furthermore, B explained that while not specifically tied to Shinchi, one important memory of hers regarding food is her fondness of *sasakama,* a type of *kamaboko* (steamed fishcake made from processed white fish) that is a famous product in Miyagi prefecture, particularly Sendai. Given Shinchi's very close proximity to Miyagi and Sendai, B often had an opportunity to eat *sasakama,* and credits her love of the food as one of the reasons she decided to work for a company that sells *kamaboko* upon graduating from university. Interestingly, like A's story of being influenced by the *yuzu cha* he had in Sendai, B's story provides another example of a food memory from someone Shinchi being tied to food culture originally from or food experienced in neighboring Miyagi prefecture.

4.3 D's Stories

The interview with D was not audio recorded, although extensive notes were taken. As such, direct quotes cannot be provided for any statements. Several informal interviews with D also support the information below.

D is a member of the local Shinchi-Soma JA Association Female Division and works part time at the *chokubaijo* (farmer's market) in Shinchi established by the group in 2015. It was in this capacity that she was interviewed as a key informant, although she also is a former Dietary Life Improvement Promotion Member (see section 5.4.2) and current 'Food Education Supporter' and member of local volunteer organization Hōrensō no Kai (see section 5.4.3). D was also born and raised in Shinchi.

The interview with D began with a conversation about *egoma* seeds (*Perilla frutescens,* distinct from *shiso, Perilla frutescens* var. *crispa*). A plant that has long been cultivated in Japan for consumption and oil extraction, D explained that in Shinchi as well as other areas of

Fukushima, *egoma* is referred to by the nickname '*jūnen*' or 'ten years,' because it's considered so healthy that eating it will add ten years to one's life. D currently grows *egoma* and to her knowledge is one of only 5 people who currently does so in Shinchi, and only one of 3 that sells *egoma* at the farmer's market. The *egoma* are sold both in seed and oil forms, and while D does not consider the crop particularly unique to Shinchi, she acknowledges that *egoma* has existed in Shinchi for some time and is generally part of the food culture of the region that she remembers. The general uses for the seeds of *egoma* are varied, but D mentioned that she often uses the ground seeds with various other seasonings like sugar, soy sauce, and mirin in different combinations to flavor things like boiled spinach, *shiratama* (boiled or steamed rice cake made from glutinous rice flour), and to make *mentsuyu*, a soy-sauce, mirin, and water-based dipping sauce for noodles such as *sōmen* (a thin type of noodle made from wheat flour) and udon. D explained that in her family *egoma mentsuyu* is particularly popular in the summer.

However, D recalled that when she was in elementary school, they didn't have any *sōmen* or *hiyamugi* (another type of thin wheat noodle often eaten cold in the summertime), although they did have udon. She explained that people from the 'noodle factory' nearby would come door to door to people's houses, and people would trade the simple wheat flour that they harvested and produced in exchange for udon or ramen noodles, or sometimes bread. During that time, rice wasn't grown very much in Shinchi, according to D. She explained that currently people in Shinchi don't grow grain for flour as much as they did in the past, but that some people are doing it at a small scale to comply with the national policy of acreage reduction for land under rice cultivation known as *gentanseisaku* (減反政策). This policy was implemented from 1970 until 2018 and acted to limit the area over which farmers could grow rice due to the existence of surpluses of rice on the market that the government was forced to buy in order to keep rice prices stable (Isobe and Kitabayashi, 1979; Mori 2015). Thus, in order to keep supply relatively low and reduce the burden to buy rice on the government, they created this policy to

reduce the domestic production of rice. These rice surpluses were directly related to falling per-capita rice consumption among the Japanese due to broad changes in dietary trends as explained in Section 1.2.

Given D's explanation that wheat flour was more common in Shinchi in the past, she had several memories of foodways centered around wheat flour. D remembered that she often would make *dango* (general term for a ball of dough made of various kinds of flour) from wheat flour to put into miso soup (specifically called *suiton* in this context). Additionally, D mentioned that her children walked to elementary school and that the walk was a bit far, so on the way back home her children would stop at their aunt's house for a break. There, their aunt would make *dango* for them out of flour made from *kuzugome* (broken rice grains), and they would eat the dango with sugar and soy sauce since they didn't have anything more expensive like *anko* (sweet bean paste). D compared to this experience that her children grew up with to that of the recent generations of children, who she sees as lacking in food-related experiences because of the prevalence of convenience stores and the associated mass-produced snack foods.

When asked about any changes in Shinchi's agriculture over the past few decades, D responded that there were many more farmers, and that there used to be associations for specific crops, like cucumbers or strawberries, that have now disappeared. She also mentioned that many people in Shinchi would produce a lot of tomatoes to be sold to a Del Monte factory that used to exist in Kakuda (Soma City) to be made into ketchup or other products. There is currently a Del Monte factory in Minami Soma City, but it seems as if tomato production for that factory doesn't occur in Shinchi any longer.

Furthermore, D mentioned that once the Citizen watch factory (officially known as the Citizen Watch Manufacturing Tohoku Soma Plant) was built in Shinchi's Komagamine area, many young people and heads of farming families went to get jobs there instead of working as

farmers. D was told by several people that they feel that because of this, the factory was to blame for the decline of Shinchi's agriculture in recent decades. D herself was part of the first generation of factory workers, getting a job at the plant right after her graduation from high school. Because D was the oldest daughter in a family with no boys, she had act as a successor for her household, which is why her parents didn't want her to go to any big city, even when she was supposed to be sent to Saitama prefecture as a training exercise, because they were afraid she would not come back once she left. D's story highlights the fears of outmigration from rural to urban areas that existed even several decades ago, amidst Japan's declining agriculture and expanding urban opportunities.

Interestingly, another member of the local JA women's association who was present during the interview with D mentioned that there isn't really any distinct regional cuisine (*kyōdoshoku*) in Shinchi, but that there is such regional cuisine in Soma and Miyagi. But, both D and the observer began to hedge on that statement, mentioning *karei no nitsuke* made with local *ishigarei*/*tsurushigarei* that is eating during the New Year's holidays as a dish unique to Shinchi. D mentioned that although people who live near the ocean (referring to fishing communities that existed on the coastal side of the town pre-disaster) are particularly good at making this dish, but still people all over Shinchi would make it. In terms of other elements of Shinchi's traditional New Year's dishes, D said that many people have stopped following the tradition of making *osechi* meals. Traditionally, the menu would include many foods and after offering the food to god, the whole family would eat the meal together. However, D says that the younger generation skips much of the meal with the family and instead focuses on going to ring the bell at the temple at midnight of the New Year (known as *joya no kane*). So, D said that many people in her generation don't put in the considerable effort to make *osechi* anymore, because it isn't properly appreciated by the younger generation.

When asked specifically about *ozōni*, a soup with rice cakes and vegetables typically served as part of the traditional New Year's holiday meal, D said that each family has a particular recipe and didn't feel like there was one that was particularly distinct in Shinchi. For example, while D doesn't use chicken broth in her *ozōni*, she does include *seri* (*Oenanthe javanica*, a leaf vegetable sometimes referred to as Chinese parsley), while the observer mentioned that she does include chicken broth but does not use *seri*. D also mentioned that mentioned that in some areas of Fukushima, like the middle Nakadōri region, they made a traditional kind of simmered food called *nikkorogashi* using the broth made from scallops. But, since scallops are quite expensive, D said that many people in the coastal Hamadōri region of Fukushima sue use chicken broth as a substitute.

Lastly, in terms of particular food memories related to the New Year holiday, D also mentioned that people in Shinchi typically eat *kazunoko* (cured herring roe, a typical part of *osechi ryōri*) chopped up and mixed with cooked green soybeans (the same used to make *zunda*, a food item typical to Miyagi and famous in Sendai) and a bit of soy sauce. This way of eating *kazunoko* is typical in Miyagi prefecture as well, as was observed by the sale of prepackaged *kazunoko* mixed green soybeans. This was confirmed in visits to several supermarkets around Miyagi and Shinchi in late December. D assumed that the culture spread from Miyagi to Shinchi, and that it originally began as a way to stretch *kazunoko*, because it is relatively expensive.

As an active member of several groups related to food in Shinchi, D is eager to spread her knowledge of cooking and Shinchi's historical foodways. In her role as a member of the JA Fukushima Mirai Association, she and several other members are trying to publish a recipe book together in the summer of 2020 featuring recipes from around Fukushima that showcase local specialty products. Representing Shinchi, D explained that she was asked to write recipes for *ichijiku no kanroni* (candied figs) and *chijimi* (a savory pancake-style food originated in

Korea) using *nira* (*Allium tuberosum*, known as Chinese chives), another local specialty product of Shinchi.

4.4 E's Stories

The interview with E was not audio recorded, although extensive notes were taken. As such, direct quotes cannot be provided for any statements. Several informal interviews with E and her family members in conjunction with participation in the private New Year's party and *shimi mochi* making activity (see Table 1) also support the information below.

E was born and raised in Shinchi and was employed as school meal preparation worker from the 1978 until 2009 at various schools around Shinchi, primarily the three nursery schools with some additional time spent working at the middle school. She also spent some time working in schools surrounding areas, such as Soma City. E is particularly proud of the fact that Shinchi's schools each have their own facility for making school lunches rather than relying on food delivered from a centralized preparation center, despite the centralized option being cheaper and easier. E explained that quality of the food is better when not made at a centralized facility and made at the school instead, as things can be prepared fresher and served more appropriately, such as at proper temperatures. She described that, while in other schools in Fukushima a 10-day rotating school lunch menu was often used, in Shinchi the school lunch menu for each month was decided about 2-3 months in advance. Furthermore, the menu for the month was quite diverse with very few repeating dishes, and even popular dishes, like curry rice, were only served roughly twice a month. According to E, curry rice and *gomoku nattō* were the only dishes that were so popular among the children that they served them every month, with the seasonal exception of *gomoku nattō*, which was excluded during summer months. This is because people tend to lose their appetite if they eat *nattō* in the hot, humid summer weather, according to E.

Due to her experience, she is very familiar with both *Shinchan nattō* and *gomoku nattō*. E's earliest recollection of something like *gomoku nattō* was in 1975, when she was working part time at a nursery school in Soma and saw they were serving *nattō* mixed with fried potato and fried carrots. She then encountered the dish that was actually called *gomoku nattō* itself in Shinchi in 1975, and E states that the basic ingredients have remained the same since then, although some schools arrange the recipe slightly differently. For example, E recalled that at the middle school, boiled spinach was added. However, E firmly remembers that the basic recipe for *gomoku nattō* includes finely diced cheese, ham, carrots, cabbage, and green onions. E also explained that while some people use a food processor to finely dice the vegetables, doing that produces a much lower quality end product, as too much water seeps out of the vegetables into the *nattō*. So, E said that to properly make it, the ingredients must be cut by hand before being mixed with the *nattō*, which is a level of care and detail that is facilitated by having a school-based preparation method. E described that fundamentally, any *nattō* is fine, and only salt should be added, no soy sauce. For two people, about 3 packs of natto are necessary, for 4 people, 6 packs, etc.

E remembers that everybody really loved it, including her grandchildren. However, E remembered that typically at the nursery school, at the beginning of their first year, children usually refuse to eat the *gomoku nattō* because its unfamiliar to them. But, after a few months they all end up loving it (an assertion anecdotally supported by B, C, and several other young people in Shinchi asked about their opinion of *gomoku nattō*). They would usually serve *gomoku nattō* on top of rice with miso soup and cut fruit in yogurt as a side, and kids would eat it especially quickly.

E remembers that around the time she retired, the schools in Shinchi started source ingredients from local sources like Aguriya, market that sells locally produced food products. In the past, when she was working, E said that the schools tried hard to source ingredients from

within Shinchi as much as possible, although when she was working at a particular nursery school, they got ingredients from a market in Soma, which may also be considered 'local' in the sense that Shinchi and Soma share a larger administrative categorization. Although she does not know for sure, E assumed that Aguriya may have some difficulties meeting the particular demands for school lunches because rather than the ingredients being purchased in packages or as ready-made meals, ingredients for school meals are bought in very particular quantities based on calculations about calories, number of meals, etc.

When asked about changes in school lunches in Shinchi over time, E mentioned that she sometimes speaks with her former colleagues who are still working to make school lunches. According to them, the school lunches have changed considerably since she retired. E explained that she was told by her former coworkers that they started to use more frozen ingredients, while when she was working, E remembered that they rarely used frozen ingredients – the only one she could recall was corn. As for other details about the changes, E wasn't sure, but stated that the perception of her former coworkers was as such.

E's extensive experience preparing school meals for children had a large impact on her direction after the disaster. Directly in the aftermath of the tsunami, E worked as a volunteer cooking food for the victims in evacuation shelters. During that time, E recalled that the food was not 'tasty,' with a lot of food coming from supplies brought by the Japan Self-Defense Force and donations from other prefectures. Even before the disaster, having had to raise her children following the death of her husband at a young age and relying on her sister's family for support, E recalled that she long struggled with issues such as insomnia, anxiety and depression. In her opinion, the disaster 'saved' her by allowing her to gain a new perspective and start a restaurant in Shinchi, saying that she would have never thought to open a restaurant if not for the disaster. In E's view, she felt that she was fortunate compared to many others who 'actually' suffered from the disaster, such as losing their family members or homes. So, E

thought that she should take her remaining time and opportunity to do something that she wanted to do and follow her passion, which remained cooking for people.

She spent one year preparing to start her restaurant, which opened in 2015, with the support of her family members, and many of her menu items were inspired by recipes she made often while preparing school lunches. At first, E wondered if people would really eat the food that she cooked, but she decided to start the restaurant not for money, but simply to let people eat the 'real flavor' of Shinchi, especially thinking back on the meals people ate in the aftermath of the disaster. E is satisfied to cook dishes that don't taste like restaurant food, but rather home-cooked meals, and even the miso she uses is homemade. At first, she only expected 10-12 customers per day and hired only one staff member. However, business grew rapidly beyond her expectations and she eventually had to hire more people.

She usually thinks about the next day's menu the only day before, considering what stocks she has left, what is in season, and what she ingredients receives from neighbors/friends/people around her. For example, the *nira* used in the soup she served the day of the interview was given to her the previous day by a local farmer. E said that she is very satisfied with what she has done with the restaurant and plans to retire soon. However, E feels that there are really only two places in Shinchi where one can experience the 'taste' [translated from *ajitsuke*, the seasoning or flavoring of a dish] of Shinchi, her restaurant and that of her sister, who has owned a restaurant in Shinchi for several decades. E is not sure what will happen after her and her sister eventually both stop their businesses, as there is no one to continue their tradition. She wishes someone from the younger generation would inherit and practice their knowledge, but nobody has come forward. E hopes that her staff at will remember the flavors of her cooking and make the dishes that she made in the future.

When asked if she inherited any recipes from her parents or grandparents, E replied that she learned the flavor of Shinchi by tasting Shinchi food and remembering the particular flavors. Although she never learned directly, she would always watch her parents or people around her cooking and then tried to recreate those flavors. However, E did say that she has a few detailed recipes that she uses for certain things where precision is required, like baking and cooking beans (specifically *kuromame*, or sweetened black beans, for the New Year's holiday). E is particularly proud of the apple pie that she makes from local Shinchi apples (B-grade *kōgyoku* (紅玉) apples, which she said are perfect as they are tasty but inexpensive. Her grandchildren especially love her apple pie, and she hopes that it is an important memory for them. She makes many and freezes them ahead of time.

When asked about her personal food memories that weren't related to her experiences working for school lunches, E described that one of her favorite things to do before the disaster was to catch *inago*, and she was confident that she used to cook them well. E explained that they are not simply found everywhere and only in certain locations, and that she would go out to Iidate village (which was severely affected by radiation from the Fukushima Daiichi nuclear disaster) and catch them by hand, without the aid of any net. E also loves to go hunting for wild mushrooms, but the reason she stopped doing that and going to catch *inago* was because of concerns over safety due to the possibility of radioactive contamination. E was genuinely surprised that I told her that I got a chance to eat *inago* in Fukuda, as she thought that many people in Shinchi had also stopped going to catch them as she did.

Another dish that is important to E is *shimi mochi*, which she makes every year and serves as a regular menu item in her restaurant. E has made *shimi mochi* for a long time, learning from previous generations of her family, and is committed to the nearly year-long process that goes into making the *shimi mochi* from start to finish. E, and several other residents in Shinchi that

were spoken to informally, believe that she is one of the handful of people left in the town that continues to make *shimi mochi*, and she often gives away what she makes each year to her friends in the town. E recalled that she was once asked by the town government in the past to do a cooking class on how to make *shimi mochi*, but E said that eventually there were too many people that came, and that it wasn't something that could be taught in one day since it is a very long process from start to finish. Currently, E makes *shimi mochi* privately with only her family members and is not usually welcoming outsiders to watch or participate in the process. She has only invited someone outside her family once before, although she graciously invited me to participate in and observe the process.

Shimi Mochi Making

Every year, E and her family members made *shimi mochi* at her sister's house. As described earlier, *shimi mochi* in Shinchi is made using the leaves of a wild mountain vegetable known locally as *gonboppa* and generally as *yamagobō* or *oyamabokuchi*. E explained that besides serving to add flavor to the *mochi*, these leaves serve an important function as the '*tsunagi*' (literally translated as 'link' or 'connection'), due the fine fibers on the backsides of the leaves, which gives the *shimi mochi* greater structural integrity. For example, while regular *mochi* will dissolve over time when placed in water, *shimi mochi* holds its shape when wet for much longer. Additionally, E explained that *gonboppa* leaves have some preservative properties as well, allowing the mochi to be kept for longer periods of time without spoiling.

Traditionally, these leaves would be gathered from the mountain forests, which E described as an arduous process, involving carrying down heavy bundles of hand-picked leaves harvested over a long day down from the mountain. E cites this as one of the reasons that many people stopped making *shimi mochi* even before the disaster, as carrying down the raw leaves is quite difficult, especially for elderly people. To make the collection process easier, E said before the

disaster, she and her family went to collect the wild seeds of the *gonboppa* from Karōsan, the local mountain, and plant them in fields around March. Then, in the first year that the seeds grew, they harvested the leaves in September. By the second year, however, the sprouting happens earlier, and they can take many more leaves over a longer period compared to the previous year, from May through to September, at which point they also collect seeds to plant for the next year. But, according to E, *gonboppa* is a crop that does not take well to being planted on the same field over and over again, so they have to change the field they use to cultivate it. Due to concerns about radiation after the disaster (particularly for wild, foraged foods, which are known to have higher amounts compared to cultivated crops), E and her family have completely stopped going to gather wild *gonboppa* in Shinchi altogether, mostly relying on what can be cultivated. This cultivation is now done by a friend of E's who is a farmer. However, E also mentioned that occasionally she still gets wild *gonboppa* from Zaō town in Miyagi prefecture, approximately an hour's drive from Shinchi.

Once the leaves are harvested, they are hung from rafters for about one to two weeks until they are completely dry, at which point they're stored in bags. When it comes time to make the *mochi,* they boil the leaves with baking soda for approximately one hour, with a ratio of 10 grams of baking soda per 200 grams of dry leaves. Exactly how much they boil at one time depends on the size of the pot. E explained that the reason baking soda is added during the boiling process is to assist in breaking the leaf fibers down to make them softer, and also to remove the '*aku*' (bitterness and astringency). Once the leaves are finished boiling, they are separated into balls corresponding to approximately 100 grams of the dry leaves, for example, if 300 grams of dry leaves are boiled, then they would be split into three roughly even portions.

Then, the process of mixing the leaves with the other ingredients begins. Rice-based ingredients are measured using the traditional Japanese unit of measurements '*gō*' and '*shō*,' where 1 *gō* is equal to approximately 180 milliliters (about 150 grams of rice) and 1 *shō* is

equal to 10 *gō.* For one batch (measured as one '*usu*,' referring to the mortar traditionally used for pounding *mochi*), 5 *gō* of *mochigome* (glutinous rice) flour and 10 *gō* of *uruchigome* (normal, non-sticky rice) flour are mixed with two balls of boiled *gonboppa* leaves (the equivalent of 200 grams of dry leaves). These are mixed by hand, and important step for ensuring even distribution of the *gonboppa* leaves throughout the *mochi*, as attention and effort is required to separate the leaves and ensure they are mixed well among the flour. Then, a total of 1 liter of hot water is added in two stages, with the dough being mixed in between. Once the dough roughly comes together, it is mixed with another 5 *gō* of cooked *mochigome* (whole, not ground), and then this dough is set to steam further. E specified that the rice she uses is local to Shinchi, from a farmer who grows it for her.

The boiling of *gonboppa* leaves and steaming of rice are both accomplished with large metal pots set over wood-fired stoves, with the addition of wooden steaming baskets for the rice. At E's sister house, several of these pots are set up so that multiple tasks can be accomplished simultaneously and facilitate a smooth and quick rhythm. When the dough is finished steaming (determined by a visual and texture check by E), it is transferred directly to the electric-powered *mochi* pounding machine. Once in the machine, the dough requires monitoring as it is prone to getting stuck and often needs to be turned over and adjusted by hand. The kneading/pounding process is complete when a cohesive ball forms and E is satisfied with its appearance and texture. At this point, the ball of pounded *mochi* is transferred to a floured worktable and quickly split in two roughly even pieces by hand and then each piece is shaped into a log simultaneously by E and a partner. This process must be done swiftly and takes some skill to ensure an evenly shaped log can be formed without any folds or splits on the *mochi*'s surface. Furthermore, the process is made difficult by the fact that the dough is very hot (which makes splitting the dough into by hand particularly painful, as understood from firsthand experience, although E manages it with ease). Once the logs are formed, they are

placed into plastic molds shaped like split bamboo shafts (an extended half-pipe) to retain their shape and set to cool slightly. In the past, actual bamboo was used for this step.

Once the *mochi* is cooled enough to retain its shape without the mold, usually within an hour, they are removed from the molds and set to dry indoors for several days in a room separate from the main house. When the *mochi* is dry, it is cut into slices that are about 1.2cm wide. These slices are tied together in strings, soaked for 8 hours in water, and then frozen in a freezer. In the past, E said instead of using freezers they would simply hang the soaked *mochi* outside to freeze, but the reason that they stopped is because it doesn't get cold enough to do that anymore. It has to be consistently at least -5°C for the Mochi to freeze outside, but it only gets down to about -2°C or -3°C in Shinchi these days, so they have been using a freezer for at least a decade, according to E. She pointed to this as an example of how Shinchi's climate has changed since she was a child, connecting it to the effects of global climate change.

After they remove the *mochi* from the freezer, it is spread out on a floor and covered with a clean sheet or futon so that in can slowly thaw over time at the ambient temperature, which helps to further draw the moisture out. Once thawed, the *mochi* is hung to dry in a cool place indoors and out of the reach of sunlight. E warned that if the ambient temperature was too warm, the *mochi* would fall victim to mold, which is why they use a shed detached from the main house, which is heated during the winter.

The process of making the *mochi* and setting it to dry occurs continuously for 3-4 days every year at the end of December. E explained that the past, when she was 'much younger,' they used *kuzugome* to make this *shimi mochi* in order to stretch their food supply and not waste anything. Due to this, and that the *mochi* was pounded traditionally using a mallet and mortar (*kine* and *usu*), they would typically make only 10 *usu* worth of *mochi* per day. However, now that fresh rice and machines are used, they can typically make up to 40 *usu* per day (33 were

made during the day of observation, their final day for that year). In total this year they have made 159 *usu* worth of *shimi mochi*.

This large amount of production is a team effort, with E leading the charge and many members of her family from several generations helping, nearly all of them women. This fact highlights not only the replication and reinforcement traditional gendered labor roles, but also of the succession of traditional food-related knowledge. The only duty primarily done by a male family member was the chopping of firewood, which was also done by several of the women. However, E recalled many of the male family members assisted in harvesting the wild *gonboppa* in the past.

Currently, E's sisters, cousins, daughters, and nieces (including those connected through marriage) assist her in every process, boiling the *gonboppa*, steaming the rice, mixing the dough, and shaping the *mochi*. The children, ranging from elementary to high-school aged, assisted in some tasks, such as measuring and mixing the dough, as well as shaping the *mochi*. All of children were very knowledgeable about the process, having participated in it every year as far as they could remember, and everyone seemed to thoroughly enjoy what they were doing. The bright atmosphere and physical nature of the work, in addition to the warmth from the wood-fired stoves, kept everybody warm. Additionally, everyone enjoyed homemade, warm *amazake* (a sweet drink made with fermented rice that is typically non-alcoholic) made by E's sister. After a long day's work, everyone usually relaxes together and enjoys a family meal.

Although she is passionately energetic now and plans to continue this tradition for the foreseeable future, E is quite skeptical of how long it can last without someone who is willing to take the reins and step into the role that she has filled until now. Although many of her family members assist in the process of making the *shimi mochi*, E is undoubtedly at the center, acting as the primary force of labor, spirit, and knowledge. Particularly since she plans to retire her

restaurant, at which she sold her *shimi mochi*, the need to make it may decrease. However, given that *shimi mochi* is an integral part of her memories and even identity attached to Shinchi, and that is provides valuable memories and experience for her family, especially the children, E plans to continue for as long as she can.

