

# Seven samurai to protect “our” food: the reform of the food safety regulatory system in Japan after the BSE crisis of 2001

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**Abstract** Using the case of food safety governance reform in Japan between 2001 and 2003, this paper examines the relationship between science and trust. The paper explains how the discovery of the first BSE positive cow and consequent food safety scandals in 2001 politicized the role of science in protecting the safety of the food supply. The analysis of the Parliamentary debate focuses on the contestation among legislators and other participants over three dimensions of risk science, including “knowledge,” “objects,” and “beneficiaries.” The metaphor of “seven samurai” and the relationally situated roles of “samurai,” “bandits,” and “beneficiaries” are used to show that in the process of policy making certain moral and ethical expectations on a new expert institution *for* food safety were contested and negotiated to frame responsibilities and commitments of social actors for creating the food system based on trust.

**Keywords** Food safety · Risk analysis model · Bovine spongiform encephalopathy (BSE) · Beef · Japan

## Abbreviations

BSE Bovine spongiform encephalopathy  
FSC Food Safety Commission  
LDP Liberal Democratic Party  
MAFF Ministry of Agriculture, Forestry and Fisheries  
MHLW Ministry of Health, Labor, and Welfare

PEC Prion Expert Committee  
vCJD variant Creutzfeld-Jacob disease

*Samurai* (侍) was a term for the military nobility in pre-industrial Japan. Samurai (in Japanese) means “to serve” (Wikipedia 2006).

## Introduction

In the modern agriculture and food system, trust is a necessary element. As the mileage of “our” food between unknown farms and our dinner tables becomes longer, the economic stability of an increasingly globalized food system comes to rest on “our trust” in the system where everyone engaged in food production, distribution, and regulatory activities has done what they are expected to do. As consumers, purchasing, preparing, and serving food, trust is “the essential background of everyday interaction” (Misztal 2001, p. 323) and operates at the subconscious level. The reproduction of normalcy in everyday food consumption activities may be viewed as our tacit consent to take certain risks associated with particular food products, and therefore as symbolic expressions of our trust in the food system. However, many of us are hardly aware of how food reaches our tables, and therefore uninformed about what risks we are taking. For the most part, we suspend doubts about “the validity of [our] knowledge of everyday life [surrounding food]...until a problem arises” (Berger and Luckmann 1966, p. 44).

In recent years, *generalized trust* or *social trust* in the food system has become an important topic in studies of agriculture and food (e.g., Almås 1999; Brom 2000; Frewer et al. 2003). As shown in this and previous studies on food

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safety scares (e.g., Juska et al. 2000; Millstone and van Zwanenberg 2002), when a food safety crisis arises, *trust* emerges as a critical problem of social interaction.

On the evening of 10 September 2001, TV news across Japan dropped a bomb on the country's dinner tables with an announcement that the first cow afflicted with bovine spongiform encephalopathy (BSE), or mad cow disease, was identified in Chiba Prefecture. Around 7:00 o'clock in the evening local time, phones at government offices began ringing; callers kept asking: "Is our beef on the dinner table safe to eat?" (Nikkei Net 2001a). This discovery of the first BSE-positive cattle in 2001 and consequent food scandals in 2002 led nearly every social actor involved in food production, distribution, and consumption to challenge the legitimacy of the existing food safety regulatory system.

The phrase *shoku no anzen · anshin* ("food safety") quickly entered everyday discourse. *Anzen* (安全) signifies technical, or "objective," aspects of food safety while *anshin* (安心) stresses a social and psychological, or "subjective," sense of security that arises from one's confidence and trust in the social and material environments in which one finds himself or herself. To secure both *anzen* and *anshin*, the Japanese government enacted in June 2003 the Food Safety Basic Law (hereafter Basic Law) to completely overhaul the existing food safety regulatory system and replace it with a new one that adopts a risk analysis framework, consisting of risk assessment, risk management, and risk communication activities. The Basic Law mandates that science-based risk assessment be performed by the Food Safety Commission (FSC), created in July 2003; while risk management be carried out by ministries such as the Ministry of Agriculture, Forestry, and Fisheries (MAFF) and the Ministry of Health, Labor, and Welfare (MHLW); and risk communication be carried out jointly by the FSC and risk management ministries.

In this paper, my concern is the policy negotiation of "science" to be used in a new expert institution for rebuilding public trust in the safety of food supply. I examine which elements of "science" were being contested in the process of reforming the food safety regulatory system in Japan. To understand justifications for the new institutional arrangements in the new system, I analyzed the Parliamentary debate between 2001 and 2003 over the Basic Law by raising three questions: What constitutes scientific *knowledge* to be used for assessing food safety risk? What *objects* are required to undergo risk assessment? Who are supposed to become *beneficiaries* of risk assessment outcomes?

In creating this expert institution that addresses both objective (*anzen*) and subjective (*anshin*) aspects of food safety risks, these dimensions became critical because these are moral questions surrounding risk science,

including: who *ought to* benefit, who *should not* be harmed, and what *must* be regulated. Although the answers to these questions define what constitutes *good science* which helps to make food safer in Japan, I argue that these answers also frame responsibilities and commitments of social actors toward each other within the food system and therefore affect whether the institutions in charge of the protection of food safety would be perceived and experienced as trustworthy by lay publics (Wynne 1995, 1996). As pointed out below, this case study is important in providing a clue to understanding Japanese consumers' strong opposition to the reopening of beef trade with the US after the discovery of first BSE positive cattle in the state of Washington in 2003. More important, this case study helps us understand how moral and ethical expectations surrounding science are raised, contested, and negotiated in the process of policy making after a food safety crisis.

### "Science for food safety": rebuilding trust in the food system

#### Food and problems of trust

Food is a crucial part of what constitutes the structure of our everyday social world. In our normal everyday life, we approach food with the natural attitude as a part of our lifeworld which rarely requires reflective thought. Imagine our routine grocery shopping experience and ask ourselves how we decide to purchase particular food items at particular stores from infinite choices available to us. We quickly recognize how much we rely on a particular set of "schemes" (Schutz 1967) to order our knowledge about food. Weekly newspaper inserts from grocery stores, package labels, brand names, and seals of certification are some of what Bauman (1993) calls "anxiety-reducing devices" that help us make purchasing decisions.