4.5 H's Stories

H was born and raised in Odaka, Minami Soma City. She has been living in Shinchi consistently for the past 5 years since building a house there together with her husband, although she also lived in Shinchi before the disaster. Her family members were among the victims of the March 11th, 2011 tsunami, which destroyed her ancestral home. Furthermore, H's hometown of Odaka was one of the several areas of Fukushima prefecture where residents were initially not allowed to reenter after the disaster due to high levels of radiation. H has two children, one in their 2nd year of elementary school and a small infant. She is a relative of E's by marriage and has worked closely with E at her restaurant since its opening.

When initially asked about her food memories, H began by recounting a conversation she had recently with E about the various foods that they ate during the New Year's holiday during their childhood. H was surprised to find that despite the generational and geographical distance between her and E, the dishes that reminisced about were basically the same. These dishes included *kinpira gobō* (julienned burdock root cooked with sugar and soy sauce), *ika ninjin* (described by H as part of Fukushima's typical regional cuisine, a pickle-type dish that includes dried squid, carrots, mirin, vinegar, sake, and sugar), *kazunoko* mixed with *aomame* (large green soybeans), *sudako* (octopus in vinegar), *ozōni*, and *nimono* (a simmered dish, for example *karei no nitsuke*). As mentioned in Section 4.3, *ozōni* in particular usually differs based on region, and H described that in Shinchi the *ozōni* typically includes *seri*, and Odaka's *ozōni* was the basically the same, including *gobō*, daikon, carrot, chicken and *seri* with soy sauce.

In terms of food memories connected to Shinchi, H described that to her, Shinchi's distinct local foods are the local specialty products like *nira* and figs. H feels that her answer would be different if we was born and raised in Shinchi, but as an outsider to some extent, that is her view of Shinchi's local food character. H doesn't really feel like there is anything besides these current products in Shinchi that are special, nor does she feel that there is any *omiyage* (souvenir product) that adequately represents Shinchi. 「こう自慢できるものっていうのが、代表的なお土産で持っていけるものとか、そういうのがやっぱりないなーって思います。」

However, H has also encountered much of Shinchi's local foodways through her close work together with E and her extended family, including E's older sister, whom also owns her own restaurant. H recalled that the first time she went to E's older sister's restaurant after marrying her husband, she was shocked by how tasty the *yakitori* (grilled chicken skewers) and *motsuni* (stewed offal) were. H has come to feel that food made by E and her older sister at their restaurants, like the *motsuni*, are very reflective of Shinchi's local food and flavors. H described that for her, when people of E's generation make food, it takes like homemade or "grandma's food."

H further recounted that E also makes her own *tsukemono* (various pickled vegetables) and *umeboshi* (Japanese plums pickled with red *shiso* leaf), which are quite typical throughout Japan, but also *heso daikon* (literally translated as bellybutton radish), which is originally from Miyagi prefecture and a famous local product of Shinchi's Miyagi-side neighbor, Marumori town. It is a dried, preserved food made by skewering thickly sliced boiled daikon radishes on a thin bamboo skewer and drying it over the course of the winter. The dried, shriveled daikon resembles a bellybutton, hence the name. It is typically added to *nimono* and eaten, according

to H. She's made this with the E for the past few years and served it at E's restaurant, but it is not sold in Shinchi as a food product at all. H explained that due to how close Shinchi is to Miyagi and Marumori town, they naturally get some television channels from Miyagi, and while watching one of these channels E saw a show about Marumori's *heso daikon* and decided to try to make it for herself. H admires this spirit of creativity in E, who also apparently did research online to perfect her *heso daikon*. H described that E and her fellow staff at the restaurant actively try to make anything that they feel they have chance at making, and still make things that other people no longer make.

For example, H explained that there are only a few people besides E that make *shimi mochi* in Shinchi. Although she knew about *shimi mochi* before she came to Shinchi, she had never seen it made before, and understood it as a specialty of Miyagi prefecture (although many places in Fukushima do make *shimi mochi*). While H has tried other people's *shimi mochi* that she has bought from Aguriya, she is confident that the *shimi mochi* that E makes is definitely the best to be had in Shinchi. H described that the flavor and texture of *shimi mochi* can vary greatly depending on the amount of each ingredient, and the version that E makes doesn't get too sticky like the others she has tried.

Inspired by her interactions with E and E's cooking, H has asked E to teach her some recipes, to which E replied that she isn't able to 'teach' per se, rather that H will have to learn by observing, tasting, and remembering the food that she makes. H explained that this is E's general style of cooking, and most of the dishes for the restaurant are not based in written recipes, they're made by sight and feel. Taking on the challenge of this 'organic' passage of foodways and food culture, based on sensory experience and memory more than written instructions, H has tried to make many of E's dishes. Although she hasn't been fully able to recreate some of them yet, such as E's *ofukashi* (steamed *mochigome* with other ingredients mixed in) or *mazegohan* (cooked rice mixed with stir-fried ingredients, such as vegetables,

mushrooms, etc.), H has perfected some, like E's famous meat sauce. According to H, E doesn't mind sharing these recipes, and indeed is eager to see them being continued.

Although H still doesn't feel as if she can make traditional foods like *shimi mochi* on her own yet, she has lately been told to learn how to make those kinds of things by herself by E. H was told by E that if she and her generation doesn't learn, then these kinds of traditions will end with the older generations. H talked to her cousins and they replied that they would try their best to learn, something which H is currently trying to do.

4.6 O's Stories

O was born and raised in Shinchi to a line of fishermen in the Ōdohama area, which was completely destroyed by the tsunami on March 11th, 2011. He now lives in one of Shinchi's disaster relocated communities along with many of the former residents of Ōdohama. In O's view, Shinchi has a deep, rich, and unique food culture, much of which is centered around foodways specific to the fishing community.

O began his recollection of his food memories by recounting that his mother cultivated soybeans, made miso, and raised pigs on the scraps and leftovers of the soybeans. According to O, this was seemingly typical of mothers in O's fishing community of Ōdohama. O's recalled one of the dishes his mother would make for him in the summer using locally caught *kajime* (*Ecklonia cava*, a type of seaweed), which was mixed with *myōga* (*Zingiber myoga*, a relative of ginger with edible flower buds and shoots), carrots, other vegetables, and homemade miso, all inside a large wooden pot that was used to make miso. O would eat this miso-marinated *kajime* over white rice and remembers it fondly. However, said that he thinks *kajime* itself has disappeared in Shinchi.

In the past, O explained that the hard-to-find *kajime* wasn't harvested intentionally, it was instead occasionally gathered by those who gathered *wakame* (*Undarai pinnatifida*, a species

of seaweed long cultivated in Japan) for a living. These *wakame* gatherers would not usually take *kajime* as it wouldn't sell but would gather some for people upon request. Although the *wakame* that is common among the concrete tetrapods that line make up Shinchi's coastal waters remains to this day and can often be seen floating on the water's surface, O hasn't seen any evidence of *kajime* several years, though doesn't know for sure whether it is really gone. In any case, *kajime* is no longer collected in Shinchi, nor are there any young people who know how to make the dish as O's mother did.

O also held strong memories about the *wakame* in Shinchi. He explained that before fishing ships became mechanized, they weren't able to go too far offshore so the catch and income that be earned from it was limited. As such, in Shinchi's there were quite a few people who made a living off of collecting and selling *wakame*, about 50 to 60 years ago. But, not only these professionals, but many people in Shinchi gathered *wakame* and dried it sand (*suna*), giving it the name *suna wakame*. O recalled that before the construction of the Tsurushi port, there was lot of sandy beach, and that everyone, including himself, would go to Nakaiso in Ōdohama to collect and then to dry their *wakame*. First, in the morning it was cut and then laid out to dry in the sunlight on the beach. Then, at night to prevent it from drying too much, the *wakame* would be sprinkled with seawater and massaged with black sand containing iron (*satetsu*). This black sand could be found at the local beach, and there was even a factory in Shinchi for its production, according to O. The *wakame* was then let dry further and thus completed. O recalled that the *suna wakame* produced in this way was quite expensive, fetching between 4000-5000 yen for one *kan* (3.7 kgs).

In addition to *wakame*, O also recalled gathering *nori* as a child (edible species of genus *Porphyra*, famously made into sheets used in sushi) from the rocks and concrete tetrapods around Shinchi, bringing it home to eat it made as *tsukudani*. O explained that it was people from more inland areas of Shinchi that would typically come to the shore to gather *nori* rather

than those from fishing communities, as was the case for *wakame* as well. O recalled that there were only a few among the fishermen in Shinchi who gathered and ate *nori* besides himself, which he did because he enjoys foraging for things in general, both on land and underwater. Although the *nori* gathered by individuals in Shinchi were not for sale, beyond these individual foraging efforts O explained that there was once an attempt at the cultivation of *nori* in Shinchi. However, because the equipment broke due to rough waters and large waves along the coast, it failed within a year, and it was abandoned.

Remembering his time spent in the sea as a child, O explained that *shijimi* were once abundant in the brackish waters at Shinchi's river mouths, particularly the river in Tsurushi (referring either to the Sunagota or Nigori River). Echoing A's recollection of going to collect *shijimi* as a child, O said that he often went to collect *shijimi* when he was in middle school, and even sold them. However, from 20-30 years before the disaster, he stopped being able to find *shijimi*. O isn't sure as to the reason for this, but he suspects that some kind of pollution from the houses in the area may be responsible. As far as he has heard, they are still common in Miyagi, but according to his knowledge the *shijimi* have truly disappeared in Shinchi.

O added that two of mushrooms he used to forage for in Shinchi have also disappeared for various reasons. The first is called '*aminome*' or '*amekko*' locally and, based on the description of the mushroom and similar names used in other areas of Tohoku, these names likely refer to *amitake* (*Suillus bovinus*). O described that the yellow *amekko* originally could be found among the black pine forests that grew along Shinchi's coast before the tsunami washed much of them away. O recalled that *amekko* was even served at E's older sister's restaurant and was especially tasty when boiled and topped with grated daikon on top. Like other wild mushrooms, O explained that although *amekko* can still be found in the inland forests, they're typically not gathered and eaten due to worries about radiation. However, O admitted that he still eats them and other wild foods, like wild boar, despite concerns about radiation. He asks people to bring

him those kinds of foraged or wild game that he had often eaten in the past, although many times people refuse to do so. Yet, O does not completely discount the risk that these foods may hold, as he explains:

O: I only eat those kinds of thing once a year, so even 5000 becquerels or 10000 becquerels is fine, since it's not as if I'm eating it every day. At my age – young people shouldn't eat it, but I'm getting close to 70, so it's fine, I'll eat them, but of course [the people I ask] won't bring them to me.

O's desire to continue eating these highly nostalgic, memory-rich foods despite the risks that they pose is not uncommon among his generation in Shinchi. Informal interviews and anecdotal accounts from many other radiation-affected areas in Fukushima point to similar attitudes among the elderly, for whom the risk of developing cancer or other health issues due to radiation exposure over extended periods of time is generally perceived to be low compared to younger people. Rather than ignoring the risks posed, people like O recognize them but make a calculated decision to accept these risks in order to continue enjoying traditional foodways.

The other mushroom that O remembered eating, however, disappeared long before such concerns about radiation arose. O described this mushroom as tasting and looking identical to *nameko* (*Pholiota nameko* or *Pholiota microspora*), well known in Japan for its gelatinous coating that gives it a slimy texture. Due to its similar slimy ('*nuranura*') texture, O and others in Shinchi called this mushroom '*nurari*,' and it was eaten exactly as *nameko* would be, best suited for adding to miso soup. The only distinguishing factor between *nurari* and *nameko* was size, with O describing *nurari* as being larger by a noticeably significant degree. O would often find *nurari* in the local mountain forests from the time he was in middle school until he was about 20. From then, he stopped being able to find the *nurari* despite it once being so abundant, and he hasn't heard of anyone who has gathered it since. For that reason, he calls it a 'phantom,'

thinks that only those of his generation and older in Shinchi would remember it. O is also unsure why the *nurari* disappeared, although he likened it to the notoriously fickle matsutake mushroom, saying that if conditions aren't right, it won't grow. Although the exact species of *nurari* is unclear, it is possible that *nurari* and *nameko* are actually one in the same despite O's differentiation of them, as many visually similar species in Japan are known to be highly poisonous.

Finally, the fan of foraging that he is, O also recalled that he was a prolific gatherer of *inago* as a child, although he rarely ate what he caught. As money was tight during O's childhood and there were few jobs available, he caught and sold *inago* as a form of income, as did several other people in Shinchi. Armed with a cloth bag that his mother made for him, O would go out in the fall and catch the *inago* hiding among the matured stalks of rice in the paddy fields. Catching them by hand and keeping alive them in his bag, O would collect up to 5 *shō* (9 L) at time, which he then brought back home for his mother to prepare. The *inago* were boiled in large batches by O's mother, who would then remove the wings and legs from each insect. These prepared *inago* were then sent to Sendai to be sold as *tsukudani*. Although he has long since stopped catching them, O sometimes receives *inago* from his friends in town, but they often go uneaten as his sons have no taste for it.

Besides these experiences of foraged foods, much of O's memories are based on his experience as a fisherman and growing up in a fishing community. O reminisced about his past consumption of *umidori* (seabirds, likely referring to a certain or multiple local species) at a time when meat was widely unavailable in Shinchi. O described that as the birds dove into the water to catch their food, particularly in December, they would occasionally get caught in fishermen's nets and drown. Some fishermen who pulled up seabirds caught in their nets would then throw the birds away once they reached land, and according to O, over 50 years ago there was one person in particular who would collect those cast-aside birds, prepare them for

consumption, and sell them for a living for 100 yen each. O assumes that quite a few people throughout Shinchi purchased these birds and ate them, as he knows of many people that have eaten *umidori* in Shinchi.

Yet, some fishermen also kept the birds that they caught for their own consumption. O himself has also caught and prepared *umidori*, which he described as very tasty. O explained that to properly prepare the birds, they must first be de-feathered, which is made easier by dipping the birds in hot water. Then, after the large feathers are removed, the remaining down feathers that can't be easily plucked were burned using a fire made with rice straw received from local farmers. O mentioned that they chose to do this rather than simply skinning the birds and discarding the skin because they wished to preserve the large amount of fat in the skin. Once this process was finished (and the bird was gutted), they were hung outdoors from the eaves of the house (but out of the reach of rain) so that they could be preserved and eaten during the New Year's holiday. O even described *umidori* prepared in this way as a 'preserved food,' saying that because they didn't have refrigerators, they relied on the external temperature in the winter to keep the birds and other foods fresh. O recalled that he saw *umidori* hanging from other people's houses as well, and that his father also prepared *umidori* in this way.

Because meat was quite expensive and difficult to procure at the time, O's family and others used *umidori* as a main ingredient for their *ozōni*, making broth from it and enjoying the richness it provided due to the high fat content. Besides having the *umidori* in *ozōni*, O also would cook it more simply by cutting it up and cooking it together with daikon and vegetables. O explained that although the skin of the *umidori* is white, the insides are "pitch black," but he couldn't recall specific details about the taste, other than the fact that it was indeed tasty, since it has been over 40 years since he has last eaten one. O recalled that he ate *umidori* from the time he was a middle school student until his 20s, when meat became more available. Although he hasn't eaten it for several decades, O recalls the deliciousness of the *umidori* fondly, saying

that he occasionally gets cravings for it, and that others of his generation would eat it if given the chance.

According to O, the consumption of *umidori* to this degree, particularly its inclusion in *ozōni* is unique only to Shinchi, even when compared to directly neighboring areas like Soma. Shinchi's official town history volume on nature and folk customs contains only a brief reference to the consumption of *umidori,* explaining that it was one of the few animal meats eaten in Shinchi, along with rabbit and duck (Shinchi Chōshi Shizen Minzoku Hen, 1993 pp. 92). O's rich and detailed recollection of the foodways surrounding *umidori* provide a forceful reminder that many existing written records on food and culture do not match the detail and nuance of living memories grounded in experience. If these stories are not recorded, the experiences of the generation that lived through them could be reduced to a single line, or not recorded at all.

In the same winter months in which *umidori* hung from the eaves of O's house, so did fish known as '*mizudonko*' (*Liparis tanakae,* also known as *kusauo*). As O described it, fish like *mizudonko* that were so cheap that they couldn't be sold were often kept by fishermen to feed themselves, and so were usually preserved by means of hang-drying in the winter. The practice of drying 'unwanted' fish used to be common along coastal areas in Shinchi, but now there are no longer any houses that O sees with hanging to dry from the eaves. *Mizudonko* in particular were hung up to dry beginning in December, and so dried *mizudonko* was typically eaten during the New Year's holiday by fishermen and their families in Shinchi. The practice was so widespread that O described one could immediately tell whether a house in belonged to a fisherman by observing if there was *mizudonko* hanging from it in the winter, and he further claimed that the use of *mizudonko* in particular was unique to Shinchi. In addition to the *mizudonko,* O also dried *magarei* (*Pseudopleuronectes herzensteini*, or yellow striped

flounder) and sold it as supplemental income, 10 for 1000 yen. This was one of the many ways in which fishermen would boost their income.

Speaking of *magarei* and winter foods, O explained in historical detail why *karei no nitsuke* is the signature '*toshitorizakana*' (fish eaten to celebrate the New Year) dish of Shinchi and *karei* in general is symbolic of Shinchi. First, O mentioned that he was interviewed multiple times by Kawashima Shuichi, a senior researcher at the International Research Institute of Disaster Science based in Tohoku University specializing culture and folklife studies who moved to Shinchi some time ago (Tohoku Daigaku Saigai Kagaku Kokusai Kenkyūjo, 2020). Through the course of O interviews and interactions with Kawashima, O became familiar with Kawashima's findings regarding Shinchi's history, which he then relayed during this interview (these claims were cross-referenced and supplemented where possible with other sources).

Historically, before the establishment of the current prefectures during the Meiji era, the villages that now make up Shinchi Town passed between control of the feudal states of Date-han and Soma-han through a series of armed conflicts. After defeating Soma-han in a conflict in the mid 16th century, Date-han controlled until the Boshin War, the civil war which saw the defeat of the Tokugawa Shogunate and reinstatement of imperial rule in 1869 (Shinchi Chōshi Shizen Minzoku Hen, pp. 81). The villages that now make up Shinchi town, which served as a battlefield in the Boshin War, was the only part of the former Date-han territory that was incorporated into Fukushima prefecture, while the rest was incorporated into Miyagi prefecture (Shinchi Chōshi Shizen Minzoku Hen, pp. 81-82). Thus, although Shinchi town is now part of the Soma administrative area within Fukushima prefecture, it continues to retain many cultural characteristics that distinguish it from these groups and align it more closely with southern Miyagi prefecture (Shinchi Chōshi Shizen Minzoku Hen, pp. 81-85). For example, the official town history recalls that while only a few marriages occurred between areas that are now Shinchi town and Soma city, Shinchi's historical political and economic ties through marriage

with neighboring towns and villages in southern Miyagi prefecture were strong (Shinchi Chōshi Shizen Minzoku Hen, pp. 211). To this day, Shinchi's culture is often described as a mixture of elements of Miyagi and Fukushima, an assertion which every informant, formal and informal, repeated.

According to O, through his research into historical documents, Kawashima found that while Shinchi was part of the feudal territory of Date-han, they offered locally caught *karei* as tribute to the ruling Date clan. O, and apparently many others in Shinchi, had never heard of this history, which supplies context for Shinchi's adherence to *karei* as a symbolic, culturally and historically significant food item. Thus, like A, O explained that in Shinchi traditionally *ishigarei* are offered to god during the New Year's celebrations on December 31st as part of *ozen* (traditional set meal), and the roe-laden females are quite expensive at the end of December, fetching up to 3000 yen per kilo. O clarified that in Shinchi, the most important aspect of this tradition is that the *karei* chosen has roe, which generally means that either *ishigarei*, *makogarei* (*Pseudopleuronectes yokohamae*, marbled flounder), or *magarei* (known locally as *akajigarei*) are chosen. Conversely, although a similar tradition exists, O explained that in many areas of Miyagi *babagarei (Milcrostomus achne*, also known as *nametagarei* or slime flounder), which carry their eggs in from July to August rather than December, is typical.

This lack of eggs is primary reason that *babagarei* are not used for traditional New Year's holiday meals in Shinchi, although they are very tasty.

O explained that the eggs signify the perpetuation of one's family line, and that among the fishing communities of Shinchi the person that traditionally performs the offering to god on should only be a son or male member of the household. O knows that this custom of forbidding women to make the offering was strong among the coastal fishing communities in Shinchi in the past, although he is not sure that it was as strict in other areas of Shinchi. Additionally, O

has observed that even among fishermen, this custom has become less strictly observed since the past. Furthermore, O emphasized that the general tradition of offering and eating *karei* during the New Year's holiday was practiced widely throughout Shinchi, not just in fishing communities.

Another such element of Shinchi's fishermen's food culture related to gender-based taboos are the customs surrounding childbirth. O explained that in the past, women in general were absolutely not allowed to go to sea, and those who just gave birth weren't even allowed to set food on the boats. Furthermore, O described that in Shinchi, when a fisherman's wife would give birth, she was completely forbidden from eating any rice or food cooked 'from the same flame,' so to speak, as that of her husband or the rest of her family. This meant that any food eaten by the mother after giving birth must be cooked entirely separately from that eaten by the rest of the family, which is a difficult task considering that these mothers would still be expected to cook this food for themselves even after just giving birth. For this reason, pregnant who are soon to give birth are asked to return to their ancestral homes, where the rules regarding a 'separate flame' do not apply and she can be taken care of by her family. In cases where this is not possible for some reason, O explained the new mother is asked to eat and make food for themselves on a portable gas stove because using the hearth or stove ('flame') of that the rest of the family eats from is taboo.

The reasons behind this are steeped in traditional Japanese beliefs surrounding death and childbirth, as well as the symbolic significance of fire and its relationship to food. Firstly, traditionally fire is generally attributed with creative power and holiness, and for that reason it is also considered vulnerable to being tainted by uncleanliness historically associated with childbirth or death (and also menstruation), represented by the word '*kegare*.' Specifically, the fire that is associated childbirth and death is termed *sanbi* ('birth flame') and *shinibi* ('death flame'), respectively, and as these occasions are usually ones where families and friends gather

and eat from the same flame, there is a chance that such *kegare* could spread and bring misfortune to others. O explained that among fishermen along the Pacific Ocean side of Japan, *sanbi* is generally considered to be worse than *shinibi* (or *shinippi* in the local context), and that this is especially true in Shinchi.

O further explained that the god of the sea worshipped by the fishermen in Shinchi is female, and that this god especially hates women who have just given birth because they are considered to be soiled by *kegare*. This is the reason fishermen will absolutely refuse to eat food cooked from the same flame as their wives or any other woman who has just given birth that is not from their 'own' family. This custom was so strict that O recalled that his mother was furious at him after once he drank tea while visiting a neighbor's house where a woman had recently given birth without realizing it. Conversely, O explained that there would be no taboo against eating food cooked on the same flame if the woman in question was his own daughter. Furthermore, the husband of the woman who has just given birth isn't allowed to board a boat for 3 days after his wife has given birth, and at the end of this period he must go to bathe in the ocean to purify themselves, even in the cold winter months. When this is complete, then the fisherman is allowed to return to his boat of the 4th day. The town history adds that if the fishermen were to board the ship without purifying himself, it was told that the mast would break and the boat would capsize (Shinchi Chōshi Shizen Minzoku Hen, pp. 207)

O explained that the taboo on eating from the same flame lasts, however, until 21 days after the mother has given birth, at which point the traditional period of care and rest for women after giving birth ends, called *hiake* (日明け, see Shinchi Chōshi Shizen Minzoku Hen, pp. 207). The point of *hiake* was when the mother was traditionally considered free of *kegare* and allowed to resume daily activities after some purification rituals (Shinchi Chōshi Shizen Minzoku Hen, pp. 207). The notion of *hiake* and impurity associated in childbirth was by no

means limited to fishing communities, but overall O described the coastal communities of Shinchi as being 'number one' for this intense attitude towards 'fire.' He considers the strict taboo that existed in Shinchi as 'extreme' and said he hadn't heard of other areas that adopted the same custom, however, he is unsure of whether this taboo is truly unique to Shinchi or not.

In terms of food-related taboos of Shinchi fishermen, O also mentioned that in Shinchi there used to a superstition forbidding bringing meat from four-legged animals, such pork or beef, onto boats. O explained that these meats could still be consumed on land, while poultry was ok to eat on the boats. This tradition seems to have faded quite quickly, as although his father and grandfather followed it, from O's generation and onward they ignored this rule and often brought bento meal containing such meat onto the boats. As it largely preceded his generation, O is still unsure why this custom existed and guesses that one reason was that meat was simply too expensive during that time period.