On the other hand, as Berger and Luckmann (1966, p. 44) point out, "the reality of everyday life always appears as a zone of lucidity behind which there is a background of darkness." Behind numerous anxiety-reducing devices, there is a complex system of expert institutions for food safety governance, or the food safety regulatory system. This is comprised of numerous public and private institutions of surveillance and discipline (Foucault 1979) that define and enforce conventions, legal rules, and ethical codes of conduct with which all social actors involved in food production, distribution, and consumption activities must comply. These legal-ethical rules situate actors in particular social roles (e.g. "farmers," "processors," "distributors," "retailers," "consumers," "regulators") and promote specific behavioral norms for them to fulfill these assigned roles (Tanaka 2005). At the

same time, the food safety regulatory system “black boxes” (Latour 1987), in essence conceals the processes and practices of food production and distribution, power relations, and moral capacity of social actors in the food system. By doing so, it distances food more from our everyday knowledge. It also effectively conceals our dependence on myriad expert institutions that generate anxiety devices and regulatory measures, our ambivalence in managing competing social roles (e.g., consumers vs. farmers) prescribed by these institutions, and our powerlessness against expert knowledge that reproduces our dependence on these institutions (Wynne 1996). In short, in the modern food system, it becomes unclear for us what *knowledge* is used to classify certain *objects* as safe or unsafe and to whose benefit (*beneficiaries*).

When a food safety crisis occurs, however, various social actors individually and collectively move from the taken-for-granted lifeworld to the “problematic world” by opening up “black boxes” of how particular food items are produced, distributed, and regulated. Yet, the knowledge about food is not distributed equally among social actors involved in food production, distribution, and consumption. Many actors, particularly consumers, often find themselves surprised and shocked by what is in the black boxes. They recognize that particular institutional arrangements and mechanisms indeed benefit some actors but harm others.

Such TV images as a BSE-afflicted cow stumbling around the field, a young patient of vCJD (variant Creutzfeldt-Jacob disease) unable to speak to his parents, and feedlots crowded with cows infuriated many Japanese. This “food safety crisis,” as the news was treated by the media, situated these Japanese individuals as actors with specific roles in the food system, such as “consumers,” “farmers,” “restaurateurs,” and so on. This visibility of the mundane, everyday food system makes these actors question the validity of their intersubjective knowledge about food in general and the virtue of the food safety regulatory system to protect the safety of “our” food supply. In this context food production and consumption activities change from mundane acts of habit to expressions of these actors’ moral and ethical values of how food *should* be protected from potential risks to overcome their sense of distrust with the food system.

In the “problematic world,” *trust* becomes a moral and ethical question of how responsibilities and accountability *should* be distributed among social actors to create a “good,” “fair,” and “just” society where individual members are equally protected from potential risks (Brom 2000). Trust then becomes a sphere of negotiating institutions and procedures by which expert and lay knowledge are incorporated into policy and prescribe social roles, moral values, and ethics—who should expect what from whom and what should be the consequences for those who

violate these expectations? In short, rebuilding public trust in food is a reflexive process of re-ordering “our” knowledge about food to regain a sense of security in our everyday life.

#### Risk science as the solution

To help answer the questions listed above, “science” is often brought in as the decisive judge. In controversies over food safety risks at the national and global levels, the dominant discourse often frames the lack of science as a problem, and therefore, more of “right” science as a solution to make better food safety policy (Buzby 2003; Juska et al. 2000; Jensen and Sandøe 2002; Millstone and van Zwanenberg 2002). Science is expected to provide social actors with what their subjective commonsense knowledge fails to resolve, that is, objective answers to what food safety risks they face and how to avoid them.

However, science is a social institution, like others, that embodies cultural practices and tacit understanding of social relationships. The constructivist perspective of science studies (e.g., Knorr-Cetina 1981; Latour and Woolgar 1979; Law 1994) shows that doing science involves not only organizing our epistemology, but also ordering our natural and social worlds. Although the authoritative status of science itself is rarely problematized, as Jasanoff (1996, p. 255) points out, “[a]t the junction between science and policy even the definition of ‘science’ is open to interpretation.”

Existing work on the performative nature of scientific knowledge shows that a large part of doing science is about the stabilization of material and relational elements necessary to accomplish jobs correctly (Bowker and Star 1999; Clarke and Fujimura 1992; O’Connell 1993; Pinch 1993). A set of standardized techniques, procedures, and practices are interpretive conventions tacitly negotiated and shared by a community of scientists within a given field. They allow scientists to classify both nature and society into manageable categories as variables, structure data to be collected, and record these data as texts and routine work practices. Then, in designing the expert institution for food safety governance, decisions about which fields of science are included and excluded are critical. Such decisions configure material and relational elements of “risk science”—what variables are to be used, how data are to be collected and interpreted, and how results are to be incorporated into policy.

Indeed, the negotiations over the creation of a new expert institution for food safety governance in Japan centered on the questions of *knowledge*, *objects*, and *beneficiaries* of science-based risk assessment because they are three critical elements in the co-construction of epistemic and social order. An examination of how the BSE crisis

rendered transparent this “invisible” machinery of the food safety regulatory system in Japan helps us understand how trust comes to the foreground in contesting what constitutes science *for* food safety.

### Methods: interpreting “trust” in the process of policy reform

This work was carried out as part of the larger research project that examines the reform of the food safety governance system in Japan between 2001 and 2004 to address BSE risks. As Caduff and Bernauer (2006) emphasize, internal policy dynamics and market characteristics affect institutional arrangements for food safety governance and public reactions to food safety risks. The main focus of this work was therefore to understand the notion of the *science-based* food safety regulatory system used in Japan to justify new institutional arrangements. Therefore, I use only texts, rather than interviews I conducted between 2004 and 2006, as data to focus my analysis on the process of policy negotiations as it unfolded.

In this section, I discuss the data and analytical approaches used for this study and explicate assumptions used to make these choices.

#### Data

In this analysis, I relied on government documents (e.g., laws, regulations, reports) released by various agencies after the BSE crisis in September 2001 through the enactment of the Basic Law in June 2003. These documents helped me identify the main areas of contestation over what constitutes science for rebuilding trust in the food system. The document analysis allowed me to ask how the contestation was embedded in the economic characteristics of Japan’s beef production and consumption as well as in the nation’s political dynamic through which food policy is handled.

To examine the negotiations of policy measures to reform the food safety regulatory system, I analyzed the transcripts of five meetings of the Cabinet Committee in the House of Representatives (hereafter the Lower House) that were held between 19 March and 18 April, 2003. This committee debated and sent the Bill on the Basic Law of Food Safety to the Lower House for a vote. In Japan, bills are customarily drafted by ministerial bureaucrats, rather than legislators, in accordance with the political agenda of the ruling party, or the Liberal Democratic Party (LDP). I selected the debate in Lower House committees as a space where positions of various actors—regulatory agencies, legislators who often spoke for particular interest groups,

consumer organizations, and scientists in this particular case—were deliberated. This is based on two reasons. First, in this nation where one party dominates both Houses, the Lower House is where policy decisions are made. Second, the debate over these decisions in Japan generally takes place in committee meetings, not on the floor of the entire Lower House.

#### A metaphor of seven samurai

The analysis focused on how science as a strategy to rebuild trust was politicized in the Parliamentary debate by asking the following questions: (1) what constitutes the scientific knowledge of food safety that is expected to guide food safety policy in Japan? (2) who are considered the legitimate producers of such knowledge? and (3) what is the new food safety regulatory system expected to accomplish that the previous system failed to accomplish?

To guide my analysis, I adopted a metaphor of “seven samurai,” used in the quote from one legislator at one of the Parliamentary committee meetings that “seven members of the Food Safety Commission must be able to act like the ‘seven samurai’” who would make decisions based on objective scientific data. Then, I treated these debates as negotiations to define scientists (samurai) and science (knowledge and skills required to samurai) to rebuild public trust while assigning roles of objects (bandits or enemies to be slain by samurai) and beneficiaries (villagers to be protected by samurai) to social actors in the new food safety system. The use of a play (or story) for text analysis helped me to focus on how these three roles are relationally situated in a particular setting (or plot) and allow me to present this case study as the process of contestation over the assignment of actors into the roles.

*Seven Samurai* (1954) is one of the most acclaimed and influential movies by Kurosawa Akira. In this movie, seven lordless warriors (浪人) were recruited by poor peasants to defend their village from a company of well-armed bandits who were pillaging the countryside. In modern times, samurai, or the warrior class which ruled Japan between the 12th and the 19th centuries, has been regarded as a cultural icon which represents individuals with such characteristics as bravery, might, decisiveness, honor, loyalty, honesty, and trustworthiness. Moreover, *bushido* or “way of the warrior” embodies the codes of warrior values and ethics that also stress justice, benevolence, sincerity, self-control, and patriotism. It is important to point out that, just like knights in the Medieval Europe, samurai often came from diverse backgrounds, including poor peasants, and that samurai could end up becoming bandits or helpless villagers.

In my interpretation of the debates, I focus on how these three roles define each other by using samurai as the ideal of “scientists of food safety,” bandits as “objects to be scientifically analyzed,” and villagers as “beneficiaries of scientific risk analysis.” I asked not only who are samurai, but also who are bandits to be slain by samurai, where these bandits come from, and who are villagers to be protected by samurai.

#### Assumptions and limitations

The Parliamentary debates in the Lower House committees were assumed to reflect the wider public discourse on food safety. Each political party claims to represent the interests, motivations, perspectives, and values of particular actors in the food system, though it may merely promote its own political agenda on the food safety regulatory reform with little or no consultation with its constituents. Although less than perfect, as a critical site for negotiation and decision-making, the debates in the Lower House helped me approximate the public contestation over rebuilding trust in food safety through a greater reliance on scientific knowledge. In the sections below, I will show how trust in the food system became a shared narrative as specific social actors are categorized in the policy decision making process as government, regulators, consumers, producers (i.e., dairy and cattle farmers), food industry (i.e., those who engage in food processing and distribution, including restaurants and butcher shops), scientists, and so on. Following the convention of the Japanese language, all Japanese names used in this paper are listed as the family name followed by the first name.

#### **Background: BSE crisis and the new food safety governance regime in Japan**

Immediately after the official announcement of the first BSE case on 10 September 2001, the Ministry of Agriculture, Forestry, and Fisheries (MAFF) and the Ministry of Health, Labor, and Welfare (MHLW) jointly took relatively swift actions to prevent further spread of BSE, calm the public, and stabilize both the livestock farming sector and the beef industry. By October, however, beef consumption dropped to 51.8% of the previous year (MAFF 2002). Various other “objective measures” of beef consumption behavior suggest that Japanese consumers no longer felt a sense of confidence and trust to purchase and consume beef as their normal, routine practice after the discovery of the first, and later, second BSE-positive cows. As Nelkin (1995, p. 449) points out, “[u]ncertainties about the extent and the nature of risk of [‘invisible’ hazards] have aggravated public fear.”

Consumers began demanding the veils be lifted to see how beef reaches their tables. As Wynne (1996, p. 57) has repeatedly argued, “the most germane risks are (social) *relational*.” The very first public controversy over BSE risk in the nation made Japanese consumers aware and reflexive of their dependency on the system of expert institutions surrounding food. This threatened their identities (e.g., consumers, citizens, mothers/fathers, wives/husbands, cattle farmers, restaurateurs) by delegitimizing their knowledge to assess *material* risks surrounding food (Wynne 1996). Their food consumption activities changed from mundane acts of habit to expressions of their agency to reclaim both their identities, and furthermore, their moral and ethical values of how food *should* be protected from potential risks to overcome their sense of *distrust* with the food system.

With the slogan of “rebuilding consumers’ trust with the safety of beef,” both the government agencies and the food industry actors began tinkering with various anxiety-reducing devices. On 18 October, less than 6 weeks after the first BSE case, the MHLW began nation-wide BSE testing on all cows slaughtered for human consumption. On 26 October 2001, the MAFF issued an “Emergency Measure to Buyback Beef Overstock” (or “Emergency Beef Buyback”) to recall domestic beef from cattle slaughtered before the mandatory BSE testing program began on 18 October (MAFF 2002). Meanwhile, retailers increased the proportion of beef sold at special sales prices (Nikkei Net 2001b). Restaurants changed their menus to eliminate beef (Nikkei Net 2001c). Many food companies sought alternative recipes for popular products to replace beef-derived ingredients (Nikkei Net 2001d). Some companies posted on their homepage the results of internal investigations on the level of food safety or the “certificate of food safety” issued from their suppliers (Nikkei Net 2001b).