Another element of Shinchi's fishermen's foodways described by O as completely unique to Shinchi is their consumption of rays (*ei*), particularly a species known locally as *usuko* (specific species unknown by the author). According to O, *usuko* as prepared by fishermen in Shinchi isn't eaten in any of the neighboring ports. The fat and offal (specifically the liver, or *kimo*) of the *usuko* are minced together with miso, green *shiso* leaves, and a bit of sugar, and this paste is then mixed together with the raw flesh, which is mostly made of cartilage. O calls this dish '*usuko no nama*' ('raw *usuko*'), and it is similar to a general Japanese manner of preparing fish called *kimoae* or *tomoae*, in which the liver of a fish or shellfish is mixed with miso and other ingredients and used to flavor the raw meat. According to O, this dish is quite delicious, and people who eat it for the first time are quite shocked due to the texture of the cartilage. Furthermore, this dish, unlike *umidori*, is still eaten in Shinchi, although O described that only people nearing their 70's and 80's know how to prepare it properly. Because those of the younger generation don't know how to prepare or eat *usuko no nama*, O is often asked to

catch some *usuko* make the dish by his seniors who have retired from fishing and come back to land. O said that although *usuko no nama* is a unique food culture of the fishermen of Shinchi, even those outside that community will ask him for it as well since they enjoy the taste. Because green *shiso* leaves (referred to as *ooba*) are a distinct part of the dish, O explained that people ask for it especially during the peak season for *ooba* (June to September), which overlaps with the season for *usuko* (May to October). However, O clarified that *usuko* is not sought intentionally, rather they get caught in nets and most people typically throw them back in the ocean.

This may explain why, although it is so loved in Shinchi, Shinchi fishermen's consumption of *usuko* is met with shock even from fishermen of neighboring areas such as Isohama in Miyagi or Matsukawa-ura in Soma, and so O is confident that *usuko no nama* is a dish unique to Shinchi. Whenever O brings it up among other fisherman from any other area, they react with similar shock that fishermen from Shinchi eat *usuko*. Even though it is tasty, O himself described it as "grotesque" in appearance, which is why he actually didn't eat it when he was a child, but that once he tried it, he was surprised to find it palatable despite its grotesqueness. O figures that is one of the reasons fishermen from other areas don't eat *usuko no nama*, saying that if he heard just the name, it would conjure up a scary image in his head. Nonetheless, the tradition of eating *usuko* in this manner has continued for several generations in Shinchi, although it is now in danger of disappearing soon due a lack of succession of the tradition.

O differentiates *usuko* from *kasube* (refers generally refers to several species of ray of the order Rajiformes, typically categorized as 'skates' in English, although in some areas it can refer to rays in general), which can be caught year-round unlike *usuko* and is enjoyed fried as *karaage* (without batter). However, O mentioned that *kasube* from Fukushima prefecture are prohibited from being sold under Fukushima prefectures *shiken sōgyō* system due to concerns over lingering radiation. This system was instituted in Fukushima prefecture post-disaster to

monitor and regulate fishery activities within the prefecture, including the sale of specific species, based on comprehensive testing for radiation contamination using government-set standards. Under this system, fishermen and others in the fishery industry are given financial support to make up for lost income due to their inability to sell their products as they did pre-disaster, although they are still allowed to engage in their usual fishing activities. The ultimate goal of the system is the complete reopening of Fukushima's fishing industry, although regulations are currently still in place.

O explained that currently, the only species of fish they are completely unable to catch under the *shiken sōgyō* system is *meroudo* (adult *Ammodytes personatus*, also known generally as *ikanago*, while the term '*kōnago*' describes juveniles of the species), which used to be one of their main catches. O described that before the disaster, in a single go they could catch 10 tons of *meroudo* that would then sell for about 100 yen per kilo, which represented a significant amount of income for the fishermen. In addition to the restrictions on *ikanago*, O described that *kōnago*, another one of their main catches, have almost completely disappeared. Unlike *ikanago*, *kōnago* are not restricted, but even then, for some reason that has not yet been identified the catch in 2019 was extraordinarily low.

However, over time, more species are being released from restrictions as they are deemed safe. One such species is *sawara* (*Scomberomorus niphonius*, Japanese Spanish mackerel), which was released from restrictions in 2019, and according to O was caught in unprecedented amounts throughout the nation that year, including in Shinchi, causing the price to decrease significantly. Like this strange increase in the catch of *sawara* and the disappearance of *kōnago*, O has noticed several changes in what can be caught in the typical fishing grounds spanning Miyagi and Fukushima that he has traveled over his many years of experience. O mentioned that *maika* (a term applied to several squid species, in this context *Todarodes pacificus*, also known as *surumeika*), *masaba* (*Scomber japonicus*, Pacific chub mackerel), and *maiwashi*

(*Sardinops melanostictus*, Japanese sardine), which all used to be caught frequently, have disappeared or decreased over the years, which he says people attribute to the higher water temperatures induced by global warming. Conversely, O also mentioned that fishermen have recently been able to catch *ise ebi* (*Panulirus japonics*, Japanese spiny lobster) every once in a while thanks to warmer waters, which O says are now about 2 degrees Celsius higher than usual. In terms of the GEJE, described that other crustaceans like *kuruma ebi* (*Marsupenaeus japonicus*, kuruma prawn) and *shako ebi* (*Oratosquilla oratoria*, mantis shrimp) disappeared following the disaster, although *shako ebi* has recently started to return to the waters of Miyagi.

Unfortunately, regardless of species, the market prices of many fish species caught in Fukushima have declined significantly since the 2011 disaster, in some cases down to 1/10th of the pre-disaster price according to O. However, O is reluctant to directly link this price decrease to *fūhyō higai*, saying:

O: And now almost all of [the fish in Fukushima] is cheap. Whether it's *fūhyō higai*, or something [else], I don't know what it is. It's truly shockingly cheap, the fish. I don't know why it's cheap. But, everyone's saying, 'Isn't this *fūhyō higai*?' If we say that, the recovery will be delayed, so that's why I don't want to say it.

Although he did not elaborate further, this reluctance on the part of O may be understood in terms of the risk of engaging in the *fūhyō higai* discourse itself, which would further the position and perception himself and the fishermen of Fukushima as victims of who have yet to overcome the trauma and stigma of the disaster and thus cyclically reinforce their damaged image. Although this is not made explicitly clear, it is possible that in O's view, focusing energy on discussing any damaged reputation is less productive than strategies that work to boost consumption and trust in Fukushima fish. Indeed, O himself clearly works to encourage

consumption of such fish by sharing what he catches but cannot sell under the *shiken sōgyō* system to many people around Shinchi.

O described that since the disaster he barters with those that he provides fish to, receiving many vegetables like daikon or Chinese cabbage in return. However, O describes that during this process he is meticulous about how he approaches offering the fish that he catches to his family, friends, and neighbors, always asking the recipients if they're willing to eat the fish even if there is the possibility it has radiation. Of course, without testing, neither party can be sure of the level of radiation, no matter how confident they may be that it is safe or unsafe. For example, O described that his family members in Tokyo always decline, saying they don't need fish from Fukushima, while there are others in Shinchi that gladly accept. Although he is very happy and gets encouraged when people accept and enjoy the fish that he gives them, he is still troubled when other people say they don't want any. O acknowledges that fish from Fukushima still has a 'scary' image and that this image is slowing the recovery of Fukushima prefecture as a whole from the disaster. So, he argues that no matter how much they want to have people from outside eat Fukushima fish, if the local people themselves don't eat the local fish, recovery will never happen. For O, this logic is not only limited to fish, but applies to all of the stigmatized products of Fukushima that are currently being promoted by the prefecture. As he put it:

O: We're asking people from other prefectures to "please eat our food", but if the local - if the people of Fukushima prefecture don't eat the [local] vegetables, fruit, and fish, right, [the recovery] won't start […] No matter what, we can't get everyone to eat it, so the most important is that the people of Fukushima-ken eat it, right? It's impossible to plead for the Tokyo people to eat it, so if we can get locals, 100% of the people from Fukushima-ken to eat [the fish], the recovery will be faster, and we'll be able to sell fish again.

As part of his efforts to encourage this local consumption of fish, O mentioned that in 2016, he asked the (now former) principal of Shinchi Elementary to include Fukushima fish as an ingredient for school meals. At the time, O described that how to deal with children and concerns about radiation was still a very tough issue, and that local fish was seen as 'bad' due to fears about radiation. So, he argued to the principal that if the children in Fukushima prefecture don't start to eat the local fish, the recovery will not occur due to lingering fears that are never dispelled. O explicitly understands his distribution of the fish that he catches in this context of dispelling fears and promoting the safety and trustworthiness (*anshin-anzen*) of Fukushima fish. Because he cannot sell much under the current system, O offers his fish in the hopes that people will continue to want to eat fish from Fukushima. As he said, now, the most that Fukushima fishermen can enjoy is having someone tell them that something they caught is tasty, whereas they were primarily focused on earning money in the past.

Interestingly, this focus on money is connected to what O described as one of the biggest changes for fishermen's food culture under the *shiken sōgyō*, being able to eat 'good fish.' O explained that before the disaster, those in the coastal fishing communities would typically not eat the more expensive fish that was caught because it was a key source of income. So, fishermen typically only ate less expensive fish or fish that couldn't be sold, like *usuko* or *mizudonko*, while the higher-class fish like *anko* (monkfish, species of the genus *Lophiidae*) were sold for profit. However, under the *shiken sōgyō* system, although the fishermen have to work sell products to a certain extent, income is guaranteed and the fishermen are free to eat and share much of what they catch, including *anko* or *shirami* (referring to *shiramidara*, *Theragra chalcogramma*, also known as *suketōdara* or pollack). Due to this new flexibility, O explained that the people of inland communities have benefited by being given fish by local fishermen. This never happened before the disaster, as the fishermen themselves didn't even eat from their own catch of marketable fish in order to support their livelihoods. So, in O's

view, the freedom to consume such expensive fish leisurely actually represents a significant change in the food culture of Fukushima fishermen in particular due post-disaster.

4.7 L's Stories

The interview with L was not recorded, although extensive notes were taken over the course of the 3-day participant observation of her miso-making process. As such, direct quotes cannot be provided for any statements.

L was born in Manchuria during the Japanese occupation but soon returned to her father's hometown of Soma, where he worked as a fishmonger. L then came as a bride to Shinchi in 1972 and has lived in Fukuda ever since. She has been making miso for 50 years, and currently has a license for producing miso for market sale.

L began making miso at a time when doing so was still quite common in rural areas, and she particularly enjoyed making miso with her husband before he passed. The two of them handled all of the long, labor-intensive process by themselves, and about 7 to 8 years after L came to Shinchi, they converted an existing storage shed into an area equipped to facilitate the various tasks involved in making miso. The main part of the structure has thick earthen walls (*tsuchikabe*), an attic, and a traditional Japanese-style tiled roof that all assist in keeping the interior cool, even in the summer months. The structure also includes an insulated concrete room designed for incubating rice with *kōji* (*Apergillus oryzae*, the fungus responsible for *miso* and other fermented products throughout Japan), as well as several large steel pots attached stoves set partially in-ground used for cooking the rice and soybeans. According to L, these pots were that were taken from Fukuda Elementary School after they no longer had use of them following a renovation to their school lunch preparation facility.

Some of the other tools that L uses were also received from people that no longer had use of them. For example, the many large wooden barrels that L uses for miso fermentation were

all collected over time from neighbors who had stopped making miso themselves. In fact, L explained that the majority of her dozen plus barrels came to her in this way, and that she and her husband had only purchased one or two barrels when they first began. Additionally, L explained received the iron hand-grinder she uses for processing the cooked soybeans and *koji*-rice together into a paste from a *nori* processing factory that, according to her, used to exist in Shinchi. She took the grinder to a local electronics shop to have them attach a motor to it in order to automate the grinding process. Although it is unclear, this *nori* processing factory likely refers to the failed *nori* production operation in Shinchi described by O.

After her husband's passing, L has continued to make miso with the help of two of her close friends, also women their 70s, and she has a loyal customer network in and around Shinchi who often buy her miso in bulk. She also sells her miso in local supermarkets, including those on the Miyagi prefecture side of the border, and is highlighted in these stores as a local producer. Although she uses rice from a local farmer, she sources the soybeans she uses from a contact in Akita prefecture because she prefers the quality of the beans. For her *kōji*, L does not cultivate her own strain, but she has sourced the same spores from the same local pharmacy for several decades. L used to make miso up to 10 times per year to keep up with demand, but due to the death of her husband and age she now makes miso about 5-6 times per year.

L is unsure how long she will continue to make miso, although she does not plan to stop at any particular point in time. She is, however, confident that she will likely be the among the last in Shinchi to make miso, as there is no one she knows of that is willing to take over her business or make miso in general. Ultimately, miso making to L represents a past-time that provides her stimulation and the opportunity for activity, and it is also intimately related to memories of her husband.

4.8 Select Key Themes

The interviews detailed above present a wealth of information in terms of a lived historical memory of Shinchi's foodways and food culture over time. Through the course of analyzing these interviews multiple themes were identified, a select few of which are presented below.

4.8.1 Decline of Wild Foodways

Overall, several of the informants pointed to foodways based in wild-caught or foraged foods that have declined over time in Shinchi due to environmental and social changes, including or disaster-related concerns

In the pre-disaster context, as identified by primarily by O and corroborated by several other informants, the changing local climate of Shinchi has led to the disappearance of several wild-caught and foraged foods that were once common in Shinchi, such as *shijimi* and *nurari*, as well as several species of seaweed and fish. However, even for species that did not see any changes in abundance over time, such as seabirds or *inago*, the increased affluence of the area and subsequent lessened need to rely on foraged sources of protein may explain the declining practice to forage or catch these foods. Additionally, it is understood that rural areas like Shinchi were also subject to broad dietary changes over the course of the 20th century that inevitably changed the taste of the local area.

These changes over time were observed in the different foraging and gathering experiences expressed by different generations of informants. For example, informants like A, E, and O recalled many vivid memories related to a variety of different wild foodways based on the locally available flora and fauna of Shinchi. Younger informants, like B, C, and H, although familiar in some cases with some of these foodways, expressed much less attachment to or knowledge of them. This coincides with the younger generation in Shinchi being less likely to experience such foraging or gathering practices as the overall diets and food habits changed

over time. This pattern was corroborated by findings from several informal interviews conducted with other residents of Shinchi, and fits with a trend that can be seen all throughout rural Japan. This trend is expected to continue, particularly considering the near total hiatus of all foraging and gathering activities in and around disaster-affected areas which prevent many people of all ages from forging memories related to wild foods.

In this post-disaster context, even foraged foods that had remained popular in Shinchi, such as wild mountain vegetables or mushrooms like *amekko*, were suddenly considered too risky to eat. Although this is obvious, it is clear through interviews with older informants like E and O that there is still a type of risk negotiation occurring among people who still want to eat such foraged foods. In E's case, this negotiation occurs through the controlled cultivation of *gonboppa* or for *shimi mochi* making, or alternatively foraging in distant areas, meaning that she tries to minimize the risk presented in eating foraged foods. This is pertinent as E's *shimi mochi* is shared among her personal network and was long sold as a food item in her restaurant. Furthermore, it should be noted that environmental changes have also affected E's *shimi mochi* practice by introducing the need for a freezer due to warmer winter temperatures.

On the other hand, some elderly Shinchi residents like O accept the risk of radiation exposure in the consumption of wild food like mushrooms or boar due to assumptions about the timeframe of damage caused by such radiation exposure. However, even O attempted to reduce risk by only consuming such products once per year, and furthermore he did not encourage younger people to follow his example. In both O and E's example, it is clear that the older generation that retains strong connections to these wild foodways is still attempting to negotiate the risk involved in continuing these foodways in one form or another. However, without such a strong attachment, the younger generations may be less likely to put in the same amount of effort and accept even a small amount of risk in eating foraged foods.

In either case, for most of the population of Shinchi and likely other radiation-affected or adjacent areas, in the absence of consistent radiation testing of foraged foods, the existing changes due to the background of environmental change and social change are exacerbated by worries about radiation. Even as people have grown comfortable with eating locally produced food, there is still not a timeframe for nor meaningful discussions about the return of foraging foodways to normalcy. This nearly 10-year disruption in the consumption of wild foods presents a generational challenge for children who were not able to experience firsthand foraging or gathering in their local area. Finding ways to substitute these experiences and cultivate a sense of connection among children to the natural environment to their hometown is considered by some informants and others in Shinchi to be vital. Otherwise, the consumption of wild foods in Shinchi in general is in danger of being lost which would represent a considerable change to the longstanding traditions of the area and the construction of unique local identity informed by the local biosphere.

4.8.2 Precarious Continuity of Local Identity Construction through Food Practices

Certain food practices, namely the consumption of *karei no nitsuke* during the New Year's holiday, were mentioned by nearly all informants a distinct food practice of Shinchi that they partake in. However, the enthusiasm and detail with which informants were able to recall the details or significance of the practice differed greatly by generation. Other practices that are not necessarily unique to Shinchi but still important in the construction of Shinchi's local image, such as various dried foods like *hoshigaki* or *shimi mochi*, or the consumption of *inago*, were also common motifs among nearly all informants. But, once again, the depth of memory and nostalgia for these food items was varied by generation.

Interestingly, B & C were the only informants that were seen to engage in local identity construction almost exclusively through food memories based on their school meals, particularly their fondness for *gomoku nattō* that was remembered as *Shinchan nattō*,

specifically symbolic of Shinchi. However, B & C have not voluntarily engaged much with the other identified forms of locality through food practice as adults. This may because their parents' generation have also not typically engaged as much with practices like making *hoshigaki* due to the general difference in occupation compared to the generation above them (i.e. the trend of occupational change from farmers or fishermen to company workers), as well as the rapid changes in diet they experienced during their childhood.

This is contrasted with informants like A, D, E, and O in particular, whose sense of identity as a resident of Shinchi is tied in part to the various foodways that they engaged in, particularly in their various proximities to Shinchi's agriculture, fishing, or food service industries. For example, O pointed to several foodways that differentiated Shinchi fishermen from other fishermen in surrounding areas, as well as people in Shinchi from surrounding areas in general. Additionally, E spoke about the unique flavor of Shinchi's home cooking which she feels can only now be experienced at her sister's restaurant following the closure of her own restaurant, a flavor that she is trying to pass on to her family members.

4.8.3 Lack of Succession of Key Food Knowledge

As demonstrated by the stories of O, E, and L, there are several individuals that possess a wealth of knowledge regarding local food culture and practices. Some of them do not have any medium to pass on their lived knowledge, presenting an obstacle to the preservation of this type of local cultural heritage, while others have some limited options.

For example, O's detailed descriptions of food cultures and traditions surrounding fishing are either not referenced at all in the town's official history book or are only referenced slightly. Much of his knowledge is anecdotal, but still offers an insight into several unique elements of Shinchi's culture. If the fishermen of his generation all pass without relaying at least the stories to the next generation, then dishes like *usuko no nama* may be lost in Shinchi.

E's knowledge of how to make *shimi mochi* is at least being tangentially passed on to her family members who assist her in the process, but her account highlights that there is may be a lack of motivation among her family members to actually put her knowledge into practice once she passes. Although H and E's other family members are have expressed that they are willing to try, E's presence is currently the driving factor for action. Once again, even if her knowledge is recorded in the memories of her family, there may not be any successor to her legacy.

Finally, L's story demonstrates how a once common food practice throughout most of Japan has slowly faded over time in Shinchi due to a lack of interest or necessity. Although miso-making is not necessarily unique, based on L's account of how invested she and her neighbors once were in miso-making, it was undoubtedly part of the local fabric. Once L chooses to retire, there are no people willing to fill her shoes, and the only miso currently on sale that is made by a private individual in Shinchi will cease to exist.

5 Framing Shinchi's Food Education and School Meals

5.1 The General State of Food Education and School Lunches in Shinchi

This section consists of information gathered from key informants J, F and R in addition to documents from official sources. It is supplemented with information from other key informant interviews and informal interviews.

5.1.1 Pre-Disaster

As discussed in Section 1.3 and 1.4, the national school meal system was officially established by the School Lunch Act in 1954, and the Food Education Basic Law that officially introduced food education into national policy was enacted in 2005. F explained that in Shinchi, Shinchi Elementary School first began to offer food to students from 1952. Due to the lack of resources, only powdered skim milk was served by the school at that time. Following the

establishment of the School Lunch Act, Shinchi's schools largely followed the national mold, such as the continued serving of milk and emphasis on bread over rice (Shinchi Chōshi Rekishi Hen, pp. 719). During the subsequent years, it appears that Shinchi's school lunches continued to follow the broader trends of school lunches across the nation, such the shift towards rice beginning in 1976. The memories of the multiple generations of Shinchi's residents interviewed for this research regarding the school meals they ate as children do not indicate any major deviations from these trends. The only local specialty that could be identified from these memories was *gomoku nattō*, which took on another layer of locality when made with locally produced *Shinchan nattō*. This was particularly true for generations of Shinchi children raised since at least 1975 according to E's earliest memory of *gomoku nattō* in Shinchi. This is reflected in the experiences of other informants, as B, C, and T strongly identified *gomoku nattō* with their memories of school meals, whereas older informants and those that were not raised in Shinchi had never encountered it as children. Overall, it should be noted that while *gomoku nattō* is not necessarily a dish unique to Shinchi's school meals, as it is served in schools in some other areas of Japan, it forms one of the locally distinct memories of school meals pre-disaster.

Also, in line with broader changes that occurred throughout the nation, Shinchi's school lunches evolved with the assignment of diet and nutrition teachers to schools as part of the national food education policy implementation framework under the Food Education Basic Law. As previously discussed, these diet and nutrition teachers are tasked with practically implementing many tenets of the food education policy, as they possess the qualifications to teach lectures themselves and also have the broad authority to determine the contents and themes of school lunch menus. In 2008, this increased focus on nutritional and cultural identity-building aspects of school lunches continued with formal integration of school lunches into food education policy through the revisioning of the School Lunch Act. Once again, Shinchi's

schools responded to these changes as did many schools across the nation, to be expected given the nature of the top-down enforcement of the national curriculum and food education policy Japan. Overall, as discussed in Section 1, in terms of policy changes, the combination of the Food Education Basic Act and revised School Lunch Act arguably represent the biggest changes to the national school lunch system since its instatement, but in practical terms, what actually changed under this system in Shinchi?

J, who served as a homeroom teacher in Shinchi from 1991 to 2001 and then as the principal of an elementary school in Shinchi from 2011 to 2014, explained that much of the philosophy and activities embodied in the food education curriculum were already practiced in Shinchi and many other places long before the Food Education Basic Law. According to her, although the term 'food education' didn't exist, the idea of 'the importance of food' was strong, and it was as if the term 'food education' was simply tacked on top of that pre-existing concept. Referencing G and Nekko no Kai, J explained Shinchi's schools have long engaged with local stakeholders to facilitate activities designed to let students gain firsthand experience agriculture and cooking. Although Nekko no Kai's contributions to these activities only date back to 1997 as shown in Section 5.5.1, according to J, many individual local stakeholders in Shinchi contributed similarly to these activities long before that. For example, J notes that children learned how to plant vegetables from local farmers, and that those 'grandmas and grandpas' (as affectionately referred to by the children) who helped teach the kids how to plant vegetables were always invited to the schools' harvest festival in the fall so that the children could express their gratitude. While J was in Shinchi as a homeroom teacher, the students grew corn, sweet potatoes and various beans themselves, while people like G would take children to their fields to see how famous local products like *nira* were grown or teach them how to make soba noodles. Even first and second-grade students participated in these activities, although J clarified that it

was ultimately up to the individual homeroom teacher to engage their class in these kinds of hands-on experiences.

While this ultimate decision was the responsibility of individual teachers, J explained that in Shinchi, many different teachers not just from individual schools but from the town as a whole often worked together to arrange and realize these activities. The three elementary schools in Shinchi thus often participated in the same activities, although naturally some aspects like the timing and frequency of experiences were left to the discretion of each school. Within each school's curriculum, these activities fell under the umbrella of several subjects depending on the grade level of the students and how the school wished to manage each subject matter's allotted hours. For example, J explained that for third grade students onwards, social studies (*shakaika*) and 'comprehensive learning' (*sōgōgakushū*) are each allotted 70 hours. According to J, the time allotted for comprehensive learning is quite freely manipulable, and each school can decide how to use it in order to supplement education in various other subjects like food education, ICT education, environmental education, and so on. At the time she was a homeroom teacher in Shinchi, there were 110 hours devoted to comprehensive learning, but it has since decreased due to the introduction of English language education. Often being tied to learning about agricultural production, J explained that activities where children go to learn directly from local farmers were and still are linked between social studies and comprehensive learning in order to increase the possible amount of time and thus the scope of the activities. For example, learning about what kind of work farmers do falls under social studies, while actual experiences of planting and raising vegetables in the school garden fall under comprehensive education.

Naturally, this freedom of schools to decide how to spend the hours devoted to each subject and implement the curriculum becomes a differentiating factor for public schools within a prefecture, which all share the same top-down curriculum set according national and

prefectural guidelines. J, who has worked in several schools in Shinchi and Soma throughout her career, describes Shinchi as historically being particularly strong in implementing food education-type activities compared to Soma and other areas, which is one of the reasons it has been able to excel within the current food education framework. The reasons for this are layered, with the base being that Shinchi is a smaller, more tightly knit, and more agricultural area than Soma, which facilitates the formation of close agriculturally based stakeholder networks that can support practical experience opportunities for children. However, this description can fit many rural areas in Japan, and indeed J explained that Soma's schools as well as many others have also long conducted similar stakeholder-involved food education-type experiences as part of their curriculum. Furthermore, Soma and Shinchi's schools of course exist under the same food education policy framework and so experienced the same overarching changes, like the creation of school meals menus by a diet and nutrition instructor. So, because in both Shinchi and Soma local organizations like agricultural and fishery associations have continuously cooperated with schools to present day, and because both schools fundamentally engage in the same type of practical activities under the same prefectural curriculum, Shinchi and Soma may not appear very different in terms of food education at a glance.