Between January and August 2002, a series of additional food safety scandals involving food companies surfaced (Nikkei Net 2002b). On 23 January 2002, for example, it was discovered that Snow Brand Food, Co. Ltd. had knowingly mislabeled 13.8 metric tons of Australian beef to receive a government payment under the “Emergency Beef Buyback” program (Nikkei Net 2002a). By August 2002, two additional meat companies were indicted. The more consumers learned from the media about minute details of how food was produced, distributed, and regulated, the more it became apparent that not only the system of surveillance and discipline for food safety had failed to operate as inscribed in laws, regulations, food labels, and company policies, but also that certain actors had abused the inadequacy of this system in order to advance their economic interests and political motivations while putting others at risk. In the eyes of consumers, this was unjust and morally unacceptable. They began to dichotomize key actors in the food system as the trustworthy and the untrustworthy.

BSE cases and numerous food safety scandals indeed accelerated the speed of food safety governance reform which had begun after *E. coli* 0157:H7 outbreaks in 1991. The defining moment for food safety governance reform came when the independent BSE Investigative Council (2002), created jointly by the MAFF and the MHLW in November 2001, published its final report on 2 April 2002. It pointed out four systemic weaknesses in the existing food governance system: (1) the precedence of protecting producers' interests over consumers'; (2) the lack of communication between ministries; (3) the lack of transparency in administrative actions and processes; and (4) the exclusion of scientific experts from the policy making process (BSE Investigative Council 2002). As a solution to trust building, it also recommended that an independent food safety agency be established outside the MAFF and the MHLW to perform science-based risk assessment.

The government at both the executive and legislative branches responded to this report and the public outcry for food safety governance reform at a very rapid pace. Within 10 weeks, the Committee on Food Safety Governance of the Cabinet Office (2002a) released the basic framework for reform: (1) to establish the Food Safety Commission (FSC) as an *independent* agency under the Cabinet Office to handle *science*-based risk assessment (via technical committees) and risk communication; (2) to enact the Food Safety Basic Law (or Basic Law); and (3) to complete a series of amendments to eight existing laws under the jurisdiction of the MAFF and the MHLW. Between November and December 2002, the MAFF and the MHLW held public forums across Japan on food safety governance reform to fine-tune bills to amend the existing laws and regulations.

On 24 December 2002, the Cabinet Office (2002b) released the draft legislation of the Basic Law, followed by bills to amend eight existing food safety laws under the jurisdiction of the MAFF and the MHLW. These drafts were debated and enacted by the 156th Regular Parliamentary Session, which ran between 20 January and 28 July 2003. None of the primary participants in the negotiation process opposed the three principal measures to reorganize food safety governance. However, the main contentions for these proposals at Parliamentary committees centered on the expected role of science as a tool for shaping the disciplinary institution to protect the safety of the food supply. Below, I will focus on the debates in the Lower House surrounding the enactment of the Basic Law to show how "government becomes the key mediating institution where social actors participate, with varying degrees of influence and in a variety of structures, in shaping, interpreting, and using scientific knowledge" (Cozzens and Woodhouse 1995, p. 534).

## Science as a tool to rebuild trust in food safety

In the negotiations of the Basic Law, all of the social actors—politicians from both dominant and opposition parties, bureaucrats at the MAFF and the MHLW, consumers' organizations, industry groups—enrolled science and scientists as their ally to justify their perspectives on food safety governance reform. The debate centered around three issues: (1) what the science of food safety should look like (expert knowledge used for risk assessment); (2) how far the science of food safety should extend its reach (objects of risk assessment); and (3) who should benefit from the science of food safety (beneficiaries of risk assessment). As summarized in Table 1, the participants of the debate tended to take a distinctive position in each area of dispute over the Basic Law so as to ensure that the new food safety regulatory governance system would provide better protection of their social identities in the food system. Because bills are usually drafted and submitted to the Parliament by ministerial bureaucrats, I use "regulators" to indicate the position taken in the original bill to be debated in the Parliamentary committees. Through the discussion of the debate on each issue, I explain below how various parties could be identified as samurai, bandits, and villagers, as presented in Table 1.

Who should be the "seven samurai"?

Risk assessment is usually not about assessing the presence or absence of risk, but a level of risk. It is often a matter of standardization and quantification of our everyday practices (Porter 1995). Many potential food safety risks fall into what some Japanese legislators called the "scientific gray zone," that is, either there are not sufficient scientific data or scientifically conclusive results to assess the level of risk posed to human or animal health. Science is composed of "interpretive communities" (Rouse 1987) that consist of scientists and technicians with skills, experience, and characters who are embedded in particular social and material relations with colleagues, lab animals, equipment, tools, and so on.

As many legislators from both the governing (LDP and Komei) and opposition (Democratic, Socialist, and Communist) parties noted, science involves making value judgments ranging from selecting data, methods, and criteria for risk assessment of a potential food safety risk to making a policy recommendation. Each of the judgments made in scientific activities will inevitably have enormous impact on the welfare of citizens as well as on the well-being of the agricultural sector and the food industry. Although these judgments must be made in the process of "the science of risk assessment," they are moral judgments on the social order: Which knowledge should be relied

**Table 1** Key points of disputes over the key characters in *Seven Samurai*

Characters	Samurai		Bandits		Villagers	
	Knowledge used for risk assessment		Objects of risk assessment		Beneficiaries of risk assessment	
Disputes	Natural science	Natural and social science	Domestic only	Domestic and import	Citizens (unspecified)	Citizens and consumers (specified)
Actors' positions <sup>a</sup>	Regulators	Academics	Regulators	Consumers; industry	Regulators; [industry] <sup>b</sup>	Consumers

<sup>a</sup> "Regulators" include food safety regulatory agencies at the national level such as the MAFF and the MHWL. "Academics" include intellectuals with an appointment in an academic institution who are often called to serve on government's advisory committees. "Consumers" mean consumer organizations. "Industry" includes organizations that represent interests of farmers, food processors, wholesalers and retailers of agricultural and food products, and restaurants

<sup>b</sup> "Industry" is bracketed because the industry's position on this dispute was never explicitly articulated in the political debate though the industry's unwillingness to grant legally defined rights to "consumers" was well known in the public

upon to ensure that our food is safe to eat? What should be evaluated by science as potential risks? Whom should science protect from potential food safety risks? What goals should risk science aim to achieve?

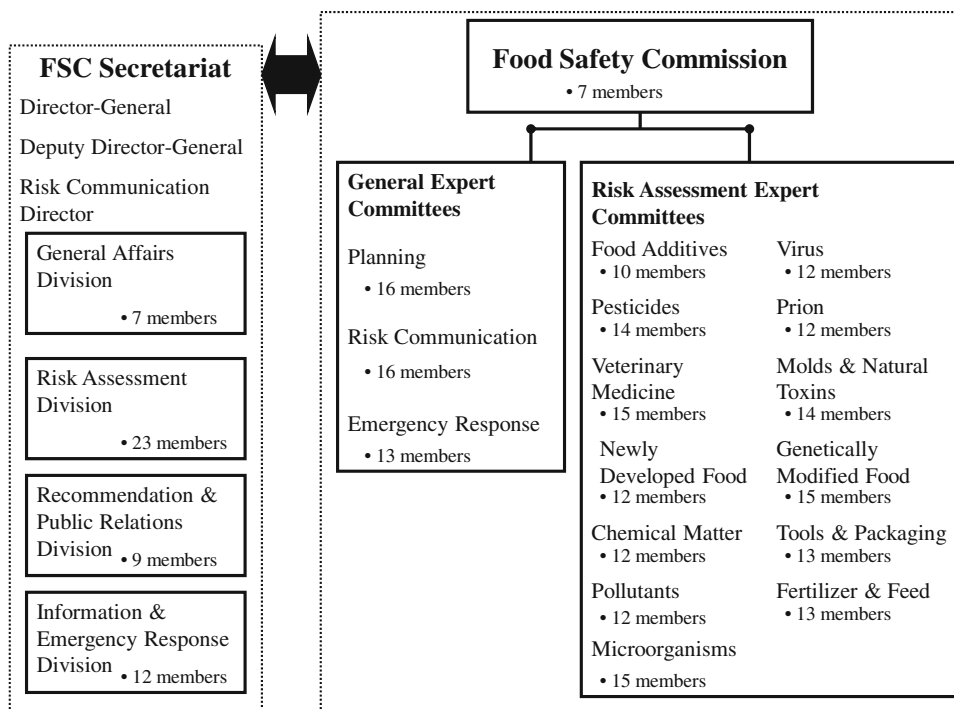
Oota Akihiro (Komei Party) said in the third Cabinet Committee Meeting (2003a) that the seven FSC members must be like the "seven samurai" who would be willing to swiftly make subjective judgments from objective scientific data, even if they must be interpreted under conditions of uncertainty. Just as the goal of the seven samurai in *Seven Samurai* was for seven *lordless* warriors to save a village and its members from bandits, the goal of the seven *independent* scientists at the FSC would be to lead other scientists who serve on risk assessment expert committees (See Fig. 1) in order to save the Japanese nation and its citizens and consumers from potential food safety risks.

Then, who should play the roles of the "seven samurai"? Who should be granted the authority to carry and swing mighty swords to ward off bandits? Should villagers stay home quietly and watch the seven samurai fight? Or, should they be one of those who fight off bandits?

In the debate over the selection of seven FSC members, there were three positions based on two methods to draw a boundary between "experts" and "public" in food safety as shown in Table 1. The first method regarded "scientific knowledge," regardless of fields, but disregarded "everyday knowledge" of consumers, as "expertise." The second means drew a line between "natural/hard" and "social/soft" sciences, and excluded the latter from "expert knowledge" in food safety. Therefore, samurai could be: (1) natural scientists only, (2) natural and social scientists, and (3) scientists and representatives of consumer organizations. Although nobody took the first position, those who supported the second or third position frequently used this narrow definition of "expert knowledge" as their opposing position. Those who wanted to include consumers in the FSC argued that science should be one of many knowledge systems to be considered when making food safety policy recommendations. Opponents argued that the primary role of the FSC is to assess food safety risk objectively based on existing scientific knowledge, independent of economic and political interest groups.

At the 16 April Joint Conference (2003), MAFF Minister Kamei Yoshiyuki defined food safety "experts" as "those with excellent expertise in securing food safety... appropriate to scientifically evaluate the safety of food supplies," including "experts in toxicology, microbiology, organic chemistry, public health...as well as food production and distribution systems, consumer perceptions and behaviors...and information communication." In response, Nishikawa Kyoko (LDP) raised the problem of defining "scientific experts":

**Fig. 1** The structure of the Food Safety Commission of Japan, approved on 9 July 2003. Source: FSC (2004)



I am troubled by the idea of having nobody but “[scientific] experts” [in the FSC]. [The FSC] must be composed of people who have wide knowledge, who properly understand [the perspective of] the “silent majority,” citizens, in other words, who are experts with common sense.

At the third Cabinet Committee meeting (2003a), Ohata Akihiro (Democratic Party) also expressed his doubt about the ability of FSC members, if selected solely based on their “scientific expertise,” to communicate with the public about food safety risk in laypeople’s language, and therefore “to rebuild public trust”; he urged that consumers’ representatives be included in the FSC. He argued that consumers were experts on the food system because, through their daily activities, they acquire in-depth knowledge about what food safety concerns the public has, what food safety information is missing or inadequate, and what methods of risk communication are effective or ineffective. At the fifth Cabinet Committee Meeting (2003c), Takahashi Masao, an agricultural economist who chaired the BSE Investigative Council, emphasized that the FSC should not end up with only those “science fools (科学馬鹿)” who view science as a panacea and know nothing else other than their own expertise. He recommended that experts from social science and humanity fields be included in the FSC.

In short, the question of who should be the seven samurai rested on whether to privilege one particular form of epistemology over others. Should the knowledge of

villagers about themselves, their village, markets, and bandits be equally valued? Or, is the proficiency in martial arts (e.g., scientific expertise) alone sufficient? Most legislators recognized the limitations of the epistemology of “hard” science in building and maintaining a sense of ontological security in everyday practices and interactions concerning food. They agreed that not only scientific and technical aspects of food safety (*anzen*), but also subjective, psychological, and emotional aspects of food safety (*anshin*) should be incorporated into science-based risk assessment by the FSC.