While it is indeed true that there are many similarities, the second layer of Shinchi's strength lies in the proactive coordination and unity of Shinchi's three elementary and one middle school. As J puts it:

J: What is different about Shinchi is that the entire town is involved in coordination. There are three elementary schools and one middle school, and in regard to that, while already being in cooperation, they value their network and each implement initiatives at the same time, in lockstep with one another. I think that is a big strength.

J elaborated that while such coordination is easier to accomplish in a smaller municipality like Shinchi, the fact remains that Shinchi's schools have progressively made a conscious effort to maintain a strong sense of unity and cohesion with one another. According to J's knowledge, these efforts have occurred since long before the disaster, from at least when she started teaching in Shinchi. For example, J recalled that when she was employed as a teacher at Shinchi Elementary School in 1998, the school accepted an assignment from the prefecture for research into home economics education within the Soma region (*kateika*). When the results of the research were opened to the public, the home economics teachers from each school in Shinchi gathered and discussed the results so that they could learn from the research and improve their own home economics programs. Later, directly following the implementation of the Food Education Basic Law, the health teachers and others involved with the school meals at each school lead another research effort in response to a prefectural assignment, and similarly worked together and shared results publicly in a forum where many teachers could gather to learn about food education. Overall, although it is difficult to measure in concrete terms, J is points to examples like these to explain the robust interconnectivity of Shinchi's schools that has spanned the major policy changes of early 2000s. As will be elaborated further in the next section, in J's view, this solid foundation provides the basis for the 'higher level' of Shinchi's food education activities compared to Soma, particularly after the disaster

5.1.2 Post-Disaster

This section aims to offer a critical chronological account of the post-disaster state of Shinchi's school means and food education, which is closely tied with risk communication and legitimation. Although this section will touch on such risk communication and legitimation efforts, they are further detailed and analyzed in the following section.

In the immediate aftermath of the GEJE, Shinchi's schools served as evacuation shelters for many in Shinchi who lost their homes to the tsunami. Uncertainty over full extent of

radioactivity spread from the Fukushima Daiichi plant was very high, and the town was grappling with the immense grief over lost family, friends, and livelihoods. Despite these grave challenges, Shinchi's schools held their entrance ceremony on Thursday, April 14th, only a short delay from the scheduled date of April 6th, and on April 18th, 2011, students reported to school to being class.

J, F, and R all described that schools throughout the Shinchi-Soma region struggled immensely over how to safely open the schools and ensure the safety of school meals. They and their colleagues, dealing with enormous losses themselves, could not let the school buckle under pressure, and they worked tirelessly to ensure that the schools still stood as pillars of the community.

The first problem faced regarding school lunches was the source of the ingredients. Shinchi's schools had long turned to local producers to contract much of their foodstuffs, and this was further encouraged and emphasized in the years prior to disaster by the push for food education. Suddenly, however, the safety of these products could no longer be guaranteed, and comprehensive radiation testing for school meals was still logistically unfeasible. Looking through old records, F confirmed that in response to these conditions, an emergency contract was made with the local small business association (*shōkōkai*) to source food from outside of the prefecture, including milk and other prepackaged foods. Once this contract was secured, the diet and nutrition teacher worked to create menus for April and May, which were published and distributed to parents and guardians as per usual (Appendix A and B).

In order to ensure the complete safety of the food items and prevent food from being prepared on-site, from April 18th to the 22nd, only 'simple' school meals consisting entirely of prepackaged items were provided to students. These meals consisted of a sweet bread item, milk, and a dessert item, and children were sent home early. During the next week, full but

relatively simple meals that met the appropriate nutritional standards were provided, and students returned to their normal learning hours. These meals were prepared in-house from entirely non-Fukushima products, and consisted of a main dish, milk, and a dessert item. It is worth noting that the meals served during this last week of April were all known favorites and were intended to have the effect of boosting morale among the students, even if by a small amount.

From the beginning of May, the school largely returned to its normal monthly menu while still using ingredients sourced from outside the prefecture. The May menu flyer (Appendix B) distributed to the parents and guardians at the time specifies that the school was sourcing only products being sold on the market and was additionally independently double-checking the place of origin of said products. Furthermore, it is specified that for milk, not only was the place of origin being confirmed, but that the school was in direct contact with the suppliers or producers of the milk. Milk being of particular concern due to its daily appearance on school lunch menus, they further note that the milk used at the time was produced in Iwate but processed in Fukushima. They also note that vegetables are washed repeatedly, that the safety standards for water from the school's plumbing system were tightened, and that the water was measured for radiation exposure every two days at the water purification plant. These statements, clear efforts at transparency and cultivating trustworthiness in the school's ability to ensure the safety of its students, were among the first attempts at risk communication surrounding school lunch by Shinchi's schools.

Sadly, the flyer also notes that usual custom of providing a special birthday meal once a month to students whose birthdays fall within that month has to be stopped for this year due to budgetary constraints. Although this may seem like a superficial loss, it hints to the financial struggles that the schools and the town as a whole faced after the GEJE even with the reception

of emergency support and recovery funding. These financial constraints extended to testing food for radioactive contamination.

For the next several years, Shinchi's schools continued to avoid using local ingredients in school meals. In the weeks following the disaster, this was done to ensure that the food served to children was as safe as possible due to inability to conduct thorough radiation testing for food items. By August of 2011, J explained that Shinchi's schools were already conducting testing of the food that they served to students, but because the total cost of these tests was borne by the municipality, as a town Shinchi could not afford to pay for tests every day. At that time, the testing frequency was twice a week. The food ingredients from the town's four schools were gathered and taken to the town hall to be tested. These results, which almost always found no detectable levels of radiation in the food, were then made public and distributed to students' parents and guardians.

The school meal menu and food education messaging shifted during this time period. While Japanese food and healthy eating habits were continued to be promoted through school lunches and under the banner of food education, the absence of local ingredients meant that messaging and themes revolving around 'locality' constructed through food were made impossible. For example, before the disaster, a school lunch menu flyer distributed to parents could emphasize that certain vegetables, rice, and other ingredients were sourced locally, and such information could be presented to children and integrated with their food education activities. However, after the disaster, even with Shinchi's well-developed stakeholder network that had long acted in support of Shinchi's schools both before and after the formalization of food education, all activities related to the production or consumption of local food had to be stopped. As long as the risk of internal or external radiation exposure remained, the children could not eat food produced by locally, nor could they participate in hands-on experiences like growing their own vegetables or visiting local farms.

Unable to return business as usual, Shinchi's schools instead had to tackle a new challenge in their role as an educational institution, an arm of the local government, and a conduit for the top-down dissemination of state-promoted modes of thought and behavior. In each of these roles, Shinchi's schools were tasked with the responsibility of teaching children, as well as their parents and guardians, about radiation: what it is, how its measured, its effects, and so on. By providing this education to children, parents, and guardians, Shinchi's schools exercised their ability to give people the means to scientifically understand the nature of and risks posed by radiation. In doing so, the school also shaped how people in Shinchi perceived this risk and responded to it, which in turn affected the ability of the school and local producers to begin to return to the pre-disaster status quo.

This period of time will be elaborated and analyzed further in the next chapter, but the result of several years of intense radiation education by Shinchi's schools was the slow but successful reincorporation of locally produced foods into school lunches and the continuation of hands-on food education experiences involving local stakeholders. In the fall of 2014, rice produced Shinchi became the first local ingredient to be reintroduced to the town's school lunches following several rounds of surveys to assess the opinions of parents and guardians and rigorous testing to ensure its safety. The final authority behind this decision laid with the mayor of Shinchi at the time and carried the support of the town's board of education. The choice to begin with rice was symbolically important for several reasons, namely rice's status as a staple food tied closely to constructions of Japanese national identity through *washoku* and its position as a staple crop of Shinchi whose production area was greatly physically damaged by the tsunami. F stated clearly that the decision to use local rice was intended to demonstrate that products grown in Shinchi were not dangerous. Although initial support for the decision was very low among parents and guardians, the school held a single meeting with 100 members of the PTA for the express purpose of explaining the reasoning behind their decision in order to

foster consent. The explanation given during this meeting was offered by R in her capacity as a diet and nutrition teacher, and F explained that the thinking at the time was that if the PTA could be convinced, then they would help to convince the majority of other parents and guardians. This was accomplished in time for the start of the second semester, and so rice began to be used in school lunches. Once local rice was generally accepted, other vegetables like spring onions and spinach soon followed depending on their levels of radiation as indicated by testing. F explained that root vegetables like carrots and daikon took slightly longer because they tended to accumulate more radiation than leafy vegetables.

Shinchi's schools also began their role as model schools selected by MEXT's Super Food Education School Project in 2014, another incentive for them to return to using local ingredients as soon as possible. F explained that Shinchi's school were originally given attention by MEXT due to the connections possessed by a member of the town's board of education. With the opportunity presented by this connection, F described that Shinchi was eager to volunteer to join the project in order to facilitate the return to the practice of *chisan chishō*. F elaborated that the thinking was that once parents could be convinced school meals were safe, their thinking about local food in general would shift in a similar direction, which would in turn lead to Shinchi's general perception of the safety of local food to change. Once it was decided that Shinchi was selected for the project in 2013, J explained that she advanced the preparations for this new endeavor, such as planning out some of the contents, inviting lecturers, and so forth. Furthermore, F explained that the push to reincorporate local rice into school lunches was directly tied to the acceptance of the Super Food School Education Project model school designation. As part of the preparation for and participation in the program, the school and the town board of education decided to push to use local rice so they could claim a return to the philosophy of *chisan chishō* under the auspices of the national food education framework. Subsequently, the years spent by Shinchi's schools under the Super Food

Education School Project saw a renewed vigor to embody the core principles of food education, including emphasizing consumption of local foods and promoting healthy dietary and lifestyle habits outside of the school.

As F and R explained, due to worries over external radiation exposure after the disaster, many children in Shinchi were not allowed to play or engage in recreational activity outdoors. This, along with diets that shifted towards more prepackaged foods due to concerns over radiation exposure from locally grown, fresh ingredients, led to a rise in obesity among schoolchildren throughout the disaster-affected areas of Fukushima, including Shinchi. F added that for families living in temporary housing facilities it was difficult to cook homemade meals in the very small kitchens, so many parents who were already dealing with many other daily stresses and time constraints resorted to using meals from convenience stores. So, general aspects of food education that encourage physical exercise and the intake of local foods as part of a healthy diet took on increased significance as the school worked to combat this rise in obesity. In this context, just as the return to local food was intended to help assuage fears and rebuild trust in the local food, F explained that encouraging children and their guardians that it was now safe to play and exercise outdoors was a key part of the school's food education efforts.

The activities that began under the Super Food Education School Project were continued and furthered under MEXTs subsequent Promotion for Connected Food Education Project. As detailed in Section 1.3, these two MEXT programs' general goals and aims are similar, and there were not many major changes that occurred in Shinchi's food education or school lunches during the shift from the former to the latter. As F explains it, one noticeable difference in school's activities under the Promotion for Connected Food Education Project is an explicit effort to promote regional cuisine (*kyōdoshoku*). This effort is exemplified in the annual *hokki meshi*-making workshop at Shinchi Elementary School, in which multiple different local stakeholder groups come together to help students make this local specialty dish consisting of

rice cooked with *hokkigai* (*Pseudocardium sachalinense*, also known as *ubagai*) Indeed, as explored later, this workshop can be understood as a perfect example of everything that Shinchi's schools seek to accomplish through their contemporary food education activities (see Section 5.3).

It should be noted that unlike the Super Food Education Project in which all of Shinchi's schools were selected as model schools, only Shinchi Elementary School was chosen as a model school for the Promotion for Connected Food Education Project. According to J and F, the reason for this is that R, the primary figure behind the implementation of food education activities in Shinchi, was based in Shinchi Elementary School at the time, and so Shinchi Elementary School took the leading initiative to join the program. Although only Shinchi Elementary School was selected, all of Shinchi's schools benefitted from the designation and implemented their food education curriculum very similarly. As explained by J and noted in the previous section, the strong cooperation and information sharing between the schools in Shinchi allows them to move in sync with one another. As she further notes, this in history in combination with the schools' participation in MEXT's national food education initiatives has allowed Shinchi's schools to distinguish themselves by excelling in the implementation of food education instruction and activity that are otherwise considered common. For example, J gave the example that many schools around the nation have a *shishokukai*, a group of parents and guardians that come to school to taste and eat school meals together with their children. For most schools, an event like this would only be held once a year, whereas in Shinchi, it is done multiple times. This pattern is repeated for many food education related events, as J further explained that while Shinchi's four schools already conduct cooking workshops using local foods and involving parents and guardians, other schools either don't do such activities or are only able to do it once per year at a single school in a municipality. While Shinchi has been

promoting these kinds of events for several years, J's current school in Soma has just started to attempt such an event once per year.

From this perspective, there is a clear gap between Shinchi their next-door neighbors in Soma. J acknowledges that Shinchi's consistent ability to excel in such a manner is boosted significantly by the financial support it gains from the national government through participating in MEXT's national food education projects. However, she also explained that Shinchi's ability to secure this funding by joining these projects was itself facilitated by the pre-existing cooperation networks between Shinchi's four schools and many local stakeholders, which does not exist to the same extent in Soma. F explained that the funding received from these national government has largely been to push the reach of its food education activities outside the confines of the classroom and engage with parents and guardians through events like recipe contests and the publishing recipe books.

Looking forward, the strengthened adherence to national food education policy goals implemented a manner that supports the local community that has characterized Shinchi's schools since 2014 is planned to continue even as the Promotion for Connected Food Education Project came to an end in 2019. It as of yet unclear what changes the ending of this program will bring, but F describes that she hopes the next stage of Shinchi's food education activities can further connect to Shinchi's historically important fishing industry and its associated food culture. The continuation and advancement of events like the *hokki meshi* workshop that involve fishery-related stakeholders is envisioned to achieve this goal and help rejuvenate the consumption of fresh local fish in Shinchi.

A closer analysis of the lasting risk communication landscape surrounding Shinchi's schools, and perceptions of the role of food education and school meals in alignment with state promoted ideologies are offered in the following sections.

5.2 Risk Communication and Scientific Legitimization of Risk Through School Meals

This section consists of an analysis of information gathered from key informants J, F, R, H, T, P and Q in addition to documents from official sources. It is supplemented with information from other key informant interviews and informal interviews.

5.2.1 Efforts by the Schools

5.2.1.1 March 2011 – September 2014

As explained in the previous section, the menu flyers for Komagamine Elementary School distributed for April and May 2011 (published in April) are among the very first of examples of Shinchi's school's written attempts to communicate, legitimate, and shape perceptions of risk (Appendix A and B). From this short document, the general principles and themes of local risk negotiation in the very early stages after the disaster Shinchi can be seen.

Firstly, in the absence of a scientific means of legitimation of risk, Shinchi's schools (and by extension the community at large), assumed that local foods were unsafe for consumption. As explained by J, in the weeks and months following the disaster, daily, comprehensive testing of food products served in school meals was unavailable to because of the prohibitively high cost of testing. Furthermore, although the Japanese government provided immediate physical and financial support to devastated areas like Shinchi, the purchase, installation, and training for operation of radiation testing devices naturally took time. Thus, even if airborne or environmental radiation could be relatively easily detected with the use of Geiger counters in Shinchi to determine which areas were safe and which should be avoided or decontaminated, food remained an area of uncertain risk for a relatively longer period of time. In the decision to allow children to return to the school, the school was constantly tested for environmental radiation, which determined that the risk for children to stay indoors on school grounds was relatively low. However, in terms of meals, similar determinations of safety could not be made, and without testing, the safety of locally produced food could not be trusted.

Given the assumed lack of trust in the safety of locally produced food, a twin assumption was made that food produced outside of Fukushima prefecture would be safe enough for children to consume even without immediate testing, which is why the school specified that only products being sold on the domestic market were sourced, and that the school was independently confirming the place of origin of these products. That these products were considered safe to eat by the school and accepted as such by the parents of guardians of students relies on several assumptions rooted in trust in different institutions. Firstly, assuming that food currently being sold openly on the market is safe is based on trust in the reliability of the Japanese government and food industry regulators' testing methods and standards set to ensure consumer safety throughout Japan. Secondly, even though the school independently confirmed the point of origin of the products used, the assumption that food produced in those areas are safe is dependent on trust in the credibility and accuracy of the national government's determinations of the extent of radiation spread from Fukushima Daiichi. From this statement, it can be understood that the school was relying on general trust in several external institutions in order to demonstrate its own trustworthiness because it had no independent means of generating that trust through scientific risk legitimation through radiation testing.

In addition to leaning on general trust in larger institutions and social systems, the schools also endeavored for transparency and emphasized their own proactiveness in trying to help negotiate the risk faced in food products. The mention of the repeated washing of vegetables, independent point of origin tracing and direct contact lines with producers of milk all cultivate the image of the school as an active entity that is exercising whatever limited capacity it has to determine the safety of the food it is sourcing and using. Although the school's ability to definitively confirm the safety school meals was at this point in time beholden to many outside factors, it could not and did not want to project an image of passiveness or opaqueness. In this vein, the school also announced that it tightened its acceptable safety criteria for radiation in

the school water supply and that these levels were checked every two days by the water treatment facility. By lowering the acceptable level of radiation in water supply, once again school endeavored to exhibit its proactiveness and thus cultivate trustworthiness as an organization that has the best interest of its students in mind. It is also important to note that this is the only point at which the school could highlight actual testing for radiation, which affords the statement with increased credibility through an implied scientific basis for risk and safety determination.

It is very important to note that the word 'radiation,' or any other term that directly referred to the nuclear disaster or radioactivity, was never used in the entire document. Without any means to test for radiation in food or experience with how to communicate information about radiation to students and their parents and guardians, the school avoided direct mention of the topic in this specific format. Nonetheless, the invisible yet undeniable presence of fear of radiation is felt every statement, as it was in the surrounding air, soil, and food.

However, the school was very soon engaged in direct efforts to foster understanding of radiation. R mentioned that the schools began to check the school meals for potential radiation about two months after the disaster and so started to communicate the results of these checks to parents and guardians. Yet, as explained in the previous section, by August of 2011 checks were still being conducted centrally at the town hall only twice per week due to the prohibitive costs, so the capacity was still limited. Amidst these small advancements and attempts at legitimating and communicating risk, there was still the issue of understanding on the part of the parents and guardians. In order establish opportunities for direct communication and information exchange, J explained that soon after the disaster the school in conjunction with the local government and support of the prefectural government established a series of open guidance session (*gakushūkai*) regarding radiation and safety that were directed towards parents and guardians of students. During these sessions, outside lecturers such as university

professors were invited to speak, and a representative of Shinchi's town government was also present. During these sessions, J described that information and guidance was offered regarding the safety of the area's food, and that it was conveyed to the parents and guardians that there would be no damage to them resulting from radiation exposure in the course of their daily life activities. Naturally, the anxiety and doubts felt by the parents and guardians couldn't be dispelled in one session, so they were repeated several times. Yet, there was still large degree of uncertainty and confusion. As J describes it:

J: So, [the guidance sessions] were repeated several times. Even then, people didn't understand, at that time, whether things were truly safe or not. No matter how many times they listened to the talks, and even if at the global level it was announced that the safe level of radiation was 0.5 μSv, ascertaining whether that number is truly safe or not was confusing for the parents and guardians.

This quote speaks to general lack of scientific literacy regarding radiation among the average layperson, which was understood by J, school officials, and many others in government institutions throughout Japan as one of the biggest obstacles in convincing people of the safety of their surroundings and food as. Risk communication efforts needed to incorporate basic education about radiation so that people could comprehend (and accept) the information they were receiving, whether from local schools or the national government. J and F explained that this pressing need was the driving factor behind the rapid adoption of radiation education as part of the official curriculum of all elementary and middle school students in Fukushima prefecture. Beginning in 2011, the Fukushima Prefectural Board of Education annually released the "Materials for Radiation Instruction" (放射線等に関する指導資料, Hōshasentō ni Kansuru Shidō Shiryō) under the Radiation Education Promotion Support Project to every school in Fukushima until 2016 (Fukushima Prefectural Board of Education, 2016). Under this

project, several schools throughout Fukushima were selected as model schools, and the annual documents contain a variety of detailed material regarding the disaster at Fukushima Daiichi, basic information about radiation, examples of radiation education at model schools, and guidelines about how to implement ethics and human rights education (Fukushima Prefectural Board of Education, 2016). These documents are intended to serve as a guideline for the implementation of radiation education throughout the prefecture, and from 2018 onwards several other extensive documents that compile examples of implementation of radiation and disaster prevention education have been released.

As described by J and F and confirmed by the document cited above, in practical terms the instruction offered under radiation education is focused on developing scientific literacy by teaching about the mechanisms of radiation, teaching how to test for radiation and understand the results, and offering guidance about how to keep oneself safe by actively participating in or avoiding certain activities. According to F, differing from other prefectures, in Fukushima at least 2 hours of instruction about radiation is mandatory for students beginning from their first year of elementary school. Although this instruction under the official curriculum is given to children, the same type of information was repeatedly conveyed to parents and guardians through workshops, leaflets, and also indirectly through the children themselves. J specifically mentioned that a message was sent to the guardians that was aimed to challenge their perceived lack of understanding. She said:

J: It was also conveyed to the guardians that not knowing a variety of things and only being fearful [about radiation] is bad, that knowing that which is safe on a proper, scientific basis versus what does have be treated with caution is a must.

This statement highlights the positionality of the schools in relation to the parents and guardians of their students, and by extension the citizens of the town as a whole. The schools,

with their access to information and educational materials provided by the government and with the ability to call upon experts to assist in their lectures, have clearly occupied a role not only as a communicator of risk but also one that has actively tries to shape risk perception in a particular manner that it considers desirable. This is to be expected, as the same pattern was repeated through national efforts at risk communication regarding radiation and food safety by the Japanese government, which were heavily problematized for trying to shape risk perception in a matter that de-prioritized consumer safety and spread distrust (see Section 2.2).

For the Shinchi's schools, the desired outcome of shaping risk perception was clearly stated to be the increased trust the safety in local food products. This was especially pertinent considering that Shinchi's schools' historic reliance on local food products and stakeholder networks related to food to conduct its food education activities. Additionally, as F, R, and J explained, there was the perception among school officials that local food was the healthiest and freshest option available to children, so there was an apparent health incentive to encourage its consumption as long as there was no threat of radiation exposure. Furthermore, beyond the scope of activities directly related to the school, there was an understanding among nearly all members of the community that increasing the overall local trust in locally produced food would facilitate the recovery of fishing and agriculture industries by restoring lost demand.

With these incentives to recover trust in local products, the school was also on the frontlines of radiation testing in Shinchi and had the earliest access to knowledge about radiation through preparation for implementing radiation education. As such there was a perception gap in which some people among the schools in Shinchi felt that the general unease about radiation in food did not match the actual reality of the situation in Shinchi. F explained that although Shinchi had almost no levels of radiation contamination among locally produced food products, the school wasn't able to use local products for school meals for several years due to "*fūhyō higai*

and the worries of parents and guardians," so the school felt that they needed to do 'something' to change this situation.

By invoking the term *fūhyō higai*, F makes explicit that within two years after the disaster, parents and guardians worries over radiation in food time were considered to be harmful and irrational. Taking this one step further, F's explanation that the felt obligated to do 'something' positions the school appositionally against those who did not consider local foods to be safe for children's consumption. Once again, the effort to shape risk perception through risk communication as demonstrated by Shinchi's schools mirrors the steps taken by the national government in that they both seek to emphasize the safety of food by criticizing competing narratives as being 'non-scientific' and directly harmful to those whose livelihood depends on the production of food products.

This endeavor to control narratives of risk by Shinchi's schools is made more apparent following the push made to reinstate locally produced food into school lunches to coincide with the launch of the Super Food Education School Project, as discussed in the previous section. Although the safety of students is always made out to be the number one priority by the school, what is considered 'safe' was up for debate on the stage of risk communication. F recalled that initially 90% of parents and guardians were against the inclusion of rice into school meals. She also noted that the school felt that once parents and guardians were convinced that local products were safe enough to use in school meals, their way of thinking towards local food in general would change and in turn would spark a broad change in attitude toward the safety of local food among all of Shinchi. In organizing a special meeting with the PTA in which the diet and nutrition teacher, the school's official overseer of food education implementation, made the case for the safety of local products to 100 parents and guardians, the school relied on the credibility afforded to it as an institution and to the diet and nutrition teacher as an expert on food health to push its risk narrative. Part of these efforts included Shinchi's schools

adopting standards for radiation in food that are 10 times stricter than those set by the national government (10 Bq/kg vs. 100 Bq/kg). By demonstrating that the local rice they intended to use fell below even these strict standards and appealing to need of local food for recovery, the schools, supported by the town government, used both reasoning based on 'scientific rationality' and appeal to the complex desire for the recovery of the local area. Controlling the town's risk perception in this way, the school's risk communication efforts eventually succeeded in convincing the majority of parents and guardians that the school's standards and practices of radiation testing were sufficient and trustworthy enough to safely allow local food back into the school lunch menu.