How far should “seven samurai” travel?

As Caduff and Bernauer (2006, p. 155) stress in the case of EU’s food safety governance, “market conditions and regulatory and market fragmentation... [affect] susceptibility to food safety crisis.” They point out that consumers tend to be more confident in the safety of the food supply when there are high levels of food self-sufficiency in food production and distribution.

Since the first case of BSE in September 2001, Japanese citizens and consumers had been constantly reminded of the facts that Japan is the world’s largest importer of food and that approximately 60% of Japanese calorie intake comes from imported food. They situated Japanese citizens, consumers, farmers, producers, and government officials as “consumers” in the increasingly globalized agricultural and food system. These actors were keenly



aware that low self-sufficiency rates in food production and distribution meant high dependence on expert institutions *abroad* to protect their food supply. In short, the debate over inclusion and exclusion of imported food as object of risk assessment reflects their shared sense of alienation from expert knowledge on the one hand, and their attempt to regain their sense of agency on the other (Wynne 1996) to reintegrate their everyday practices and interaction with expert knowledge of food safety. It was therefore inevitable for legislators and participants in the legislative debates to review the role of science in food safety governance in the context of a rising tension between the pressure to harmonize food safety standards under the WTO framework on the one hand and the demand by their constituents to improve the nation's food self-sufficiency.

In the original bill of the Basic Law, submitted to the 156th Regular Parliamentary Session, Article 4 reads (Cabinet Office 2002b, English translation by author, emphasis added):

Food safety may be affected by every element in a series of *food supply processes*, from the production of agricultural, forestry, and fishery products to food safety (hereinafter referred to as “food supply process”); it thus shall be ensured by taking the necessary measures appropriately at each stage of the food supply processes.

At various committees, however, many legislators demanded that a clarification be made on the scope of the “food supply processes.” Their main concern was whether the FSC would have any authority to assess the risk of food imports and to advise policy measures to manage their risks. In other words, how far should the seven samurai travel to protect Japanese citizens from food safety risks? Should they worry about only those bandits from inside or also outside the village?

Neither the MAFF nor the MHWL had originally intended to include food imports under the FSC's jurisdiction for risk assessment. Yet, legislators raised a concern about the steady decline in the portion of products actually inspected at ports by these agencies as the amount of food imports increased rapidly over the last three decades. Furthermore, several legislators criticized the imbalance in the globalized food system between major exporting countries and importing countries over the power to regulate food safety. At the 16 April Joint Conference (2003), for example, Samejima Muneaki (Democratic Party) asked why the Japanese government would not send its delegate team to the US and the EU to inspect slaughtering and processing premises as these exporting governments regularly do.

The domestic food industry and domestic agricultural production will be tightly regulated from every step

of the food supply processes. But, exporters to Japan only get “one-shot” inspection at the port entry. ... In other words, this law is very convenient for exporting countries. When the Japanese agricultural sector is facing a tough challenge of potential demise under the WTO regime, this law benefits exporting countries. Too soft on food imports!

For some legislators, the new food safety regime was a key strategy to rebuild localized food systems where producers and consumers would maintain trust through face-to-face relationships. A few legislators even went so far as to argue that by treating domestic and imported food differently, the science of food safety would be able to prove to Japanese consumers that the former would be more trustworthy than the latter. This emphasis on “local” as an oppositional category of “global” suggests that lay public's trust in expert institutions for food safety may be associated with their capacities to preserve identities of social actors in the food system as “farmers,” “food processors,” “restauranters,” “butchers,” “consumers,” and so on in such a way as to validate their knowledge of everyday life. In other words, the new food safety regime is expected to facilitate lay publics to open up “black boxes” of the journey of their food from unknown farms abroad to their dinner tables.

At the sixth House Cabinet Committee (2003d), the bill for the Basic Law passed with the amendment on Article 4 that replaced “a series of food supply processes” with “a series of *internal* and *external* food supply processes.” This amendment, which passed both houses of the Parliament, has extended the reach of experts in the science of food safety at the FSC beyond the domestic network of food production, distribution, and consumption. Not only are Japanese scientists expected for the first time to play a crucial role in the formation of food safety policy, but they are also expected to actively engage in international scientific debates to justify and defend their own judgments in policy choices. The seven samurai are given duties to not only ward off bandits from both inside and outside the village, but also engage in battle with reputable warriors in distant lands.

Whom should the “seven samurai” protect?

Who are the villagers to be protected by the seven samurai? Who shares in the collective conscience (Durkheim 1984) that views particular food safety risks as “bandits” to be driven out? What constitutes the “we” or “community” whose trust needs “to be won and actively sustained” (Giddens 1994, p. 184)?

In the five committee debates in the Lower House, the concepts of “citizens” and “consumers” were often used

interchangeably to discuss the moral and legal responsibilities of the various actors in the food system for the protection of food safety. However, the interests of “citizens” and “consumers” are not necessarily identical. In differentiating citizens from consumers, it is important to understand changes in the role of the nation-state in food governance (Gabriel and Lang 1995; Marsden et al. 2000), particularly in understanding who are subjected to bureaucratic regimes and modes of discipline and surveillance (Foucault 1991). In the debate, “citizens” were treated as a parallel concept to the “state” as expressed by Oohata Akihiro (Democratic Party) at the fourth Cabinet Committee Meeting (2003b) that “without trust of citizens, the nation-state will cease to exist.” On the other hand, “consumers” were seen as a more fluid category which links various institutional actors in the “state” and the “market.”

Articles 3 and 5 of the Basic Law (2003) explicitly elevate the protection of *citizens’* health as the primary goal of food safety governance and require the opinions of citizens to be reflected in the policy measures. Article 9 defines the role of *consumers* as key participants in the policy making process. Activists in consumers’ movements and advocates of citizens’ rights viewed the explication of “citizens” and “consumers” as the primary target for protection in the Basic Law as a monumental step forward in the Japanese food governance system (e.g., Japan Co-op 2003).

At the fifth Cabinet Committee Meeting (2003c), Hiwasa Nobuko, a BSE Investigative Council member and a long-time consumer activist, pointed out that previous food safety-related legislation did not clarify responsibilities and obligations of the state in food safety governance toward “consumers” and “citizens,” suggesting these two groups were never viewed as viable legal concepts. Consequently, the protection of consumers’ and citizens’ interests had been always treated as a consequential outcome in the process of regulating the industry. At the same meeting, legislators from opposition parties as well as Kamiyama Michiko, another BSE Investigative Council member and a lawyer activist on food safety issues, expressed their frustration with the fact that the Basic Law did not go far enough to define the rights of consumers to obtain information about food, access to safe food, and participate in the decision making processes for food safety policy. Tanikagi Sadakazu, the Minister of State for Food Safety, explained that a basic law was to clarify ideological principles used by a set of laws under it, not to specify legal rights or sanctions. He further pointed out that by defining responsibilities of the state (Article 6), the local government (Article 7), and food-related business operators (Article 8), the Basic Law functions to recognize these rights of consumers. In short, the Basic Law was expected

to play the functions of differentiating individuals in the food system into specific groups and institutions, reassigning roles to each, and rationalizing relationships between these groups and institutions.

At the 16 April Joint Conference (2003), Samejima Muneaki (Democratic Party) raised his concerns with the FSC’s lack of legal authority over risk managing ministries, particularly the lack of a legal mandate for the FSC to supervise and monitor risk management activities of the MAFF and the MHLW. Under the Basic Law (2003), the FSC’s authority over risk management ministries is limited to: (1) making “recommendations to related ministers through the Prime Minister about policies to be implemented” (Article 23, (3)); (2) monitoring and making “recommendations to related ministers through the Prime Minister” about “the implementation conditions of policies” (Article 23, (4)); and (3) having related ministers “report to the Commission on policies that they have implemented on the basis of a recommendation” (Article 23 (4)).

At numerous committee meetings, both MAFF and MHLW Ministers repeatedly explained that the notification of FSC’s recommendations through the Prime Minister (or the Lord of the seven samurai), the head of both the state and the Cabinet Office, would give the FSC *functional*, if not legal, authority over their ministries. Moreover, to assure transparency in the food safety policy process, all the communiqués between the FSC and ministries would be open to the public, making it very difficult for these ministries to ignore the FSC’s recommendations.

Then, in order to rebuild public trust in food safety, the FSC must make scientific information and science-based risk assessment processes accessible to consumers so as to allow them to fulfill their role in accordance with Article 9. It becomes a moral obligation of the science of food safety to transform consumers from merely passive economic actors in the market to active political actors, or “consumer-citizens” (Draper and Green 2002), in the process of food safety policy making. Following science-based food safety policy recommendations is not something that risk managing ministries *have to do* for legal reasons, but it *is good to do* for moral reasons. In short, the science of food safety becomes an agent in the redistribution of responsibilities among governmental ministries and offices under the moral obligation of rebuilding the public trust in the food system and food safety governance.

What does the new house of samurai look like?

On 1 June 2003, the Food Safety Commission (FSC) was established. According to the administrative regulations of the FSC expert committees (Cabinet Office 2003),

**Table 2** Representations in Food Safety Commission and Expert Committees

	Scientists	Food related industry	Consumers	Regulator	Other professions	Unknown	Total
Food Safety Commission	5				2		7
Expert Committees							
1 Planning	7	2	2	1	1	3	16
2 Risk communication	5	4	3	2	1	1	16
3 Emergency response	9			1	1	2	13
4 Food additives	10						10
5 Pesticides	13						13
6 Veterinary medicine	15						15
7 Pollutants	11					1	12
8 Microbian organisms	15					1	16
9 Virus	13						13
10 Prion	12						12
11 GM food	15						15
12 Newly developed food	12						12
13 Fertilizer and feed	13						13
Total	155	6	5	4	5	8	183
Percentage	84.7%	3.3%	2.7%	2.2%	2.7%	4.4%	100.0%

*Note:* This table was constructed based on the directory of FSC technical committees, available at the FSC website as of January 2004. Two expert committees, defined in the administrative regulations of 9 July 2003, were never formed, and later amalgamated into other committees

approved on 9 July 2003, three general expert committees and 13 expert committees for risk assessment were to be created under the FSC (see Fig. 1). Among seven commissioners, all but one samurai are scientists from medicine, public health, pharmaceutical science, nutrition, food science, and veterinary science. As shown in Table 2, the newly established house of samurai indeed privileged expert knowledge over lay knowledge, although social scientists and non-scientists were represented in the three general expert committees.

As Japanese critics (e.g., Fujihara 2003, 2004; Niiyama 2003) point out, Japanese participants in the reform process accepted far more easily than their European counterparts the new framework of science-based food safety governance as a solution for rebuilding trust in the food system. Yet, according to the mandate of the Basic Law, the new science-based food safety regulatory system created numerous opportunities for citizens to participate in the decision making process for food safety regulations. Not only the regular meetings of the FSC, but also every meeting held by expert committees, are open to the public; their agendas, proceedings, and meeting materials are made available to the public. In collaboration with the MAFF and MHLW, the FSC regularly hosts public forums on food safety risks around the nation. In short, the new food safety regulatory system in Japan enhanced the transparency of decision making over *knowledge*, *objects*, and *beneficiaries* of risk science to protect the safety of “our” food supply.

If the primary duty for samurai was to rebuild villagers’ trust in the food system, who should be the judge for samurai’s performance—*Shogun* (Prime Minister) who grants them authority and assign duties, villagers (consumers) who require protection, or fellow samurai (overseas scientists) in the land far away who share knowledge and expertise in busido (science)?

The first test of these samurai’s skills came soon after the new food safety regulatory system was established when the task for scientifically assessing BSE risk was assigned to the FSC’s Prion Expert Committee (PEC). When the news of the first BSE positive case in the US reached Japan on 24 December 2003, 12 PEC scientists were still in the process of defining their responsibilities and the committee’s role in the larger process of food safety policy formation. The biggest challenge for the PEC was to convince *both* domestic and overseas observers under intense public scrutiny that its risk assessment outcomes were based on science alone, not aimed “to re-forge public anxiety into corporate profits and/on the way to further deflect public concerns away from the danger-perpetuating mechanisms itself” (Bauman 1993, p. 205).