5.2.1.2 September 2014 - Present

Once this major change occurred and local foods from Shinchi and Fukushima prefecture were largely incorporated back into the school lunch menu under the Super Food Education School Project, Shinchi's risk communication efforts have remained largely consistent through to the present day. As radiation education has advanced, radiation levels have continuously faded over time, and without the need for major consensus building among parents and guardians, Shinchi's schools current risk communication and legitimation activities are best described as those necessary to 'maintain' the trust of the community. Rather than workshops or guidance sessions intended to educate parents and guardians, Shinchi primarily relies on various newsletters and leaflets published by the schools to simply inform them of current measures taken regarding radiation testing and ingredient sourcing. These documents are published periodically both online and in print to facilitate access among parents and guardians.

One such document published under the Super Food Education School Project period in February of 2015 provides a representative example of Shinchi's risk communication efforts post-2014 (Appendix C). The document, entitled "Shinchi Town's School Meal Safety Management System," lists four testing criteria that must be followed in for any newly

incorporated ingredients sourced from Shinchi or within Fukushima prefecture. First, the items must have passed a radiation test conducted by the producer before being distributed.

Then, the items are tested several days prior to being used at the Shinchi Town Hall. Finally, the items are tested on the morning of the day they are to be used to make school meals in their raw ingredient format. Finally, a full serving of a cooked school meal made with the items is sent for third-party testing.

The document goes on to provide a step-by-step visual guide and explanation of how these different tests occur in order to foster trust and understanding through transparency. For the case of a raw ingredient test, approximately 500 grams of the multiple ingredients that are to be used for the day's meal are minced together in a food processor and placed in a plastic bag by each school's food meal preparation staff. These bags are collected by a member of the town's Board of Education, who brings it to Shinchi Town Hall to be tested. The testing device is kept by the town's Agriculture, Forestry and Fisheries Department, and the ingredients are tested for Cesium-134 and Cesuim-137 (the most significant long-term radioactive isotopes released by the nuclear disaster) at a standard of 10 Bq/kg. The test takes approximately 40 minutes to complete.

To fulfill the fourth criteria, a single, entire school meal, including the milk, is made into a paste using a food processor by the school meal preparation staff and then frozen. This process is repeated daily for one week, and on Friday the five frozen meals are sent to the Fukushima Preservative Service Association of Health[8] located in Fukushima City for testing. This independent testing is supported financially by the Fukushima Prefectural School Meal Monitoring Project.

[8] Official English name of the 福島県保健衛生協会.

The document specifies that results of both of these tests are published on the official Shinchi Board of Education web page entitled “Food Education Shinchi” (食育しんち).

An analysis of a similar document published one year later, in February 2016, already indicates a slight relaxing of the testing standards and an increase in Shinchi’s testing capacity (Appendix D). In this document, the criteria calling for testing of ingredients several days prior to being used has been removed and the testing of raw ingredients now occurs using a new testing device that is set up at Komagamine Elementary School as well as the one in Shinchi Town Hall. The reason that this device was hosted by Komagamine Elementary School was because R was stationed there during this time, and she was the person who was trained to operate the machine and responsible for doing so in her official role as a diet and nutrition teacher. Because this machine is not as sensitive as the one in Shinchi’s town hall, it requires 900 grams of food rather than only 500 grams. Otherwise, independent testing occurs as described in the previous year’s document. Interestingly, this document makes a point of highlighting that the independent testing results from days in which local ingredients are used and those in which ingredients from outside the prefecture are show almost no difference in detected radiation values.

Another document published in May of 2020 (Shinchi Town, 2020) reveals that the current process is nearly identical, although testing shifted entirely to Shinchi Elementary School together with R as she was reassigned at the end of the Super Food Education School Project period. This document specifies that the town’s other three schools (two elementary and one middle school), which share ingredient sources with Shinchi Elementary School, only send their ingredients to be tested using the device at Shinchi Elementary School one or two times per month. The independent testing of fully prepared school meals is conducted as previously described.

The centralization of testing at Shinchi Elementary School without the assistance of the town hall and reduced frequency of testing by the other schools is indicative of a lessened need for aggressive risk communication. This is to be expected as the use of local ingredients has become increasingly accepted and supported by parents and guardians. Indeed, this May 2020 document indicates that Shinchi rice, Fukushima milk, and local (either Shinchi or Fukushima) fish, seaweed, strawberries, cabbage, peas, snap peas, green onions, min tomatoes and *nira* were all used in school meals during the months of April and May.

In each of the documents that details the radiation testing process of Shinchi's schools, a claim is always made regarding '*anzen anshin*,' or the dual principle of safety and peace of mind (i.e. trustworthiness), of the ingredients and school meals. As this is a common refrain throughout Japan and one that is used constantly in government risk communication within and without the framework of food education, it is no surprise that it is repeated here. As to whether this claim is true, according to F, since testing has begun, there have been almost no instances of radiation detected above the sensitivity threshold of the machine, let alone the standards set by the school. She couldn't recall a single case where the school meal for the day had to be canceled, although there were rare instances when ingredients had to be substituted out. For now, they are supremely confident in the safety of Shinchi's school meals, so much so that F and R stated that because of their rigorous testing, Shinchi's school meals are probably safer than those of schools almost anywhere else in Japan. As to whether Shinchi's parents and guardians are of the same opinion, the next section explores their response to the risk communication efforts by Shinchi's schools.

5.2.2 Perception of Parents and Guardians

An acknowledged limitation of this study is the bias inherent in snowball sampling methods which rely on informant's personal networks to source further informants who are likely to share certain views and opinions. It is recognized that this aspect of the research could be

advanced further by accessing informants whose opinions differ from those of the informants listed below. That being said, although the cases presented are not intended to offer a representative sample of all parents in Shinchi, based on the findings of multiple informal interviews and corroboration with other key informant interviews, it is believed that the information offered by the informants below provides an accurate view of the risk perception of parents and guardians of children born before and after the disaster.

5.2.2.1 P & Q's Case

P and Q are parents to three children that they have raised in Shinchi, and P has been an active member of Shinchi's Parent Teacher Association (PTA) since the early 2000s. One month after the disaster, P assumed a high position of leadership in Shinchi's PTA that he held until 2016, and he has also held positions of leadership in the Fukushima PTA. As such, P and Q have firsthand experience of the school's efforts at risk communication directed towards the PTA and the various opinions and viewpoints that existed among parents and guardians of children in Shinchi after the disaster.

Directly after the disaster, P and his coworkers went together obtain accreditation as a level 3 "Radiation Protection Supervisor" (第 3 種放射線取扱主任者) in order to gain knowledge about radiation. This certification is provided by the Nuclear Safety Technology Center[9], a public interest incorporated foundation established with national government support in 1980 that is empowered to offer this certification under the "Act on Prevention of Radiation Hazards due to Radioisotopes, etc."[10] (Nuclear Safety Technology Center, 2020). The level 3 certification is the lowest level of Radiation Protection Supervisor, but it still provides a

[9] Official English name of the 原子力安全技術全ター.

[10] Tentative official translation of 放射性同位元素等による放射線障害の防止に関する法律.

relatively high degree of scientific knowledge about radiation and safety measures. Although P obtained the certification together with members of his company, possession of this certification was by no means common among people in Shinchi. Because he was equipped with this knowledge about radiation soon after the disaster, P explained that his and Q's perception of the risk of internal radiation exposure through the consumption of local foods was very different than the majority of parents and guardians in Shinchi.

In the months following the disaster, P explained that he didn't feel any anxiety or fear about radiation, because according to his understanding of the data about local radiation levels, he perceived there to be no danger in the area. As a leading member of the PTA, P worked together with teachers and other parents and guardians to decontaminate school grounds and take measurements using Geiger counters. Relying on the scientific literacy gained through his learning as a Radiation Protection Supervisor, P came to the conclusion that the radiation levels in Shinchi that he measured himself and that were announced officially were low and did not indicate any problems. As such, he and his family did not worry about going out of their way to source food produced out of the prefecture and continued to eat as they normally would. It should be pointed out that P's decision making based on the information he gained from his certification is heavily dependent on trust in the multiple institutions responsible for setting nuclear safety standards and measuring for radiation, primarily the Japanese government. Furthermore, Q and other members of the household also exercised trust in P's judgement and in doing so also implicitly confirmed their trust in these larger institutions.

Despite his confidence in the safety of Shinchi and local food, P explained that his attitude was not at all normal among the town's parents and guardians. As a high-ranking member of the PTA, P worked closely with the teachers and administrators at Shinchi's schools and agreed with their efforts to reincorporate local food that was proven to be safe through radiation testing. P confirmed that although local Shinchi and Fukushima food products officially began to be

included in school meals in 2014, there were attempts to do so even earlier that were met with strong pushback. As F also explained, a large majority of local parents and guardians were against the inclusion of any food products produced in Fukushima, including those from Shinchi, even in early 2014. P explained that it took a large degree of time to change these opinions, and that the process started from actions intended to garner 'understanding' among parents and guardians.

At the time it was decided Shinchi's schools were to join the Super Food Education School Project, P described that a discussion group was formed between nearly all of the parents and guardians in town as well as the representatives from the schools and other groups to consider the question of what initiatives should be taken under the new project. P recalled that this 'discussion group' was called the "Food Education Promotion Conference" (食育推進協議会) and was instituted temporarily prior to the start of the Super Food Education School Project. It is likely that this is the meeting consisting of '100 PTA members' that F referred to in which the schools worked to gain consensus for the incorporation of Shinchi rice into school meals. During the long process of consensus-building, P described that besides arguments that relied on testing results that local food was indeed safe for consumption, two answers were given in response to those that raised the question of why it was necessary to insist on local food when there were alternative options available. Firstly, there was the argument that the use of local food is an important element of food education and identity building tied to the construction of a sense of locality among the children. Engaging with the local food and local food producers was argued to be an important part of developing children's understanding of and attachment to their 'hometown,' embodied by the term '*jimoto-ai*.' The development of *jimoto-ai* was especially considered important due to the severely decreased opportunities for children to participate in traditional foodways and cultural practices or even simply to play outdoors after

the disaster. Secondly, a direct argument was made to parents and guardians about the financial impact of including local food in the school lunch menus. It was simply put that doing so was a necessary step to save the local farmers. The combination of these arguments in tandem with radiation testing data showing the safety of local rice eventually convinced the majority of parents and guardians.

However, although eventually the majority consented, P explained that there were a few parents and guardians who continued to voice their disagreement after the decision and even did so directly at the school to school officials. On occasions, P was asked to mediate these disagreements by school officials, although there were no direct or official efforts to convince those who did not agree. Rather, if a parent or guardian was intent on not allowing their child to eat the meals provided by the school, they were encouraged to make homemade meals for their child to bring instead, and according to F, were refunded the 4000 yen school meal fee. P furthermore explained that there were some parents and guardians who were somewhat split and allowed their children to eat the school meals but requested that they be exempt from drinking milk, which was known to carry higher levels of radiation after the disaster. These opinions lasted until 2015, after which they largely died out.

Presently, P stated that the school no longer measures opinions of parents and guardians regarding the use of local food because it has been so widely accepted, and furthermore that the usage of Shinchi and Fukushima food products has already reached pre-disaster levels. Once things at the school stabilized into their current patterns, rather than focusing on the relatively low risk of radiation exposure, P and Q have put in effort to develop new and interesting experiences for Shinchi's schoolchildren together with Shinchi's schools.

5.2.2.2 T's Case

Although T was raised in Shinchi, she has lived in Tokyo since her graduation from high school, gave birth to her daughter there in 2012. As a licensed nutritionist, like P, T can be considered an outlier among Shinchi's parents in her degree of general scientific literacy and specific knowledge about food and health. In the year following the disaster, for much of which she was also pregnant, T did worry about being exposed to radiation in general and made a point of avoiding some local products when visited Shinchi. She described that upon seeing data about radiation levels in different food items, she was able to come to her own conclusions about what items had high enough levels of radiation to be avoided and what local items were safe to eat. In doing so, T placed a high degree of trust in this data and the institutions that collected it and set the standards against which it was graded. T specifically uses the vocabulary of 'trust' (*shinyō*, *shinrai*), to describe her degree of faith in the results, and even said that she now trusts in the safety food products from Fukushima prefecture more than those from other prefectures since she knows that only Fukushima prefecture has been 'properly' checking everything since the disaster.

T began visiting Shinchi together with her daughter soon after she was born, at which point T already perceived the radiation levels in Shinchi to be 'low.' According to T, she began doing this when several of her acquaintances that grew up in Shinchi but were raising children elsewhere did not bring their children back to Shinchi, signaling the early difference in her perception of risk. During these visits, T allowed her child to eat vegetables grown by her parents in their home garden and other local food around Shinchi that she assumed were safe based on her knowledge of the most recent data. In the same vein, T did not allow her daughter to eat local seafood or mountain vegetables because both were known to generally contain high amounts of radiation, in addition to mushrooms. T actually preferred spending time in Shinchi because her daughter had the freedom to play outdoors, which T encouraged even when her

daughter was only one to two years old, at a time when many other parents were still concerned about external radiation exposure. As long as T could see the data, which she said was properly published in Shinchi, she did not worry about exposure. The only major precaution she took was to avoid using the Jōban train and highway route between Tokyo and Shinchi, which passes through highly contaminated areas in close proximity to the Fukushima Daiichi plant.

Having no worries about the effects of radiation in Shinchi, T and her family moved back to the town full time in the spring of 2019, and her daughter enrolled in once of Shinchi's elementary schools. Because the school continuously tests school meals and publishes the results, T is satisfied with their efforts to ensure students safety and in this sense approves of the school's current risk communication efforts. Furthermore, as a nutritionist and parent, T particularly approves of Shinchi's food education efforts and has participated in the several schools' food education activities in both capacities.

5.2.2.3 H's Case

Although H works in the food industry and has a relatively advanced knowledge of food and cooking, unlike T or P, she did not undergo an education tied to a professional background or special certification that informs her understanding of radiation on a scientific level. At the time of the disaster, H was pregnant with her first child and immediately fled to Ishikawa prefecture due to concerns about the potential health effects of radiation exposure to her unborn child. H returned to Shinchi one year after the disaster and was initially very concerned about the potential for her young child to be exposed to radiation internally from local food and even tap water. During this time, she took safety precautions by buying mineral water and vegetables exclusively from other prefectures to consume at home. In addition, H was also very worried about the potential for external radiation exposure, to the point that she avoided drying laundry outside due to the possibility of radioactively contaminated dust blowing onto the clothes.

Accordingly, she didn't take her daughter to any parks or let her play outside in general for some time.

H described that over time, her worries and concerns faded gradually, without any major shift. She ascribes this gradual change to the general decrease in worries about radiation among those around her, and also to a type of desensitization where she became more used to the potential presence of radiation. H also stated that in general, she trusted that what was being sold in the town and region was properly checked and not dangerous for consumption. Although she did not have the knowhow to critically scrutinize results of radiation tests like T or P, H still expressed that she paid attention to the presence of radiation testing information when shopping for food. She described that these checks were shown prominently after the disaster but have since slowly disappeared from obvious view. Although she knows that sometimes testing information is available in some format and she no longer worries about checking the information and relies on an assumption of safety of the products by virtue of them being sold. Currently, she has no issues feeding her children locally produced food that is sold in the town's markets, nor does she worry about them playing outdoors. Overall, H described that most of the parents around her aren't worried about radiation anymore, although she has heard of a few that are still cautions, especially when it comes to local fish.

In terms of H's view of the safety of school meals and risk communication conducted by the school, H recalled that she had seen some documents regarding testing practices and safety of the food that at some point in time that were sent to parents and guardians, but not any detailed results from radiation tests. Indeed, by the time her daughter entered elementary school, H's general concerns about radiation had already declined significantly. Like her position towards products sold in Shinchi, H feels that the school meals are generally safe. In fact, she has been quite impressed with Shinchi's school meals compared to those that she experienced growing up in Soma. Having tasted the meals at her daughter's school firsthand as a member

of the local school meal tasting group, H feels that Shinchi's schools clearly put a lot of 'effort' into making these meals.

According to multiple informal interviews with other parents around Shinchi whose children were born near the time of the disaster, it appears that H's views are an example of a somewhat 'typical' parent in Shinchi who does not have an advanced understanding of radiation but places trust in government set standards and radiation checks done by the town government or school. In this context, while T and P also exhibited high levels of trust in institutions, there were also able to more directly assess the risk involved using their own knowledge base regarding radiation. Unlike T and P, H's trust in local institutions was not necessarily supported by scientific knowledge, but in general faith in the credibility of the general system of radiation safety assessment that involves multiple local, prefectural, national, and private entities. It should be noted that H is distinct from many other parents in Shinchi in her own right due to the influence of E, from whom she learned intimate details about how Shinchi's school meals are prepared. Furthermore, at the time of the interview, H was set to begin a position as a school meal preparation staff member, further signaling her trust and approval of Shinchi's school meal apparatus.

5.3 Alignment with State Promoted Food Education Discourses

As demonstrated in Section 5.1, Shinchi's school meals and food education efforts (both before and after the official status of 'food education') have generally been very closely aligned with top-down policies promoted by the national government without any observable deviations. If anything, Shinchi can be understood as having embodied several of the core principles of food education in its decades-long commitment to using locally produced foods in its school meals and engaging with local stakeholders to accomplish food education initiatives. After the disaster in particular, as was noted in Section 5.2, Shinchi's schools leaned even further into nationally promoted food education efforts through the Super Food Education

School Project in order to achieve an agenda meant to shape the local risk perception in a manner that would best support local food producers. In this sense, Shinchi's schools' actions under the national food education framework after the disaster in many ways mirrors the actions of the national government, which have been heavily criticized in the existing literature for also trying to shape risk perception in a matter that favored domestic producers over concerns about consumer safety (see Section 2.2). Yet, it should be noted that unlike the Japanese national government and TEPCO, Shinchi's schools and town government bore no responsibility for the various failures of safety and risk communication that occurred at the national level after the disaster. Rather, the people and institutions of Shinchi were forced to navigate multiple layers of risk directly caused by these failures.

However, like the national government's responsibility to ensure the safety of its citizens (which has been increasingly shifted onto individual citizens under the trends of neoliberalism), Shinchi's schools' ultimate responsibility is to ensure the safety of its students. In this context, based on the various risk communication and legitimation efforts conducted by Shinchi's schools, while it is clear that Shinchi's schools prioritized the recovery of local food producing industries over *concerns and opinions regarding children's safety* of parents and guardians by actively trying to shift them towards acceptance, it is more difficult to say that the school did not foremost prioritize the actual *safety* of the children, as understood by the school. The distinction here lies in a negotiation of risk and trust in determining what 'safety' means. According to the best knowledge of the Shinchi town government and its schools, the standards and practices that it set for radiation testing were adequate enough to ensure the safe consumption of local food products, even when directly compared to products sourced from outside of the prefecture. Yet, these standards and practice was all ultimately informed by the national government in some form, even given that certain measures were taken at the local and prefectural levels that superseded national standards in an attempt to further ensure safety.

The possibility remained that Shinchi's schools could have continued to source ingredients from outside of Fukushima prefecture as they did until 2014, but in that case need for continuous testing to scientifically legitimate the safety of the products would not have changed as long as risk was perceived to exist. Although the stories of the informants indicate that trust in outsourced ingredients was clearly higher among parents and guardians even several years after the disaster, the criteria and methods with which the school measured the safety of all of its food regardless of origin indicated that there was no significant difference between local and outsourced ingredients, and so the school had no reason to trust nonlocal over local products based on its own understanding of safety.

But, having to reason to trust one set of products over another does not mean that there was no incentive to favor one product over another, assuming the risk presented by both was equally acceptable. Thus, it is apparent that as representative institutions of a town that was historically heavily dependent on local food and food producers, Shinchi's schools' incentive to shape public opinion and promote the safety and consumption of local food post-disaster aligned synergistically with state-promoted food education ideologies. This section aims to highlight how such ideologies have been practically adopted and implemented by Shinchi's schools since their integration into MEXT's two major post-disaster national food education promotion projects. Given that the goals and aims of the Super Food Education School Project and Promotion of Connected Food Education Project are very similar, the latest compilation of implemented activities report for the latter project is used as an example for analysis (Shinchi Town Board of Education, 2020) in conjunction with information gathered from key informant interviews that have been presented in previous sections.

Since the beginning of the Super Food Education Project in 2014, Shinchi's school lunch and food education activities have operated under the slogan "*sa・wa・ya・ka・da*," a play on the word *sawayaka*, meaning 'fresh' or 'refreshing.' In this slogan, each syllable represents

a different element of a healthy, desirable (Japanese-style) diet: *sa* stands for *sakana* (fish), *wa* stands for *washoku* (Japanese cuisine), *ya* stands for *yasai* (vegetables), *ka* stands for *kaisō*, (seaweed), and *da* stands for both *dashi* (broth) and *daizu* (soybeans). The idea is that students can live a healthy lifestyle by eating these different ingredients within the format of traditional Japanese cuisine. In the most recent report, the various health benefits of each ingredient is briefly explained, and for *washoku*, the following explanation is given (Shinchi Town Board of Education, 2020, pp. 1):

"*Washoku*, with its many types of dishes contributing to easily achievable nutritional balance, is very well suited to Japanese people's bodies. It is also low in calories and is useful for promoting one's health."

Though using arguments grounded in terms of health, this statement is quite indicative of the general emphasis on *washoku* and 'Japanese' eating styles as a form of pedagogy designed to teach what a 'proper' meal is (and is not) within the national food education framework. As R put it directly, through school meals, the school intends to let children learn about what a 'meal' ought to be. She elaborated that goal is to promote Japanese style dietary habits through school lunches as a model by which children can build and image of 'food' and 'eating' and thus practice healthy eating habits. This is indicative major shift in the history of school lunches in Japan and their pedagogical purpose, which originally emphasized elements of western diets like bread and dairy products. In using the phrase *washoku* specifically, the intention of current food education policy is to bolster constructions of a particular national identity surrounding a shared cultural heritage expressed through cuisine and shape how Japanese people at large choose their desired food products. In terms of national food education policy, there is a clear link between food education designed to promote 'Japaneseness' and the Japanese government's connected desire to improve the food self-sufficiency rate as well as the falling demand for domestically produced food items.

This is precisely why on a national level food education messaging and initiatives are designed to promote the consumption of locally produced food items. This goal aligns very well with Shinchi's own incentives to bolster local agriculture and stakeholder networks, particularly as an area of Fukushima prefecture that still faces the stigma associated with the nuclear disaster. In Shinchi, these efforts are tied to the construction of locality and cultivation of an attachment to one's hometown through food education. This is expressed explicitly in the showcasing of locally produced food products used in the school lunches that are advertised to be safe and trustworthy. The most recent document (Shinchi Town Board of Education, 2020, pp. 2) highlights the reincorporation of 15 locally caught fish species into school lunches since the disaster, which is very significant considering that fish long had the biggest barrier to reincorporation into school lunches due to relatively high radiation levels, and that there are still people in Shinchi who are wary of locally caught fish. Furthermore, Shinchi's fisheries are still technically under the *shiken sōgyō* system and fish from all of Fukushima prefecture face stigmas on the market, so for a school to consider them safe for children to eat is understood to have an impact towards changing wider perceptions about the safety of local fish.

Additionally, Shinchi's recent food education platform is further tied in notions of locality through their stated goal to address health problems facing the town and improve citizens' lifestyle habits through linked efforts between the school (*gakkō*), individual households (*katei*), and local area (*chiiki*) (Shinchi Town Board of Education, 2020, pp. 2). The three concrete objectives under this linked platform are to, first, advance food education through a reconsideration of healthy food ingredients and school meals under the "*sa・wa・ya・ka・da*" platform, second, reduce the rate of childhood obesity through the improvement of individual obesity-related instruction and lifestyle rhythms, and third, to advance connections and awareness between the school, households, and the local area. These goals mirror the overall aims of the Promotion for Connected Food Education Project quite closely, and their

implementation in Shinchi takes on increased local significance particularly in regard to childhood obesity rates.

The document explains that Shinchi's childhood obesity rates are higher than the national average (12.1% compared to 9.0% as of February 2018) (Shinchi Town Board of Education, 2020, pp. 2). As noted by F and R, as with much of the rest of Fukushima, Shinchi had a problem of increasing childhood obesity after the disaster due to lack of physical activity and reduced diet quality caused by worries over external and internal radiation exposure, respectively. Because the school can only directly control one of the meals children in Shinchi have per day, the effort to fight against childhood obesity in Shinchi depends on the success of the food education platform in changing the overall dietary and lifestyle habits of children (and their parents/guardians). So, the overall focus on expanding food education outside of the classroom under the Promotion for Connected Food Education Project in order to further influence Japanese citizen's eating habits is tied to a clear, quantifiable, but difficult to achieve health goal in obesity reduction. Within this context, Shinchi's focus on reincorporating local foods into school meals and its promotion of *washoku* and Japanese style dietary habits are framed as contributing to improving eating habits and thus reducing obesity. This is made clear in the highlighting of school lunch menus that are designed for the purpose of obesity prevention (Shinchi Town Board of Education, 2020, pp. 3). In addition, the school has implemented targeted efforts towards children that are considered significantly obese or underweight. Fortunately, it appears that Shinchi's efforts towards childhood obesity reduction have been successful, as the rate fell below pre-disaster levels for the first time in 2019.