In March 2005, the PEC presented to the FSC the final report on the risk assessment of BSE for domestic beef with a recommendation to exclude cattle under 21 months of age from mandatory BSE testing. At numerous public forums held across Japan between September 2004 and April 2005, PEC, MAFF, and MHLW staff repeatedly

emphasized that this recommendation was only for domestic beef and had nothing to do with the beef trade dispute with the US. However, this did stop many media and consumer organizations from publicly questioning the efficacy of the new food safety regulatory system in rebuilding public trust in food safety. On 6 May 2005, the FSC (2005a) accepted the PEC's report without any modifications. Eighteen days later, the MAFF and MHLW formally requested the FSC for the risks assessment of BSE for US and Canadian beef. On 8 December 2005, the FSC (2005b) also accepted the PEC's final report on the matter which recommended Japan to resume beef trade with US for only cattle less than 21 months of age.

"The crisis of beef safety in the US," as widely reported in Japan, made Japanese government officials, policy makers, producers, and consumers realize that keeping skillful samurai in a village alone will not necessarily gain trust from villagers that their village would be protected. The process to renegotiate beef trade policy between Japan and the US took far longer (31 months) than the latter expected, largely because the discovery of BSE cases in the US dramatically altered the way in which Japanese observers, particularly consumers, interpreted PEC's risk assessment work (samurai's performance). Japanese lay publics' frustration with the outcomes of science-based risk analysis of BSE can be observed through overwhelming negative responses expressed in the media, homepages of Japanese consumer organizations, and blogs written by individuals following the nation's BSE crisis. In April 2006, six out of 12 PEC scientists chose not to serve another term and resigned instead. It is widely reported that among those who resigned were the most prominent prior researchers in Japan who remained critical of BSE prevention measures used in the US. On 7 August 2006, the first shipment of US beef arrived at Narita International Airport.

## Conclusion

This Japanese case study shows how trust came to the foreground in contesting what constitutes science *for* food safety after the BSE crisis opened the "black boxes" of the food system. Regardless of how science and scientists were eventually defined in the Food Safety Commission (FSC), the participants in the policy negotiation process explicitly expressed their expectation that science was to play a key role in making food safer and (re)building trust in the food system. The use of the metaphor of "seven samurai" with three categories of characters—samurai, bandits, and villagers—has helped me articulate how relationally positioned elements of science—knowledge, objects, and beneficiaries—are constructed and negotiated in the

process of policy making. What do we learn learned from this case study?

First, at a time of controversy over food, social actors with specified roles, behavioral norms, and moral expectations in the food system become observable through their own actions, as well as through images created by others in the media and policy debate, to act upon and respond to the crisis. To survive, all humans consume food, regardless of age, gender, race, ethnicity, or wealth. This does not necessarily mean that every human identifies him or herself as a consumer. At least in the industrialized world, many individuals tend to participate in the food system with multiple roles, and consequently groupings such as "farmers," "consumers," and "regulators" are merely convenient categories to describe an abstract concept called "food system." This elusiveness of actors and their links poses a challenge to many social scientists in agriculture and food studies.

This case study shows that at a time of food safety crisis many categories such as "farmers," "consumers," "processors," "retailers," "local regulators," and "bureaucrats" become real and people actually talk about "*the* Japanese food system" and other "food systems abroad" and express what it means to be "consumers" and "farmers" in particular systems. More importantly, as in this case, key roles are positioned relationally, such as "villagers" who need to be protected by "samurai" (or saviors, heroes) from "bandits." Such narratives, often expressed in newspaper editorials and policy debates, suggest how institutional arrangements, mechanisms, and performances are problematized in creating trustworthy relationships among social actors in the food system.

Following controversies over food will allow agriculture and food researchers to raise such questions as what roles emerge to describe the crisis of a given food system; how these roles are relationally positioned; which social actors in the food system are assigned to play these roles; what kind of relationships between them are viewed as needed; and who are constructing, assigning, and evaluating these roles. Answers to these questions help us examine how relationally positioned roles in food systems at multiple levels from local to global are constructed through negotiations, persuasions, and coercion in the public debate and the policy making process. By doing so, our work will contribute to understanding how these food systems become simultaneously possible from locally situated acts of production and consumption of globally circulated food products. At the policy level, we will be able to provide insights as to what kind of institutional performance by social actors is essential in (re)building trust in the food system.

Second, disputes over knowledge, objects, and beneficiaries of risk assessment in this case study suggest that lay publics hold far more diverse ideas about what constitutes

good science and continuously raise the question of “whose science? whose knowledge?” (Harding 1991), particularly when scientific knowledge and expertise become the center of policy debate (e.g., nuclear power safety, global warming, AIDS epidemic). This case study shows that these elements matter because different combinations of them were perceived by the participants of the debate to generate a slightly different food safety regulatory system with a varied degree to meet moral and ethical expectations placed upon science to make a “good,” “fair,” and “just” society, and therefore, to be trustworthy in the eyes of lay publics.

Third, this empirical case study suggests that trust does not need to be treated as the “background of everyday interaction” or “an unintended outcome of routine social life” (Misztal 2001, p. 323). Food is a most basic object that facilitates everyday social interaction and shapes social relationships. As Brom (2000, p. 131) stresses, “[f]ood-trust exemplifies the issue of basic trust in modern society.” The analysis of a food safety crisis, which threatens public health and the stability of the food system, allows us to understand how moral and ethical expectations being placed on experts and expert knowledge are contested and negotiated to create a good food system based on trusting relationships among social actors.

Finally, this case study also suggests a precarious and perplexing relationship between science for food safety and trust in safety of food. In the Parliamentary debate in Japan, the participants failed to realize that the increased reliance of science does not fundamentally change the essence of the food safety regulatory system that places food trust in the background of everyday interaction by “black-boxing” food production and distribution processes and practices. At a time of food safety crisis, we are often surprised, even worse shocked, by what we find in the “black boxes.” Today, there are far more and tougher regulations and voluntary measures (including hygienic food handling practices in our kitchen) based on scientific knowledge and advanced technology than any other time periods in human history to ensure the safety of food products we consume. Yet, we are becoming far more anxious about food safety than our ancestors. Empirically based discussion to theorize and understand this irony would be our biggest challenge in agriculture and food studies. I hope that this case study encourage others to participate in the endeavor.

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## Author Biography

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