Related to the goal to improve connections between the school, household, and local area, as well as efforts to reduce obesity, Shinchi's Board of Education has published several school meal recipe booklets that contain school-designed, nutritionist-approved recipes that are served at the schools under different menu themes, such as '*sawayakada.*' These booklets are designed

to encourage parents to cook at home more often and provide them with guidelines for how to cook healthier homemade meals that their kids are already familiar with through their school meals. As of March 2020, six of these volumes have been published and distributed to parents and guardians (Shinchi Town Board of Education, 2020b). Furthermore, the school also directly engages parents and guardians in recipe making efforts through annual recipe contests that collect submissions of recipes created by students with the help of their parents or guardians. The use of local foods is encouraged in these recipes, and the winning recipe is accepted as a new school menu item, served to the local school lunch tasting association, and published in the food education newsletter along with other school-promoted recipes (Shinchi Town Board of Education, 2020, pp. 15). In this manner, Shinchi's schools have attempted to exert influence over household eating habits through direct outreach activities. In the context of disaster recovery, this is pertinent due to the perception of school officials (as represented by J, F, and R) that the ability or willingness of the current generation of parents to cook homemade meals is less than that of previous generations due to the increasing tendency towards nuclear families and increased incidence of divorce due to stress and displacement resulting from the disaster. Once again, these actions demonstrating a trend of Shinchi's schools implementing national food education guidelines, which call for the targeting of households via food education in order to further shape Japanese citizens' eating habits, to respond to local social challenges that have appeared in the aftermath of the GEJE.

5.4 Shinchi's Schools as a Node for Stakeholder Connectivity

Returning to the third stated goal of Shinchi's overall effort to link the school, households, and local area in cooperation under the Promotion of Connected Food Education Project, increasing cooperation and awareness between the three groups, it is clear that a variety of efforts have been made toward this end in some capacity. The compilation of implemented activities report summarizes and showcases many of them, but they can be generally

summarized as taking the form workshops and educational activities that involve a mixture of local stakeholders plus parents and guardians. These activities have a range of different themes and topics, such as the integration of ICT into food education or hands-on learning about local specialty cuisines (Shinchi Town Board of Education, 2020). Yet, what they all have in common is that they present purposefully made opportunities for the three groups (school, household, and local area) to cooperate and interact with one another for the sake of the town's children. By facilitating this interaction, Shinchi's schools can be understood as an important 'node' for the connection of various different stakeholder groups in Shinchi outside the realm of just the school, its students, and their families.

As seen in the previous sections in this chapter, this function of Shinchi's schools as a community connection point is a theme repeatedly touched upon by J, F, and R when describing the role of school meals and food education activities in Shinchi. J, F, and R each explained the importance of building these local connections and providing children with the chance to experience the local character of the area in order for them to build a sense of locally rooted identity in the form of attachment to their hometown (expressed using the terms *jimoto-ai* or *kyōdo-ai*). By experiencing not only the taste of locally produced food and knowledge about how it is grown, but also in interacting with members of the local area outside their family group, the children are meant to develop an understanding about the character of the area that they live in. Although activities like this are not new in Shinchi, as discussed in Section 5.1, which has long acted as a connection node, this function has taken on new meaning in the post-disaster society as many stakeholder networks were disrupted and broad demographic changes have created gaps in the social fabric. To this point, it is apparent that the recent food education activities promoted by the school not only provide an opportunity for the recovery of pre-disaster stakeholder interaction modes, they also provide new opportunities for stakeholder groups an opportunity to interact with one another in ways that may not have occurred in any

other format. For example, as farmers and fishermen in Shinchi continue to age and few people are succeeding them, there is now a significant age and occupation gap between most of the food producing individuals in Shinchi and the parents of elementary school children. This age and occupation gap naturally present barrier to the direct social interaction of these groups outside the scope of school-sponsored food education activities.

An example of the extent of this interaction is seen in the now annual *hokki meshi* making workshop that, according to F, was started by Shinchi Elementary School under the Promotion of Connected Food Education Project as a means of promoting the consumption of locally caught seafood products and introducing regional cuisine into the local food education practice (now officially called *kyōdoryōri shokuiku*) (Shinchi Town Board of Education, 2020, pp. 3). In the 2018 event held for 6th grade students, four parent/ guardians, two Dietary Life Improvement Promotion Members, two members of the Soma Futaba Fishery Cooperative (which includes Shinchi's fishermen), a Soma Futaba Fishery Cooperative Female Division member, and a Fukushima Prefectural Fishery Office member were all invited to participate in various capacities (Shinchi Town Board of Education, 2018). In addition to teaching the children how to prepare the *hokkigai* and make the dish itself, the event also included a lecture about the state of Fukushima's fisheries and the safety of local seafood in terms of radioactive contamination. Before the cooking began, R presented the testing results of the locally caught *hokkigai* that were to be used that day. The workshop culminated in the children and adult participants sitting together to enjoy the *hokki meshi* they made together as a school lunch meal complete with other side dishes and a carton of milk.

Although this event is relatively large in scale compared to others in Shinchi, it is only one example of the many activities conducted since 2014 that involve numerous local organizations, details of which are elaborated in the next section.

In summary, it is clear that in the years following the disaster there has been a very strong alignment of Shinchi's food education and school lunch system with state-promoted food education discourses, precisely because Shinchi's schools were able to use these nationally supported ideologies to promote local activities that it felt benefitted its students as well as the community at large. This bridging of local and national agendas through the avenue of food as pedagogy has reinforced the narratives of locally produced food as safe for consumption and that 'appropriately' healthy eating habits should be based on an adherence to Japanese cuisine. In order to disseminate these ideas, Shinchi's schools followed nationally set food education strategies in targeting food education to parents and guardians in addition to students. However, it should be acknowledge that along with the use of the national food education platform in this way, Shinchi's schools have been able to successfully reduce the local childhood obesity rate and facilitate the recovery of the local food production and consumption cycle through the reincorporation of local food items into school meals and the inclusion of local stakeholders in food education activities.

5.5 Select Local Organizations and Their Connections to Food Education and School Meals

5.5.1 Nekko no Kai

This section is based primarily on information gathered from key informant G, a town hall officer and member of a local organization in Shinchi known as "Nekko no Kai" (根っこの会), and is also informed by informal interactions with other members of the group at the Kagura festival held at Suwa Shrine in Fukuda, Shinchi Town in November of 2019.

Nekko no Kai is an organization that could easily be missed in Shinchi; despite their history of activity in the town, they have no website or readily available written account of their history that can be found without much trouble. Fortunately, web search of their name does turn up several results, nearly all in the context of their contribution to various food education-related

activities for elementary schools in Shinchi, primarily Fukuda Elementary. However, before understanding Nekko no Kai's activities in the realm of food education, it is important to first understand (and record) the history of the organization and its activities in Shinchi.

G first explained that due to an influx of cheap Chinese silk and the aging of farmers, the domestic Japanese silk industry declined rapidly in the late 20th century, and many people in Shinchi who once cultivated silkworms and grew mulberry (food for the silkworms) as an income source stopped doing so. Indeed, Japan was the top producer of silk in the world for several decades until the 1970s, and silk production in 2012 was only 1% of the 1989 value, with the decline largely due to the same reasons that G provided (Iikubo et al., 2015; International Sericultural Commission, 2013). This phenomenon lead to many abandoned mulberry fields in Shinchi, which grew wild when left unattended. G explained that the members of Nekko no Kai first came together 21 years ago in order to clean up these old fields, mainly so that they were not an eyesore and to restore the rural beauty of the area. Thus, the organization's name comes from the word 'root' (*ne*, which becomes *nekko*), referring to the roots of the mulberry plants which they worked to dig out and remove from the fields. G went on to explain that the first leader of the organization gathered a group of about 20 of mostly middle-aged to elderly men together, and all of their activities were done on a volunteer basis. One of the members, who is now over 80 years old according to G, happened to have a backhoe, and they used that to clear the fields.

G's account does contain slight discrepancies with an account of the founding of Nekko no Kai from the October 1997 edition of the Shinchi Town Newsletter, which ran an article titled, "Soba Cultivation in Idle Mulberry Plantations, Town Revitalization Group 'Nekko no Kai'" (遊休桑園活用しソバ栽培まちおこしグループ『根っ子の会』). The article corroborates nearly all of G's account, including his explanation that the impetus for clearing the overgrown

mulberry fields was their unsightliness and harboring of vermin, that the other crops like sweet potatoes were planted and their fields were used for hands-on agricultural experiences for Fukuda Elementary and Nursery School, that the group traveled to Aizubange town to learn soba-making, and so on (Shinchi Town, 1997). However, the article pinpoints the founding of Nekko no Kai to January 1996 by a total of nine people from two areas in Fukuda, including leader, Hanzawa Toshiro, a district head in Fukuda at the time (Shinchi Town, 1997). Although this is slight discrepancies, G's account overall is still considered to be highly credible due to the high degree of corroboration, the long time that has passed since the founding of the group, and his undeniable first-hand knowledge of the group's members and activities.

According to G, the agricultural department of prefectural Fukushima government supported the activities of Nekko no Kai for the first two to three years of their activities. They received government funding for some activities, documents related to which are currently held by [another member] of the group. G himself does not have any documents related to Nekko no Kai, besides pictures.

G explained that once the fields were clear, the group wanted to plant something else that would grow quickly, so they decided on soba (buckwheat) since it can be harvested in 75 days from planting. However, at the time Nekko no Kai started, nobody was growing soba in Shinchi, nor knew how to. So, the group traveled to Aizubange Town, another town in Fukushima prefecture which is famous for soba, to learn how to grow it, and brought their knowledge back to Shinchi. They decided to grow soba because it has a very short period of maturity, with only 75 days between initial planting and harvest. Many of their community engagement activities were related to making soba, such as events at Shinchi and Fukuda Elementary schools to teach children how to make soba noodles from scratch. The Shinchi Town newsletter from April 1998 describes a soba noodle-making event held at Fukuda Elementary school for 6th-grade students under the instruction of the chairperson of Nekko no Kai (Shinchi Town, 1998). They

also repeated a similar event at Fukushima University, teaching soba noodle making to university students, including some international students. G showed me pictures of such events. Nekko no Kai also typically makes soba noodles for festivals, particularly Fukuda's Suwa Shrine, and most of their activities are based in Fukuda.

G mentioned that although at first they only grew soba, soon they grew crops like potatoes and daikon radishes as well. They also work together to make their own miso from soybeans they purchased from elsewhere in Shinchi. Before the disaster, they sold their miso, daikon and potatoes to the local nursery, elementary, and middle schools to be used in school meals. Indeed, one record of a pre-disaster Shinchi school lunch menu from Shinchi Elementary School that was entered into a national competition for school lunch recipes[11] mentions that the potatoes used in menu were sourced from Nekko no Kai (Zenkoku Gakkō Kyūshoku Kōshien, 2008). Additionally, in the past the group also grew soybeans that were used to make Shinchi's local specialty variety of *nattō*, *Shinchan nattō*, a popular fixture in Shinchi's school lunch menus (Shinchi Town, 1997). Besides providing the ingredients for school meals, Nekko no Kai has also long contributed its fields as grounds for practical educational opportunities related to agriculture and food education. The front cover of Shinchi Town Newsletter from June 2005 features Fukuda Elementary School students participating in such hands-on learning in a sweet potato field provided by Nekko no Kai (Shinchi Town, 2005).

However, after the disaster, G stated that they were no longer able to sell their local products to schools due to fears about the radiation, although they still have some local customers for their products. But, despite their inability to sell their produce to the schools, the group has

[11] This competition is the '*Zenkoku Gakkō Kyūshoku Kōshien*' (全国学校給食甲子園®) , roughly translated as 'National School Lunch Championship Series' (with '*kōshien*' referring the famous annual Japanese national high school baseball tournament), is an organization that has held an annual competition awarding prizes in various categories for school lunch menus, school lunch providers, and schools since 2006, collecting entries from around the nation (Zenkoku Gakkō Kyūshoku Kōshien, 2020).

clearly remained active in participating in food education activities in recent years and continues to do so, providing opportunities for hands-on learning about a variety of food and agriculture related topics, such as miso-making (Shinchi Town, 2019). Additionally, Nekko no Kai members also assisted in teaching soba cultivation as part of an official food education activity for Fukuda Elementary School under the Super Food Education School Project (Shinchi Town, 2015).

G stated that when Nekko no Kai first started, nobody imagined that they would eventually be doing things related to food education or anything like what they have come to do in terms of community engagement. They still continue these activities after the disaster up until the present day, although G is unsure how long they can continue since many of the members are quite elderly and membership has fallen from 20 to 15 people. G suspects they have about 3 years of activity left, after which he isn't sure what is going to happen to the fields that they are currently taking care of. For the next Kagura at Fukuda's Suwa Shrine (2020), for example, he isn't sure about whether they will make soba due to the decreasing attendance of the festival. The Kagura dance itself may not continue, as according to several informal interviews at the time of the festival held in 2019, there are no successors to take over the dancing for the next cycle. Despite this uncertainty, G holds on to the possibility that the Kagura will continue as an educational activity in conjunction with Fukuda Elementary School and the Kagura Preservation Association (神楽保存会). For the immediate future, the activities that Nekko has planned for 2020 include miso making in March, continuing to plant soba, and participating in the "local producer's festival" (産業祭り) held in the parking lot of the town hall in August.

5.5.2 Dietary Life Improvement Promotion Members

This section is based on information gathered from key informant F, including physical documents that have not been published online, and is supplement by information from the organization's homepage.

The 'Dietary Life Improvement Promotion Members,' (食生活改善推進員) form a national volunteer organization that is organized under the general incorporated foundation[12] 'Japan Dietary Life Association' (日本食生活協会) and is closely connected to the implementation of food education and health promotion activities in rural areas throughout Japan, including Shinchi (Nihon Shokuseikatsu Kyōkai, 2011). The organization's slogan is translated here as "Our Health is in Our Hands" (私達の健康は私達の手で), and as this slogan suggests, the primary objective of the organization is the advancement of 'health promotion,'(健康づくり) through volunteer activities related to food (Nihon Shokuseikatsu Kyōkai, 2011).

The historical background of the organization is presented below as a direct translation from the organization's homepage (Nihon Shokuseikatsu Kyōkai, 2011, Section 2):

"In the 1940's, amidst a lack of food supplies and malnutrition, infant mortality rates were high, and housewives grappled with several problems at home. At health care centers in each prefecture, "diet and nutrition classrooms" were established, and so such instruction targeted at housewives began. There, as they studied the proper knowledge and skills regarding healthy

[12] A legal designation based on the General Incorporated Associations and General Incorporated Foundations Law, which dictates a legal framework for non-profit associations or foundations to acquire status as a valid legal entity (juridical person) (Aoki, 2008).

lifestyles, they themselves became practitioners of such healthy lifestyles, and so a group of ambitious housewives eager to tackle the issues at hand was born.

Then, in 1959, the Ministry of Health and Welfare (now Ministry of Health, Labor, and Welfare) released an official notification document entitled "Regarding the Nurturing of Local Organizations for the Implementation of Nutrition and Dietary Life Improvement."

By 1983, the Ministry of Health and Welfare planned to train 330,000 Dietary Life Improvement Promotion Members in addition to the 150,000 members who had already completed activities at the diet and nutrition classrooms with the goal of increasing total number of members to 480,000. Based on that plan, the training of Dietary Life Improvement Promotion Members was advanced such that there was one member for every 70 households in each prefecture.

In 1988, as part of a women's health promotion project, budgeting was made for a program to train Dietary Life Improvement Members, and training workshops in each prefecture were advanced as a program subsidized by the national government. In 1997, the Community Health Act was enacted, and the "Project to Advance Women's Health Promotion," which included the training of Dietary Life Improvement Promotion Members, was categorized as a project for which tax revenue for general purposes would be used, and so was incorporated into tax allocated to local governments. Since then, the training of Dietary Life Improvement Promotion Members that had been previously conducted at prefectural health centers was transferred to individual municipalities, leading up to the present day."

In line with this history and speaking to the continued gendered division of labor according to traditional gender roles, the Dietary Life Improvement Promotion Members are comprised nearly entirely of female members, although they have stated their intention to increase male membership (Nihon Shokuseikatsu Kyōkai, 2011). As of 2011, the organization boasts 170,000

members scattered in 1,411 Japanese municipalities (Nihon Shokuseikatsu Kyōkai, 2011). Although membership has declined significantly in recent years, the organization still remains a significant presence for the Japanese government in the on-the-ground implementation of state-promoted food education, as demonstrated in the following quote (Nihon Shokuseikatsu Kyōkai, 2011, Section 4):

"Since the enactment of the Basic Act on Shokuiku (Food and Nutrition Education) in 2005, Dietary Life Improvement Promotion Members have been jointly termed "Food Education Advisors" in their role as supporters for the promotion of food education in local areas. Understanding food education from a wide perspective, including the spread of the Food Balance Guide[13], *chisan chishō*, regional cuisine, special event meals, and the succession of food culture, we are carrying forward with activities for health promotion with active food education efforts to put healthy dietary lifestyles into practice for everyone from children to the elderly."

Furthermore, the three stated objectives that define the current role of the Dietary Life Improvement Promotion Members are as follows (Nihon Shokuseikatsu Kyōkai, 2011, Section 5):

1. The promotion, spread, and awareness building of food education

2. The spread and awareness building of the "Food Balance Guide"

3. The promotion of Japan Health Plan 21

[13] The official 'food pyramid'-type diet and nutrition visual guideline created jointly by MAFF and MHLW in 2005, officially translated as the "Japanese Food Guide Spinning Top" (Okubo and Takemi, 2020).

5.5.2.1 In Shinchi

The Shinchi branch of the Dietary Life Improvement Promotion Members were first established in Shinchi in 1990, and they currently have 38 members which are selected in each district of Shinchi by appointment of the mayor. The term of appointment is 2 years, and reappointment is possible. In addition to general activities for the advancement of health promotion common for group, Dietary Life Improvement Promotion Members in Shinchi have also been active in disaster recovery efforts through volunteer activities, such as cooking classes held in temporary housing facilities. The groups specific activities in Shinchi are summarized in the list below, translated from a document that was distributed at an opinion exchange meeting held on June 21, 2013 on the topic of the recognition of 'washoku' as intangible cultural heritage by UNESCO (Appendix E):

(1) Implementation of Local Communication Cooking Classes

Cooking practice workshops and tasting events are conducted at the meeting times of various women's associations, elderly associations, and district health consultation groups, or through a circulated invitation, utilizing the public meeting halls and health centers of each district.

(2) Participation in Observational Training

Interaction between as well as observational study of the facilities of Dietary Lifestyle Improvement Promotion Members from other municipalities (including both day and overnight trips).

(3) Participation in the Dietary Life Seminar (Dietary Life Improvement Promotion Member Training Workshop) (6 times per year)

In order to proactively strive for the advancement of local health promotion activities, members study about things related to dietary habits and health.

*People who attend at least 20 hours of lectures over the course of 2 years are issued a certificate of course completion.

(4) Cooperation for Conferences Held in Town and Elsewhere

① Baby Food Consultation Group - May to August, held for infants and their guardians (6 times per year)

② Food Education Classroom - Held for local elementary students and their guardians, cosponsored by the PTA. It is also conducted as part of the comprehensive learning curriculum for 4th grade students.

③ Health and Welfare Festival - Sample food products are offered to spread knowledge about how to eat a well-balanced meal

*Shinchi Town My Home's Dining Table Competition (conducted from 2000 to 2009)

Recipes using locally produced ingredients and milk or dairy products were collected, the top 3 dishes were selected, and samples of these dishes were offered to visitors to the Health and Welfare Festival.

④ Elderly Care Support Project - Light meals are provided at meeting places for elderly people (4 times per year).

⑤ Group Meal Service for People Living by Themselves (Council of Social Welfare project) - Bento meals were provided at meeting times of the "Single-Living People Meeting Group" for elderly people living by themselves in town. Conducted via rotation by various women's associations.

⑥ Participation in the Soma and Futaba Area Dietary Life Improvement Promotion Member Conference - Participation in the Soma and Futaba general meeting (held in May), training course (3 times per year), and board of directors.

⑦ Participation in the Fukushima Prefecture Dietary Life Improvement Promotion Member Conference - Prefecture-wide meeting (held in June)

As demonstrated in this list, the Dietary Life Improvement Promotion Members are well integrated into the larger regional and national network of Dietary Life Improvement Promotion Members, providing an additional avenue for the dissemination of state-promoted ideologies throughout regional areas. Furthermore, in Shinchi the group is clearly linked to a wide variety of different community groups and stakeholders in Shinchi, including elementary and middle school students, under the framework of food education and health promotion. For example, Dietary Life Improvement Promotion Members participated as supporters in for "The 2nd Shinchi Town Food Education Course" held for 3rd grade students at Shinchi Elementary School (Shinchi Town, 2018), and also acted as instructors for an food preparation class at Shoei Middle School held as part of their activities as a Super Food Education Model School (Shinchi Town, 2016).

Additionally, it should be noted that local Dietary Life Improvement Promotion Members played a key supporting role in the direct aftermath of the GEFE in the disaster affected areas, including Shinchi, from working in emergency evacuation sites preparing food for victims, distributing emergency food supplies, and working with nutritionists to manage food supplies, prepare food, and hold nutrition and cooking classes in temporary housing units (MHLW, 2013).

As a nutritionist working for the Shinchi Town government at the health center, K works closely with the Dietary Life Improvement Promotion Members in Shinchi in support of their activities. Furthermore, K and former members of the Dietary Life Improvement Promotion Members started another volunteer organization that local to Shinchi that conducts similar activities to further support town health promotion, as explained in the next section. When

asked about the duties that K fulfills in their position with the town, she stated that one of her main roles is to support such volunteer activities:

Me: So, practically speaking -

K: What I do, right? So, then, what should I say. The area's - the administrative leadership of the area, their way of doing things is not that the employees of the town hall lead, rather the local people take the lead and the two support each other to conduct health support (健康支援). In other words, volunteer activities.

Me: Volunteer activities?

K: Supporting people who do volunteer activities. Also, I participate in the health checkups, for children, or rather newborn babies. For babies, it's baby foods, right, so things like consultation regarding baby food. And there's elementary school or rather nursery school, kindergarten, things like hosting the nutritional classroom instruction for the children, and on to the elementary school, well, there is a nutritionist at the elementary school, but. This is parents and children, calling the guardians of the children and doing a cooking class together with them, that's of course only for people who want to participate, that's a challenge, right, it's not everyone. So, at school, well the kids have the time to study knowledge about food, so the town wants to offer those kinds of things to the guardians. Also, for the adults, we do medical examinations, so the guidance after the exam, we offer guidance so that they don't become sick. And then for the grandmas and grandpas, the elderly, caregiving, or rather preventative care, so that they don't become bedridden and don't become a burden on others and can give them an independent lifestyle, we do health support from the perspective of food lifestyle in the avenue of preventative care for elderly people. That isn't done just by myself, but with people

like the Dietary Life Promotion Improvement Members. I believe you spoke to [D], she also joined the Food Education Supporters. They are connected.

However, despite the description of Dietary Life Improvement Promotion Members as a volunteer organization, K stated that due to the appointment system that exists for the selection of Dietary Life Improvement Promotion in Shinchi, K perceives that their actions are colored by the sense of "being asked to do something" rather than being truly "voluntary" in nature so to speak, which is one of the reasons that they decided to start their own organization, Hōrensō no Kai. K explains:

Me: Compared to when you first started working here as a nutritionist, have there been any changes?

K: Changes - remarkably, everyone's consciousness, or, for example, the Dietary Life Improvement Promotion Member n is a termed position that Shinchi town requests someone to fill.

Me: Shinchi town requests?

K: Yes, Shinchi. From the mayor - well, the districts are asked to recommend people, who then work. Originally, volunteer activities are, nationally speaking, these people - well, the people working as volunteers are called Dietary Life Improvement Promotion Members by other organizations around Japan, but there are almost no places have people filling that position who are requested to by the town, I think. Even among Fukushima, there probably is only Shinchi and maybe one other place. In Shinchi, people are asked to do it, so from the beginning, there is the point of being asked [to do something compared to doing it voluntarily], and at the time I joined, they were almost always women who didn't work, so they gathered and we did hands on practice. [The Dietary Life Improvement Promotion Members] do study workshops - we have them gather, we do study workshops, and they don't work so they [can]

come to the gatherings. Then, the job of [the Dietary Life Improvement Promotion Members] is to spread what they learned among the locals. But, that is not continued by themselves, we ask them to do it.

Me: Right, so at that time, your main job would be the activities for realizing such gatherings?

K: Yes, that's it. Now, gradually as the times change, the number of women who work is increasing.

Me: Right.

K: So, we don't have any age restrictions, and we can have any number of people who come after they finish work, but for some reason, young people don't want to do it, anyway.

Me: Right, they probably don't have any interest in it?

K: Yes, yes, they don't have interest, [but] they're made to do it. However, [regarding] what has changed recently, the consciousness is changing, and even if they work, they have started to even take time off of work to participate. Also, there are the ‘Communication Cooking Classes’ (伝達料理講習会), where we have the local people share what they learned while tasting food, like salt reduction […] But everyone is busy, so they can't spare the effort. But, the people who do it for us, the people who have a lot of enthusiasm already do it by themselves; they'll come say to me, "I'm going to do it on this day", "We're going to do it this day, please give us the materials." The people who work for a living are serious, so the consciousness of "we're being asked [to do something]" is strong, so they can't do practical exercises, but [they can do] things like [contributing to the town newsletter], simply distributing recipes, to each generation. We had discussed, and they don't mind only distributing recipes, so we asked them to do that. In terms of consciousness, I wonder how it is for everyone, I wonder if they gained

interest in it. I feel like the attitude of "We have to do our part, on our own" has gotten stronger, so that's why this volunteer organization, Hōrensō no Kai, exists as volunteers. There are not many who join, though.

Here, K connects the lack of enthusiasm for volunteer activities among Dietary Life Improvement Promotion Members to the request-based system for their recruitment in Shinchi, which is according to her quite unique, at least in Fukushima. Additionally, K confirms that like in most other areas, Dietary Life Improvement Promotion Members in Shinchi are nearly entirely women, who at first were mostly not employed. K points to the increase in employment among women over time as a reason why some women are constrained in their ability to contribute to the volunteer activities, but she credits a rise in consciousness towards the importance of these kinds of activities for the fact that these women still participate despite the fact are employed. However, K draws a distinction between these people and those who have more 'enthusiasm,' who are more likely to initiate such activities by themselves.

To what extent this opinion is widespread among the community is unknown, but K's view, considering their official position and history of cooperation with Dietary Life Improvement Promotion Members in Shinchi, is significant in that it highlights that there is a niche that the Dietary Life Improvement Promotion Members have not been able to fill completely in Shinchi's food activity and health promotion ecosystem. Subsequently, as if through natural selection, in order to expand the range of volunteer activities related to food education and health promotion, K and others in formed a new organization specific to Shinchi that inherits DNA from the Dietary Life Improvement Promotion Members, called Hōrensō no Kai. Interestingly, while simultaneously acknowledging that there are not many people who join the organization, K once again references an increased ambition for action among local people as the reason why the organization was able to exist in the first place. Based on the history of the establishment of Hōrensō no Kai explained below, it can be said that the reason for this

newfound attitude was the need for community cohesiveness and action in the aftermath of the GEJE.

5.5.3 Hōrensō no Kai

This section is also based primarily on information, including physical documents that have not been published online, gathered from key informant K.

Hōrensō no Kai was established in 2012 by F and several former Dietary Life Improvement Promotion Members. K provided the following account of the founding of Hōrensō no Kai:

K: Ah, it's continuing presently, and as to why [Hōrensō no Kai] was started, at the time I entered, other areas were doing [the Dietary Life Improvement Promotion Member activities] voluntarily, and I had always thought, “I want to make Shinchi’s [activities] voluntary as well. As a volunteer organization, where we could have them move by themselves. Well, by 'by themselves' I mean together with me, with us, together with us. Then, at the time of the disaster, the obesity trend - talk was heard of relatively high blood pressure and increased risk of an obesity trend, so from the thought of "we can't let that happen," - then, we heard from Ajinomoto, that "we'll support you" – [they offered] victim support. Ajinomoto lent us cookware and in each area with temporary housing there is always a community meeting place, so going around those, there they lent us equipment. Then, they said they would also prepare the ingredients for us, but we had prepared that here, on the town's side. Then, they asked how we felt about [cooperating]. So, when it became “absolutely, let's do it together,” we thought it would be a bit difficult for the active [Dietary Life Improvement Promotion] members to do those activities, since it was right after the disaster. One and a half years after the disaster, we asked a former head of the local Dietary Life Improvement Promotion members to join us, and then asked other former members - how many people was it, at that time? We gathered quite a number of people, around 20. […] So, we focused on temporary housing, and we started something we called the “moving kitchen.” […] We went around there, and, well, [the

activities] didn’t stop there, it's not finished. All of Shinchi is damaged, so from question of “what could be health support just for the local people,” [Hōrensō no Kai] was started as a volunteer group and we decided, "let's go all around Shinchi."

As K explains, Hōrensō no Kai was founded in direct response to needs of the disaster-affected Shinchi community and has since been consistently active in disaster-recovery efforts. As a victim of the disaster who was living in temporary housing complexes themselves, K clearly understood these needs and acted as a catalyst in gathering former Dietary Life Improvement Promotion Members to form Hōrensō no Kai. Through this practice, Hōrensō no Kai is able to guarantee the knowledge and skills of its members, who have all completed the 20 hours of food and nutrition-related training that are required of Dietary Life Improvement Promotion Members. Indeed, it seems that completion of an assignment Dietary Life Improvement Promotion Members is an informal pre-requisite for joining Hōrensō no Kai according to K, who elsewhere stated that:

K: The term of office, the time they are asked to serve is 2 years. The people who finish that, the people who are ok to volunteer by themselves join our organization.

The credibility and know-how brought by former Dietary Life Improvement Promotion Members are vital for the activities of Hōrensō no Kai, which have largely focused on cooking classes and workshops held for various disaster-affected communities in Shinchi, such as the so-called “moving kitchen” project. Additionally, as mentioned by F, Hōrensō no Kai’s activities were supported by contributions from Ajinomoto Group Inc., which expanded its disaster recovery support project titled “Health and Nutrition Seminar” to Shinchi in October of 2012 (Ajinomoto, 2012).

A chronological overview of Hōrensō no Kai activities from their founding in 2012 to 2016 is summarized below, translated directly from a physical document received from F entitled

“The Chronology Since Establishment of Food Education Supporters Hōrensō no Kai” (Appendix F):

From 2012: After year and a half had passed since the GEJE, the town, as part of its health support activities, held the “Moving Kitchen Healthy Cooking Salon” centered in the meeting places of temporary housing setups. In order to support the cooking salon, cooperation as volunteers was requested from people who had completed the “Dietary Life Improvement Promotion Member Training Workshop (Dietary Life Seminar). The cooking salon was conducted along with cooperation from the members of the “Magokoro Support Center” and the head of Ajinomoto Group (Inc.)’s Recovery Support Project.

From 2015: The cooking salon was conducted for residents of community groups mass-relocated for disaster-prevention purposes.

From 2016: August: The establishment of an organization for activities to support dietary life improvement was proposed, and a preparatory meeting was held.

As part of support efforts for promoting the health of elderly people, an approximately 30-minute mini course on nutrition was conducted on site in areas that are currently implementing the “Exercises to be lively at 100” activity.

Implementation Year	Implementation Time Period	Place of Implementation
2012	October to November February to March	Temporary Housing Facility Meeting Spaces (7 places), Ogawa Permanent Residency Promotion Residential Building Meeting Space, Ōdohama District Public Hall Temporary Housing Facility Meeting Spaces (4 places)
2013	August to November March	Temporary Housing Facility Meeting Spaces (6 places), Ōdohama District Public Hall Residence for Elderly Disaster Victims

2014	July to September	Temporary Housing Facility Meeting Spaces (6 places), Ōdohama District Public Hall
2015	February to March	3 Communities Mass-Relocated for Disaster Prevention (Oka, Sakuda, Ōdohama Districts)
2016	September to October	4 Communities Mass-Relocated for Disaster Prevention (Oka, Sakuda, Ōdohama, Gangoya Districts)

Table 2 Hōrensō no Kai Cooking Salon Implementation

Although this chronology is limited to 2016, according to K, the cooking salon was continued at disaster relocated communities until 2018 and continued in 2019 at three other locations in Fukuda, Shinchi, and Komagamine.

6 Discussion and Conclusion

Several points regarding the role of school lunches and food education practices in Shinchi have been illuminated in the previous sections, and together they provide key insights into the workings of local food politics and the complicated picture of the struggle for recovery from the damage of the GEJE, in addition various problems related to aging and depopulation that plague many rural Japanese municipalities.

6.1 The Role of School Lunches and Food Education in Shinchi's Resilience and Recovery

To begin, regarding the recovery of Japan from the lasting effects of the earthquake, tsunami, and nuclear disaster on March 11th, 2011, it has been demonstrated clearly in the literature that food education has served as a national platform to push state-driven narratives about the safety of domestically produced food. This narrative and the role of food education in actually advancing the health of Japanese citizens in the context of post-disaster risks related to internal radiation exposure by food has been controversial at the least, and in some cases has clearly contributed to increased internal radiation exposure by members of the Japanese public, most famously the "cesium-beef" scandal in Kanagawa. This, in combination with the purposeful lack of transparency about the nature of the meltdown at Fukushima Daichi nuclear

reactor and several other failures of risk communication lead to a great decrease in public trust, and fears about radioactive food remain to this day. Although many in Japan had the option to selectively purchase only food from areas far from the nuclear disaster site, for many in rural Fukushima, this was a luxury that was both unaffordable in the long term and also fundamentally different from the foodways they had practiced for generations. Suddenly, everything growing in home gardens and farmer's fields, everything caught in local seas and foraged from the local mountain that had fed the residents of these areas was filled with the uncertainty of an invisible risk, one which could only be visualized through unfamiliar scientific means. Furthermore, seemingly no matter if this risk could be proven to be minimal or non-existent, the ability of farmers, fisherman, and other food producers in Fukushima to sell their products took a large blow, and the discourse on reputational damage, or *fūhyō higai*, was thrust into the foreground. Ostensibly trying to protect farmers in Fukushima and other affected areas from this damage, the national government tried to mitigate the loss in demand by insisting on the safety of Fukushima products and accused those who doubted that narrative as unpatriotic and unsupportive of their victimized countrymen. As such, the topic remains contentious today, and food politics in Fukushima prefecture has yet to move beyond this discourse.

Here, the double burden of risk and trust the victims of the nuclear fallout from the Fukushima Daiichi disaster is made apparent. As stated before, the residents of radiation-affected areas were not only in the most danger of ingesting irradiated food if they chose to eat locally grown or foraged products whose safety was not confirmed (against dubious government standards), but the abstinence from these locally grown meant the breaking of traditional foodways and also the core socio-economic system built around food producing industries. As such, when much of the nation is skeptical of the safety of the products grown in a tight-knit rural community, there is a clear incentive to prove the product's safety and

trustworthiness to the market in order to secure a livelihood and advance towards recovery. In such a context, the financial risk of declining sales that was driven by lack of trust in response to the health risk of potential radiation exposure by consumers creates an environment where to doubt government-supported narratives of the safety of local food products is also to work against the interests of one's own community. Thus, in some places in Fukushima, people who did doubt those narratives of safety were sometimes subject to harsh criticism for going against their own, seen as prioritizing their own safety or irrational concerns over the common whole. So, compared to those living in areas unaffected by radiation who could mobilize to doubt government safety standards and radiation levels, those in affected areas like Shinchi were further stifled by their status as victim, beholden to proving the trustworthiness of their products while simultaneously bearing the risks of doing so. This is embodied in O's assertion that it is only the people of Fukushima who can truly drive the recovery of the prefecture's agriculture and fisheries, largely because people in Tokyo won't accept the risk of Fukushima food, real or imaginary. The local food politics in Shinchi are shaped by this burden as local people internalize and reinforce the pressures on themselves to prove the safety of their food products and revitalize their own economically and reputationally damaged community.

However, that is not to say that many individuals and entire communities who were subject to high levels of risk did not first and foremost actively safeguard their physical safety and health by trying to determine the degree of radiation in their surrounding environments and food products. What this does mean is that for the individuals living in places like Shinchi, the incentive to trust results indicating the safety of local products goes beyond simple terms of risk to individual health and well-being, as may be the case for outside consumers who only scrutinize those products at market. Rather, risk negotiation unfolds in a variety of different ways as individuals in Shinchi take into account their nostalgia for certain traditional foodways, their role as producers of local products, and the ultimate necessity recovery of their neighbors

and general communities dependent on fisheries and agriculture. This creates a complex situation in which risk communication and legitimation are instrumental in navigating the space between the overlapping health, socio-cultural and economic aspects of disaster recovery within a community like Shinchi. The realities of such a situation was demonstrated throughout the key informant interviews in the choices made by certain older individuals like O to keep eating potentially contaminated wild food that they are nostalgically attached to, efforts by people like H to keep traditions depending on foraged alive while trying to mitigate risk as much as possible, or the refusal of some parents to accept locally caught fish, as mentioned by E. Indeed, risk negotiation is considered most important when applied to the recovery approach towards most radiation-vulnerable group within the community, children.

From the results on school lunches and food education in Shinchi post-disaster, we can examine how these narratives of risk and trust have unfolded. Firstly, given the top-down nature of public education in Japan, it is not surprising to note that the food education curricula of Shinchi's schools have in general been closely aligned with the nationally prescribed ideologies of food education, such as the emphasis on Japanese-style dietary lifestyles and consumption of locally produced products. Neither is it particularly surprising that this alignment has continued in the post-disaster era, given that it would hard to imagine any public school in Japan deviating in a significant manner from a prescribed curriculum. However, it is significant to note the degree to which Shinchi's schools have not merely followed, but, as shown in Sections 5.1 and 5.3, have whole-heartedly embraced the various ideologies of Japanese food education after the disaster, to the extent that they have consistently served as one of a handful of model schools in national food education programs. The exceptionalism of Shinchi's food education stands out even further when considering that Shinchi's schools represented either the only or only one of two municipalities from Fukushima that were selected in any given year for both MEXT's Super Food Education School Project and

Promotion of Connected Food Education Project. This extraordinary commitment to embodying the principles of food education has taken considerable effort on the part of school officials like J, F and R, and the many members of the community that have offered their support and cooperation. And this is all despite, or perhaps precisely due to, Shinchi's experience as a disaster-affected community that has had to continuously conduct risk legitimation and communication activities in order to ensure the safety of its local food products.

Indeed, part of Shinchi's strong embodiment of food education as a distinguishing factor can be understood in the importance of trust-building through risk communication and legitimation for a rural, radiation affected community as described above. As demonstrated in Section 5.2, there have been intense and long lasting efforts by Shinchi's schools to conduct risk communication and legitimation in the form of radiation education workshops, consistent daily testing of school lunches, and various fliers and other information packages sent to parents and guardians designed to foster a sense of transparency and trust in the testing process, school activities, and the food ingredients themselves (and by extension their producers). This, in combination with radiation education that has been made a significant part of Fukushima prefecture's state-prescribed curriculum, clearly demonstrates that national, state, and local government efforts at controlling risk perception involve promoting scientific literacy regarding radiation. In conjunction with the promotion of this scientific literacy, reactions to the potential dangers of radiation were framed in a matter of 'understanding' or 'trusting' the data about radiation levels provided by government or other bodies. Informants like T, P, and Q, who for various reasons had access to high levels of scientific literacy after the disaster, thus by their own account clearly perceived the potential danger of radiation exposure through local food consumption as much less than other parents or guardians because they trusted in the data and conclusions offered by authority figures. Furthermore, due to the interpersonal,

association-based and community layers of trust built among residents of Shinchi, those like T, P and Q who expressed trust in the school and the safety of local food proved to be key figures in fostering this trust in the wider community over time. This demonstrates how local food politics surrounding school meals relied on a type of salient value similarity-based trust system to shift the narrative of risk around school meals towards one that favored the reincorporation of local foods. As parents and guardians saw other parents and members of their community who they identified with express their belief in the safety of these local foods, their own propensity to doubt the school-supported narrative is likely to decrease, as to express these doubts would put them in opposition to members of their community. From the school side, the use of scientific legitimation of risk is clearly not only a necessary matter of ensuring the present safety of the children and maintaining the trust of the community, it is also understood as means of ensuring their good practices in the face of any potential future problems. In other words, their perception is that as long as the data shows the meals were safe, then the school should not be considered responsible for any future health problems that may arise among former students.

Considering that children are particularly vulnerable to harm from radiation exposure and as such are still kept from eating foods that are likely to be high in radiation, such as foraged foods or wild game, it may logically follow that what is deemed safe for children to eat is also safe for the rest of the population to eat as well. Thus, the re-incorporation of locally produced food items into Shinchi's schools was naturally a symbolically significant milestone in the perception of Shinchi's locally produced foods as 'safe' and 'trustworthy.' However, the fact that this step wasn't taken until 2013 speaks at once both the real dangers of radiation contamination among local products but more so to the difficulty in cultivating this sense of 'safety' and 'trustworthiness' among parents and guardians, through prolonged risk communication and legitimation efforts. Now, the commitment to local ingredients for school

lunches is presented in leaflets alongside promises of safety and peace of mind that are ensured scientifically, even to the extent of involving an outside testing agency to further build trust. In doing so, the school emphasizes their primary burden of protecting the health and wellbeing of their students while at the same time highlighting their commitment to supporting the community at large by purchasing local – a delicate balance that has required time to be implemented in full and was done incrementally through the introduction of different local food products.

Of course, there are many other municipalities in Fukushima that have had to struggle with the exact same concerns, so how can we understand Shinchi's apparent exceptionalism when it comes to food education? As highlighted by informant J, at least in comparison to its nearest neighbor, Soma, it appears that Shinchi's schools have had the advantage of being a relatively small and thus more easily unified and movable administrative whole, in addition to the presence of a community that actively rallies around and supports these schools. Indeed, it can be imagined that Shinchi's rich climate and bountiful food producing industries and their associated community-based organizations would create an environment rich for the roots of food education-type activities to take hold at home and school, even in the pre-food education era. Evidence of this was seen in Section 5.3.1 in the pre-disaster engagement of the town revitalization group Nekko no Kai with Shinchi's schools. Although these types of occurrences are clearly not unique to Shinchi among rural Japanese municipalities, the fact remains the presence of groups like Nekko no Kai and others in the community have positively impacted the quality of food education in Shinchi. This network that has been built over time between Shinchi's schools and local community groups takes the form of a key node among many interlocking connections, and in the post-disaster context this network has clearly contributed to resilience of the community through the provision of continued opportunities for children to interact with multiple local stakeholders, experience the production of local agricultural

products, and consume local products through their school lunches, which also financially benefits the producers of those food products. This is all particularly evident as Shinchi has invested increased temporal, financial, and human resources into its efforts to maintain and further build these connections through the framework of its food education activities, as seen in Section 5.4. Furthermore, even beyond the scope of food education practiced through Shinchi's schools, as shown in Sections 5.3.2 and 5.3.3, the national framework of food education can be clearly said to have in some way supported the activities of food-related groups like the Dietary Life Improvement Promotion Members and Hōrensō no Kai. These organizations, in particular the latter, have provided an indispensable service to those victimized by the disaster through the combination of moral and nutritional support offered by cooking classes held in temporary housing facilities throughout Shinchi.

Although it may be expected that a community devastated by a disaster of the scale of the GEJE would come together in support of one another and act to rebuild, it must be acknowledged that the nationally imposed and locally implemented food education framework has contributed positively to this phenomenon in Shinchi by bolstering to some extent stakeholder interconnectivity, intergenerational interaction, and the reconstruction of the local food system through support for local producers. It cannot be clearly said that these things would not have happened to the same extent in the absence of the existing national food education system and policies, especially considering that similar in-depth analyses of comparable areas in Fukushima that also naturally fall under the national food education framework has not yet been conducted. However, from the case-site specific analysis, the case-site specific conclusion can be drawn that the local implementation of the national food education framework in Shinchi inside and outside of the school system, including the risk-negotiated reincorporation of local foods into school lunches based on the principle of *chisan*

chishō, have played an integral role in the acceptance of nuclear risk, rebuilding of trust in local food products, and the resilience of community ties to the enormous stress of disaster recovery.

However, this is not to say that the criticisms of food education and school lunches in Japan by previously cited authors are invalid in the case of Shinchi. The fact remains that at a national scale, food education policies contributed to the harmful failures of the Japanese government's risk communication efforts through their prioritization on the protection of domestically produced food products over consumer safety. It also remains that throughout the nation, food education policy exacerbated disproportionate risk burden on mothers, who are at once heavily tasked with responsibility for their children's health while also discouraged from raising their concerns. Furthermore, it still remains that the compulsory nature of school lunches contributes to a 'food dilemma' when the ideological valuation of commonality and togetherness is pitted against individual concerns about safety, and that this dilemma is pushed further with the definition of school lunches as an educational activity under national food education policy. If anything, the governmentality of food education policy and its active promotion through pedagogy of the neoliberal shift of responsibility for well-being from the state onto the individual is only reinforced by the evidenced presented in Shinchi, which used radiation education and risk communication efforts as part of an effort repeated across Japan designed to allow individuals to assume more responsibility over food safety through 'appropriate' food choices informed by scientific knowledge.

While there may appear to be a conflict between these flaws and the benefits brought about by Japan's food education framework in Shinchi, the present research acknowledges that they coexist, although perhaps appear differently depending on the scale of reference or angle of view. From a local perspective that is limited only to Shinchi, the criticisms referenced above do not disappear, rather, Shinchi appears as a microcosm of Japanese society's struggle with these issues. However, it is from this local perspective that food education's positive

contribution to the various overlapping elements that constitute ‘resilient’ or ‘sustainable’ disaster recovery (see Figure 1) can also be seen. Comparatively, when zoomed out to a national or regional frame of reference, these positive aspects become invisible against the overarching clear and significant problematizations food education post-Fukushima, at least in the current literature. In other words, in order to further shed light on the nuances of food education implementation at the ground level and its actual impacts in Japan, particularly positive impacts, more in-depth research grounded in site-based analysis is key.

As such, future comparative research in other areas would be necessary to determine to what extent Shinchi is a unique case in terms of its exhibition of several benefits of Japan’s food education framework in the context of post-GEJE disaster recovery (not limited just to diet and nutrition related-metrics), or if food education has contributed to disaster recovery in general. It is hoped that this study may serve as a foundation or stepping-stone for such research, as well as further research into the changing disaster recovery landscape and food education practices of Shinchi over time.

6.2 Inevitability of Change: Implications for Sustainability

What remains to be addressed is the role of food education and school lunches in Shinchi amongst the broader social changes currently facing it and the rest of Japan, which have been undoubtedly been worsened by the disaster. The physical annihilation of Shinchi’s historic fishing neighborhoods and the invisible threat of radiation due to the effects of the GEJE have especially impeded the succession of foodways centered around fishing and foraging for wild foods. But, in general, the shrinking and aging population and the lack of successors for agriculture and fishery jobs together are indicative of a general decline in the practice of traditional foodways in many rural areas, let alone traditional cultural practices in general. This trend is seen clearly in Shinchi as well, from the likely inability to continue the Kagura dance at Suwa Shrine in Fukuda, the declining ability of the fisherman’s community to continue their

once in five year religious tradition of *omikoshi* to appease the god of the sea, the few remaining local makers of *shimi mochi* or *temae miso*, the aging volunteer base of local community organizations, and the general disappearance or decline of past foodways expressed by many of the informants in Chapter 4.

So, with the March 11th triple disaster occurring against this backdrop of general decline, what does 'resilient' or 'sustainable' recovery actually mean? How can post-disaster 'sustainability' be defined for Shinchi? So far, physical infrastructure has been rebuilt, entire communities have been relocated, and radiation has faded in Shinchi, and furthermore it is the target of research conducted by high level institutions like NIES and the University of Tokyo that meant to pioneer new energy-based, smart town planning practices. But, many problems remain, and among them the present research sheds further light on the already expected and visible disappearance of cultural practices. Although Shinchi's schools, local organizations and certain individuals have made valiant efforts to support one another and keep certain traditional foodways alive, the reality remains that these foodways and the old food culture of Shinchi are disappearing, and will likely continue to do so given the overwhelming nature of the current demographic trends and the damage due to the disaster. Even the positive impacts of the national food education policies on resilience and recovery in Shinchi from the perspective of stakeholder interconnectedness have limited reach in the arena of preserving food culture. For example, although there are some efforts to introduce elements of Shinchi's traditional regional cuisine into Shinchi's food education and school lunch arena, such as the annual *hokki-meshi* workshop, practices like catching *inago* or foraging for local mountain vegetables are made too risky due to lingering radiation, while the making of *shimi mochi* is too labor intensive and lengthy to be properly taught by the school or volunteer organizations. Even newer elements of Shinchi's food culture, exemplified by the soba cultivated by Nekko no Kai, are in clear

danger of disappearing within a generation due to a lack of successors, no matter how much the school currently engages with them for food education activities.

Of course, change is inevitable, but to what extent do we differentiate change that is acceptable and that which should be fought against? Rephrased, how do we determine what should be sustained and what should not? That value judgement is the crux of the normative nature of sustainability science, and also a fundamental question of the preservation of cultural heritage. Perhaps at some point Shinchi is no longer facing a question of what *should* be sustained, but with what actually *can* be sustained given the extenuating demographic circumstances of rural Japan. In the context of food education and its demonstrated potential for building resilience in Shinchi, there is a possibility that locally tailored food education activities could continue partially fill some of the current gaps in the succession of traditional food culture. But, as noted, there are inherent limitations to what is currently feasible. More resources could potentially expand the scope of activities, perhaps even to the point where children could make *shimi mochi*, but then there is the question of if previously 'organically' transmitted foodways and experiences can be replaced by 'homogenized' experiences offered by schools that have to operate under certain guidelines. While school meals and education undoubtedly make a key part of formative child experiences and have a hand in establishing local identity and nostalgia for a 'hometown,' having a food-related cultural experience like eating *hokki meshi* at school is a naturally different experience from having it at home.

But, in the broader context of sustainability, to what extent does foodways and culture of the Shinchi of the future need to resemble those of the Shinchi of the past, given that so much change has already occurred in the Japanese diet over the course of the past century? Perhaps none. What may be more important than the continuation of specific food practices is the ability of those practices to facilitate stronger social networks and trust in the context of social and cultural resilience, disaster recovery, and ultimately sustainability. The ultimate conclusion of

the present research is that while food education in Shinchi has positively contributed to these factors at the local level, the context in which these contributions have been made is largely reliant upon cooperation from a generation of people which is quickly disappearing in Shinchi and the rest of Japan. The school alone, and the national food education policy behind it, cannot act effectively for sustainability as monolith. Without a next generation of farmers, fishermen, or food-conscious volunteers to take on the mantle the key individuals that informed this research, the currently beneficial food education activities will be made impossible. Shinchi, and indeed Japan as a nation, would benefit from efforts to foster this next generation, ideally without regard to the narrow, stereotypical gender and class roles that have limited access to these positions in the past. The successful cultivation of such a generation would undoubtedly bring new cultures and foodways to Shinchi and may completely do away with the old, but for the continued sustainability of Shinchi, that really is not the issue. The true battle remains in ensuring that although the menu may change, there will still be a seat at the lunch table.

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Appendix

A.

2019.12.06 11:50　駒ヶ嶺小学校　0244632039　#2695 P 1/ 1

平成23年度

こんだて表 4月

4月18日～22日の給食

18日（月） クリームパン ， 牛乳
19日（火） チョコパン ， 牛乳 ， みかんゼリー
20日（水） ジャムパン ， 牛乳 ， かぼちゃプリン
21日（木） メロンパン ， 牛乳 ， ももゼリー
22日（金） あんパン ， 牛乳 ， フローズンヨーグルト

＊ 4／18 ～ 4／22は、震災後の業者との調整や給食室の安全確認等のため、簡単な給食となります。

＊熱量、たんぱく質、脂質、塩分の数値は中学年（3・4年生）のものです。

日	曜	こんだて名	赤のたべもの（血や肉となる）	緑のたべもの（体の調子を整える）	黄のたべもの（熱や力となる）	エネルギー(kcal) タンパク質(g) 脂　質(g) 塩分相当(g)
25	月	・カレーライス ・牛乳 ・青リンゴゼリー	牛乳 豚肉 粉チーズ	にんじん　たまねぎ しょうが　にんにく グリンピース トマト缶詰	麦ごはん じゃがいも カレールー ゼリー	688 22.7 17.6 2.34
26	火	・きつねうどん ・牛乳 ・あまなつかん	牛乳 油揚げ 鶏肉 なると	干しいたけ　ねぎ こまつな　ごぼう あまなつかん	ソフトめん	576 27.0 16.1 2.57
27	水	・麻婆丼 ・牛乳 ・バナナ	牛乳 とうふ 豚肉 みそ	しいたけ　ねぎ　にら にんにく　しょうが にんじん　たけのこ バナナ	麦ごはん じゃがいも澱粉 さとう ごま油	638 26.0 15.3 1.13
28	木	・ウインナードックパン ・コーンクリームシチュー ・牛乳	牛乳 ウインナー ベーコン	レタス　たまねぎ コーン　にんじん パセリ	コッペパン じゃがいも コーンポタージュ クリームシチュー	668 23.4 24.7 3.29
29	金	昭和の日				

都合により、献立内容を変更する場合があります。　ご了承願います。

	学校給食摂取基準	今月の平均
エネルギー(kcal)	660	643
タンパク質(g)	20.0	24.8
脂　質(g)	16.5～19.8	18.4
塩分相当(g)	2.5未満	2.33

調理員さんを紹介します。

毎日、安全でおいしい給食が子どもたちのところに届くように、心を込めて作ります。

加藤　はるみ　さん
渡辺　麻紀　さん

B.

2019.12.06 12:05　駒ヶ嶺小学校　0244632039　#2696　P 1

新地小学校 牧長先生　よろしくお願いします。　駒小 濱部

平成23年度

こんだて表 5月

＊熱量、たんぱく質、脂質、塩分の数値は中学年（3・4年生）のものです。

日	曜	こんだて名	赤のたべもの（血や肉となる）	緑のたべもの（体の調子を整える）	黄のたべもの（熱や力となる）	エネルギー(kcal) タンパク質(g) 脂　質(g) 塩分相当(g)
2	月	・たけのこご飯 ・舞茸かきたま汁 ・かしわもち ・牛乳	牛乳 鶏肉　鶏卵 油揚げ　豆腐 かつお節	たけのこ　にんじん まいたけ　みつば	麦ごはん さとう じゃがいも澱粉 かしわ餅	644 24.9 15.1 2.79
3	火	憲法記念日				
4	水	みどりの日				
5	木	こどもの日				
6	金	・ハヤシライス ・グリーンサラダ ・ポケットチーズ ・牛乳	牛乳 牛肉 ロースハム チーズ	にんじん　玉ねぎ しょうが　にんにく グリンピース　レタス きゅうり	麦ごはん じゃがいも ハヤシフレーク オリーブオイル	794 26.9 31.7 2.67
9	月	・中華丼 ・たまごスープ ・牛乳	牛乳 豚肉　イカ むきエビ　ベーコン 鶏卵	にんじん　玉ねぎ たけのこ　干しいたけ はくさい　もやし キャベツ　小松菜	麦ごはん ごま油 じゃがいも澱粉	676 32.4 23.0 3.92
10	火	・カレーうどん ・ひじきサラダ ・牛乳	牛乳 豚肉 油揚げ ひじき	にんじん　玉ねぎ 小松菜　きゅうり	ソフトめん カレーフレーク さとう フレンチドレッシング	624 25.8 20.0 3.25
11	水	・麦ごはん ・洋風肉じゃが ・ポパイサラダ ・牛乳	牛乳 豚肉 ロースハム	にんじん　玉ねぎ しらたき　ピーマン ほうれん草　コーン きゅうり　にんにく	麦ごはん　じゃがいも さとう　サラダ油 すりごま	633 23.7 15.7 2.28
12	木	・アーモンドトースト ・春キャベツとソーセージのスープ ・いちご ・牛乳	牛乳 フランクフルト	にんじん　玉ねぎ キャベツ	食パン　バター さとう　アーモンド じゃがいも　マカロニ	635 20.9 24.7 2.31
13	金	・きんぴら丼 ・アスパラのごまマヨネーズ和え ・モーモーゼリー ・牛乳	牛乳 豚肉 ロースハム	にんじん　ごぼう ピーマン　アスパラガス コーン　きゅうり	サラダ油　さとう いりごま　麦ごはん マヨネーズ　すりごま ゼリー	701 25.0 22.5 1.91
16	月	・ゆかりご飯 ・若筍入りお煮しめ ・五色和え ・牛乳	牛乳 がんもどき　かくあげ こんぶ　いか 大豆	たけのこ　にんじん ごぼう　ふき こんにゃく　さやえんどう きゅうり	ごはん　はるさめ じゃがいも さとう ドレッシング	718 26.2 16.2 4.43
17	火	・みそラーメン ・大根サラダ ・甘夏柑 ・牛乳	牛乳　みそ 豚肉 ロースハム わかめ	にんじん　玉ねぎ キャベツ　ニラ にんにく　もやし だいこん　あまなつかん	中華めん ラーメンスープ ドレッシング	574 27.4 14.1 2.44
18	水	・さんまの蒲焼丼 ・けんちん汁 ・みかんゼリー ・牛乳	牛乳 さんま とうふ みそ	しょうが　にんじん だいこん　ねぎ ごぼう　こんにゃく	麦ごはん じゃがいも澱粉 サラダ油　さとう じゃがいも　ゼリー	782 25.6 26.0 2.51
19	木	・たまごサンド ・クラムチャウダー ・キウイフルーツゼリー ・牛乳	牛乳 鶏卵 ベーコン あさり水煮	きゅうり　パセリ にんじん　玉ねぎ マッシュルーム	食パン　マヨネーズ じゃがいも　バター ベシャメルルウ ゼリー	584 24.2 23.4 2.34
20	金	・ご飯 ・鶏肉のレモン漬け ・大豆サラダ ・わかめ汁　・牛乳	牛乳 鶏肉　大豆 とうふ　わかめ みそ	レモン　小松菜 もやし　キャベツ ねぎ	ごはん　じゃがいも澱粉 サラダ油　さとう じゃがいも ドレッシング	680 33.1 16.1 2.47

日	曜	こんだて名	赤のたべもの（血や肉となる）	緑のたべもの（体の調子を整える）	黄のたべもの（熱や力となる）	エネルギー(kcal) タンパク質(g) 脂　質(g) 塩分相当(g)
23	月	・麦ごはん ・さわらのピカタ　・添え野菜 ・ほうれん草と卵のスープ ・牛乳	牛乳 さわら 鶏卵 ベーコン	パセリ　ほうれん草 にんじん　玉ねぎ コーン　ミニトマト レタス	麦ごはん 小麦粉 マヨネーズ じゃがいも澱粉	655 30.0 20.8 2.24
24	火	・卵とじうどん ・アスパラとポテトのチーズ焼き ・牛乳	牛乳　かつお節 鶏卵　ベーコン 鶏肉　チーズ かまぼこ	にんじん　玉ねぎ 小松菜　ねぎ アスパラガス	ソフトめん じゃがいも ケチャップ	674 33.3 19.0 3.24
25	水	・チキンカレー ・春キャベツとハムのサラダ ・牛乳	牛乳 鶏肉 粉チーズ ロースハム	にんじん　玉ねぎ しょうが　にんにく キャベツ　きゅうり グリンピース　トマト缶	麦ごはん　カレールー じゃがいも ドレッシング みかん缶	712 24.4 22.9 2.68
26	木	・食パン　・りんごジャム ・マカロニサラダ ・肉団子スープ ・牛乳	牛乳 ロースハム　鶏卵 鶏肉 豚肉	にんじん　玉ねぎ きゅうり　しょうが 小松菜	食パン　マカロニ マヨネーズ じゃがいも澱粉 はるさめ　ジャム	716 29.4 28.8 4.08
27	金	・ご飯　・ふりかけ ・酢豚 ・こまつナムル ・牛乳	牛乳 豚肉 茎わかめ	しょうが　にんにく にんじん　玉ねぎ たけのこ　ピーマン しいたけ　パイン缶	ご飯　じゃがいも サラダ油　さとう　ごま油 じゃがいも澱粉　ふりかけ 小松菜　もやし	644 22.7 19.8 2.56
28	月	・麦ごはん ・かつおの竜田揚げ ・アスパラのソテー ・さやえんどうのみそ汁　・牛乳	牛乳 かつお ベーコン とうふ　みそ	しょうが　アスパラガス にんじん　キャベツ さやえんどう	麦ごはん じゃがいも澱粉 サラダ油 じゃがいも	676 32.0 19.3 2.83
31	火	・しょうゆラーメン ・手作り抹茶蒸しパン ・グレープフルーツ ・牛乳	牛乳 豚肉　焼き豚 なると　わかめ 鶏卵	もやし　コーン ねぎ グレープフルーツ	中華めん ラーメンスープ ホットケーキミックス バター　甘納豆	748 32.4 20.4 5.97

都合により、献立内容を変更する場

	学校給食摂取基準	今月の平均
エネルギー(kcal)	660	677
タンパク質(g)	20.0	27.4
脂　質(g)	16.5～19.8	21.1
塩分相当(g)	2.5未満	2.90

4月25日（月）の給食より、学校の給食室での調理が始まりました。初日は人気のメニュー『カレーライス』に、子どもたちはおいしそうにあたたかい給食をほおばりました。

一年生も上手に自分たちで配膳しています。

給食につきましては、子どもたちへの食の安全を考慮し、より丁寧に作業を行った上で提供しています。

《肉・魚・野菜》 納入業者さんにもお願いし、市場に出ているものを購入して納品していただいています。また、学校でも産地の確認を再度行っています。野菜は水洗いをくり返しています。

《牛　乳》 牛乳についても、産地を確認するなど業者さんと連絡を取り合っております。（現在のところ、岩手県産の牛乳を使用し、県内で加工されたものを使用しています。）

《水道水》 4月15日の「学校だより」第2号にもありますように、使用されている水道水も安全基準値を下回っております。（浄水場にて2日ごとに測定されています。）

お誕生給食について

子どもたちが楽しみにしているお誕生給食ですが、補助金などの予算が今のところついていないため、今年度のお誕生給食につきましては実施しないこととします。他の学年との交流としては、交流給食やバイキング給食等を企画していきたいと考えていますのでご了承ください。

C.

新地町の学校給食安全管理体制

＜新たに新地町・福島県産の食材を使用する場合＞

手順1 生産者・流通前検査（各生産者・団体等において放射性物質自主検査済の食材を使用します。）

手順2 数日前検査（給食で使用予定の食材を新地町役場で事前検査します。）

手順3 当日朝検査（以下の方法で給食提供前に検査します。）

放射性物質検査機器

入口検査：給食食材を当日朝に検査します。○使用食材の産地は朝、必ず確認しています。

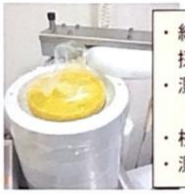
① 使用食材をフードプロセッサーに入れ、検査用に細かくします。

② 約５００ｇの刻んだ検査食材を袋詰めします。

＜各学校で指定日に調理員が行っています。それを教育委員会職員が集荷し、新地町役場で検査します。＞

駒ケ嶺小学校でも毎日検査しています

新地町農林水産課にある放射性物質測定機械



- 給食に使用する食材を約500g採取し測定します。
- 測定項目：セシウム134 セシウム137
- 検出限界：10ベクレル／kg
- 測定時間：40分

◎安全が確認できた地元産食材を使用して、学校給食に提供します。

手順4 給食丸ごと検査（出来上がった給食を検査します。） **出口検査** 福島県学校給食モニタリング事業

① 出来上がった給食、一食分をフードプロセッサーで刻みます。

② 牛乳も加えて、一食分を冷凍します。

③ 同様にして１週間分をまとめて箱詰めし、金曜日の午後福島市にある福島県保健衛生協会へ送付します。

④ 検査結果が送付されてきます。

◎安全・安心な学校給食提供に努めます。 ・給食食材の事前検査結果及び給食一食分の検査結果は、新地町教育委員会ウエブページ・「食育しんち」でお知らせします。

身土不二（しんどふじ）

「身土不二（しんどふじ）」土地柄と季節にあった食べ物を食べましょう。

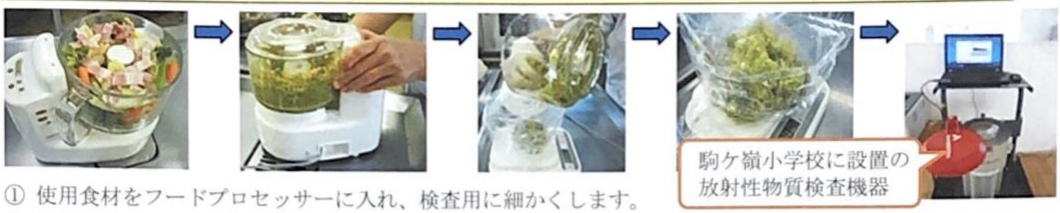
・「身体（身）と環境（土）はバラバラではありませんよ（不二）」という意味です。身体は、食べ物を含め、さまざまなものを環境から取り入れています。空気、光、音、熱、湿気などなど…。人がその場の環境になじむには、その土地柄、その季節に合った食べ物をとることが大切だということです。 身土不二で大切なのは旬。自然の中で育った野菜は生命力が強く、栄養も豊富です。

D.

新地町の学校給食安全管理体制

手順１　生産者・流通前検査（各生産者・団体等において放射性物質自主検査済の食材を使用します。）

手順２　給食提供前に学校給食食材放射性物質の検査をします。使用食材の産地も必ず確認しています。
入口検査：新地町の事業（機器は新地町役場と駒ケ嶺小学校に設置）



① 使用食材をフードプロセッサーに入れ、検査用に細かくします。
② 約９００ｇの刻んだ検査食材を袋詰め（調理員が実施）し、検査機器で測定します。

◎安全が確認できた地元産食材を使用して、学校給食に提供します。

手順３　給食丸ごと検査（出来上がった給食の検査）　**出口検査**：福島県学校給食モニタリング事業

測定結果から「地元産食材使用の日」と「県外産食材使用の日」は、ほとんど数値に相違がありませんでした。

◎安全・安心な学校給食提供に努めます。
給食食材の事前検査結果及び給食一食分の検査結果は、新地町教育委員会ウエブページ及び「食育しんち」でお知らせします。

しんちの食育がめざすもの

「健康しんち２１」（第２次：平成２７年度～平成３６年度）より食育に関連する部分を一部抜粋

○基本理念　～町民一人ひとりが元気になるまちづくりをめざして～

○基本目標　『健康寿命の延伸』

○生活習慣及び社会環境の改善

食生活は生活習慣病と密接な関係があり、健康を増進するためには欠かすことのできないものです。生涯を通じて健康な生活を送るために、量と質を考えて楽しく食べることが重要です。また、子どもが心身ともに健やかに成長し、望ましい食習慣を定着するためには、食だけではなく、農作物を育てる喜びを体験することや地域の農作物の良さについて理解することが大切です。

○目標（健康の指標）

・肥満傾向にある子どもの割合の減少　・朝食を欠食する子どもの割合の減少
・塩分を控えている人の割合の増加　・食育に関心のある人の割合の増加
・食品を購入するときに栄養成分表示を参考にしている人の割合の増加

ふくしまっこ食育指針（福島県教育委員会）
「食べる力」、「感謝の心」、「郷土愛」を育むことを目標としている。

（平成 27 年度　新地町　スーパー食育スクール事業　パンフレット：平成 28 年 2 月発行）

E.

H25.6.21 和食の無形文化遺産化：意見交換会資料

新地町食生活改善推進員会活動報告

【新地町の震災被災状況】

・地震、津波…震度６強　津波の高さ１０m超　・死者、行方不明者…１１６名
・津波浸水　９平方 km（町の面積の 1/5）　・被災家屋　６００世帯超
・仮設住宅　８カ所　５７３戸

１．食生活改善推進員の活動

＜会の状況＞

○会設立…平成２年度　　○会員数…３８名（地区選出にて、町長より委嘱）
○任　期…２年（再任あり）

＜活動内容＞

～活動テーマ～

・主食、主菜、副菜のそろったバランスよい食事で健康づくりを推進する。
・仮設住宅での料理講習など地域のボランティア活動に積極的に参加し、災害復興のために努める。

（１）地区伝達料理講習会の開催（各地区１～２回の実施が目標）

◎婦人会・老人会の集会時や地区の健康相談会時、また回覧等で呼びかけ、各地区公会堂や保健センターなどを利用して、調理実習や料理の試食会を実施する。

（２）視察研修への参加（年１回）

◎他市町村食生活改善推進員との交流及び施設見学。（日帰り及び宿泊）

（３）食生活セミナー（食生活改善推進員育成研修会）への参加（年６回）

◎地域における健康づくり活動の推進に積極的に務めるため、食生活及び健康に関することについて学ぶ。

＊２年間で２０時間以上受講した方には修了証を交付。

（４）町・他の協議会事業に対する協力

①離乳食相談会…５ヵ月～８ヵ月の乳児とその保護者対象（年６回）

②食育教室…町内の小学校児童と保護者を対象にPTAと共催して実施
また、総合学習の総合学習の一環として４年対象に実施

③健康福祉まつり…バランスよい食事の摂り方を広めるために試食品を提供
＊新地町わが家の食卓コンクール（平成12年～21年まで実施）
・地場産品や牛乳・乳製品を使った料理（レシピ）を募集し、優秀作品３品を選考し、健康福祉まつりにて、試食品を来所者へ提供。

④介護サポート事業…高齢者の集いの場に軽食を提供（年４回）

⑤ひとり暮らしの集い給食サービス（社会福祉協議会事業）
・町内の一人暮らしの老人を対象とした『ひとり暮らし集いの会』開催時に弁当をつくり提供する。（各種婦人団体が持ち回りで実施）

⑥相双地区食生活改善推進協議会への参加
・相双地区総会（５月開催）・研修会（年３回）、理事会への参加

⑦福島県食生活改善推進協議会への参加　・県総会（６月開催）

２．新地町の地場特産品

・小女子（こうなご）、カレイ（通称：釣師カレイ）、ほっき貝
＊現在、原発事故により出漁できず。

・ニラ
葉が厚く味も香りもよく町ブランド品として栽培。主に仙台方面へ出荷。

・いちじく
昭和６３年、県の特産品里づくりの指定を受け、作付けを推進。
加工品を開発…甘露煮、しそ巻き、アイス、タルト、ワインなど）

・トマト

平成７年、農業生産法人（有）グリーンファームがガラス温室を設置。
全てコンピューター自動制御され、生産、販売。
＊現在名称：（株）新地アグリグリーン

・りんご…バンビリンゴ団地…

鹿狼山の麓に福島市飯坂の果樹農家５戸の移住者のよって開墾。
多種のリンゴの生産に成功。全国に出荷。
＊現在は原発事故により販売激減。

◎地場産市場「あぐり」には、上記の地場産品を含め、地元農家が新鮮野菜、加工品を生産、出荷している。（独自にスクリーニング検査実施）

３．新地町の食文化（新地町史より）

＜食の歴史＞

新地町は海と山の自然に恵まれた農業と漁業の町。米や野菜は自家栽培。

戦国時代以降、伊達藩の領地にもかかわらず、隣の相馬藩との境界争いが多く、相馬民謡にも「伊達と相馬の境のさくら、花は相馬に実は伊達に」とあり、一般庶民は、複雑な環境の元に生活を強いられていた。今でも、伊達の風習が色濃く残っており、食文化にも表れている。

＜食習慣＞

・餅…　春、秋彼岸の中日、正月、お盆、節供、農作業の区切りなど何かあれば餅をつき、ごちそうであった。

・味噌、凍豆腐…　ほとんどの家庭で作られていた。

・お正月…　・大晦日：ご飯、お煮しめ、年取り魚
・正月３日目：ご飯、こくじ、塩さけ、柿なます
・７日：春の七草を入れた雑煮や七草粥
・小正月（13日）だんごさし→豊作を祈った
（14日）あかつき粥

・初田植え…　おふかし、お煮しめ、煮魚などを手伝いの人にふるまう。

・葬式…・葬式が終わるまでは生物は使わず、刺身の代わりに寒天を使う。
ネギ（臭いがきつい）、昆布（喜ぶ）などは避けた。ご飯は白ぶかし。
・葬式後の精進あげには、酒、煮魚、煮など七つ盛りのお膳。
・南は相馬藩、北は伊達藩の風習。
・初七日…餅をつき、世話になった人を招いた。

4．まとめ（食文化継承の現状と課題）

・食文化は、食の欧米化、時代の変化の流れで変わっていく。わが町の食文化においても、核家族化や生活様式の変化などで風化してきている。

・もののあふれすぎ、作りすぎ、放射能、化学物質の汚染、また食品の多様化が食文化を壊していないか…

・地産地消の取組が必要
…食料廃棄のムダをなくし、食べ物を粗末にしない生活
…地元で生産された季節のものを地元の人が食する普及運動

◎食文化を伝えていくためには、食べ物への感謝の心を持ち、毎日の食事の大切さを感じ、家族が健康で暮らせる食生活の工夫が、食の新しい文化を生み出し、しいては食文化の維持継承に繋がっていくのではないか…
それを推進普及していくことが、私たち推進員の役目でもあると思う。

F.

H29.4 月

食育サポーター　ほうれんそうの会　発足までの経緯

○平成２４年度～
・東日本大震災から１年半が経過し、町では、健康支援の一環として、仮設住宅集会所を中心に移動キッチンヘルシー料理サロンを開催。
・食生活改善推進員育成研修（食生活セミナー）を修了した方に料理サロン支援のためのボランティア協力を依頼。
・サポートセンターまごころサロン支援員、味の素（株）グループ復興支援プロジェクト担当者と協力しながら、料理サロンを実施。
○平成２７年度～
・防災集団移転団地地区住民の方を対象に料理サロンを実施。
○平成２８年度～
・８月：食生活改善支援のための活動の会発足案を提案し、準備会を開催。
・高齢者のための健康づくり支援として、百歳いきいき体操を実施している地区に対し、３０分程度のミニ出前栄養講座を実施。

～料理サロン実施状況～

実施年度	実施時期	実施場所
平成２４年度	１０～１１月 ２～３月	仮設住宅集会所７ヵ所・小川定住促進住宅集会場・大戸浜地区公会堂 仮設住宅集会所４カ所
平成２５年度	８～１１月 ３月	仮設住宅集会所６カ所・大戸浜地区公会堂 被災高齢者住宅
平成２６年度	７～９月	仮設住宅集会所６カ所・大戸浜地区公会堂
平成２７年度	２～３月	防災集団移転団地３地区 （岡、作田、大戸浜地区）
平成２８年度	９～１０月	防災集団移転団地４地区 （岡、作田、大戸浜、雁小屋地区）

～ミニ出前栄養講座実施状況～
・平成２８年１２月～平成２９年３月（希望する地区５カ所実施）