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## **Changes in Food Consumption and Policy Responses**

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At the time of enactment of the new basic law, environmental issues were attracting attention worldwide. The Basic Environment Act was enacted in Japan the year after the 1992 Earth Summit. The promotion of such environmental policies has encouraged consumers to participate in the debate over the multifaceted functions of agriculture. On the other hand, food safety problems have also occurred frequently due to externalization of food. These key words of these 20 years have been environmental and safety issues.

**Key words:** food consumption, safety, reliability, environmental problem, consumer education

### **1. Introduction**

The constant stability and safety of food have been essential conditions throughout history for maintaining the dietary habits essential for living. However, at the time the Food, Agriculture and Rural Areas Basic Act (referred to below as the “New Basic Act”) was enacted, no one likely foresaw how frequently incidents and accidents involving food safety would subsequently occur in Japan, as exemplified by BSE, chemical contamination, food poisoning, false labeling, and radioactivity problems due to the accident at Tokyo Electric Power's Fukushima Daiichi Nuclear Power Plant. In that sense, if the 20 years since enactment of the New Basic Act are considered from the perspective of changes in food consumption, one keyword is “food safety,” and the externalization of food and the increasing distances in the food system can be regarded as major factors in the background.

On the other hand, the 1990s—a time of debate leading up to enactment of the New Basic Act—were also a period, after the end of the Cold War, when environmental problems came to the fore as shared issues of global concern. Taking the 1992 Earth Summit as an opportunity, Japan enacted the Basic Environment Act in the following year, 1993, and aside from addressing global environmental problems, there was an urgent need to deal with waste in Japan, and the Basic Act on Establishing a Sound Material-Cycle Society was enacted in 2000. In terms of the waste reduction methods described in the act, a somewhat

contorted approach was set forth in which reduction is the top priority, but reduction was to be achieved by developing a recycling society<sup>1)</sup>, and measures to address waste were set out as various recycling laws subsidiary to that Basic Act (e.g., the Act on the Promotion of Sorted Collection and Recycling of Containers and Packaging, Act on Recycling of Specified Kinds of Home Appliances, Act on Promotion of Recycling and Related Activities for Treatment of Cyclical Food Resources, and the Construction Material Recycling Act). In addition, pollution law and nature conservation law, which were previously handled independently, were unified in the Basic Environment Act. The multifunctional role of agriculture which attracted attention in the New Basic Act can be regarded as related to these environmental problems. Agriculture and rural areas

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1) In the Basic Act on Establishing a Sound Material-Cycle Society, the order of methods for reducing wastes is first to not emit waste (reduce), next is reuse, third is recycling, fourth is heat recovery (when incinerated), and last is proper disposal. In that sense, under the current conditions where recycling is performed to reduce waste, the measures do not address how to sustain finite resources, and this indicates a contradiction in the Basic Act on Establishing a Sound Material-Cycle Society. Due to growth of the new industrial field of recycling, the only emphasis in a response advocating the “two ecos” of ecology and economy is the waste treatment aspect where waste is reliably reduced when recycling technology makes progress, and this is not a response to petroleum/resource depletion or global warming driven by mass production, mass distribution, mass consumption, and mass disposal. At the Earth Summit in 1992, there was a lack of consideration for resource depletion and transfer, concerns expressed by developing countries and NPOs, and whenever environmental problems are discussed in the setting of global negotiations, this is a point where approaches split into a north-south divide.

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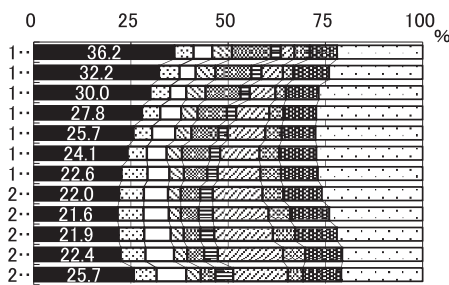
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are positioned as a commons, and an attempt is being made to reevaluate aspects such as the role they play in food supply for maintaining life, landscape, dam function, carbon dioxide absorption ability, and protection of biodiversity. Moreover, the key word when incorporating the consumer into the side being reevaluated is “environmental problems,” another key element of this report.

Taking as key topics the problem of food safety due to increasing food externalization, and environmental problems of the citizen participation type, in the following the author would like to examine changes in food consumption in the 20 years since enactment of the New Basic Act, the current state of policy responses, and the future outlook.

## 2. Changes in Food Consumption

Figure 1 shows changes in the breakdown of consumption expenditures by working households of two or more people.



**Figure 1. Trends in consumption expenditure by item**

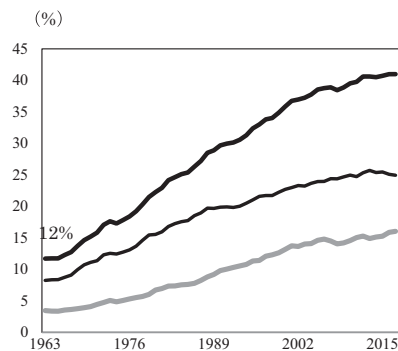
Note: From left, Food, Housing, Fuel light & water charges, Furniture & household utensils, Clothing & footwear, Medical care, Transportation & communication, Education, Culture & recreation, Other consumption expenditures.

Source: Annual Report on The Family Income and Expenditure Survey.

It is said that when income increases, the percentage spent on food decreases (Engel's Law), and until 2005, that trend was clearly evident. However, starting in 2005, the percentage spent on food rises, and there is a drop in spending on housing and educational expenses. Educational expenses declined in relative terms, despite a rise in per capita educational costs, due to a decrease in the number of children. Likely factors underlying the drop in Engel's coefficient, in the short-term, are high raw material prices due to the weak yen, and increased vegetable prices caused by climate instability in the last few years (taking 1970 as

the baseline, the price index has been about 3.5 times higher in last few years). Problems such as income disparities have also been discussed. When income rises for each household type, the Engel's coefficient drops, and Engel's Law is valid. The externalization rate is shown only for working households of two or more people, but no correlation is evident between a rise in externalization rate and Engel's coefficient. In terms of household types, on the other hand, it is evident that Engel's coefficient is high in single-income households and mother-child households. However, particularly notable is the high Engel's coefficient of elderly households. The highest values are seen not only with single men, but in elderly couple households. The aging society seems to be a major factor underlying the rise in Engel's coefficient<sup>2)</sup>.

Next, among changes in calories supplied by key food ingredients, a reduction in rice and increase in livestock products is clearly evident, but for rice, the rate of decline was comparatively moderate by the 1980s. Categories such as vegetables, seafood, sugars, and oils are also in a declining trend (Figure 2).



**Figure 2. Externalization rate of food for working households of two or more**

Note: Lines represent (from the top) Externalization rate, Meals outside the home ratio, and Home meal replacement ratio.

Source: Annual Report on The Family Income and Expenditure Survey.

In addition, from the 1930s to the 1940s, vegetable protein accounted for 90%, and in the 1980s it was on a par with animal protein. Since the 1990s, animal sources have

2) Kusakari (2011) takes the reversal of the Engel's coefficient between the younger generation and elderly generation to have occurred starting from the 1990s, and has pointed out the difference in food consumption structure between the younger generation, increasingly focused on convenience, and the elderly generation, increasingly focused on health.

accounted for more than 50%, and since 2000, there has been an increase in the percentage of animal protein, even though overall intake of protein has declined.

Figures like the above indicate that trends in the dietary habits of the Japanese—previously described as post-war westernization of dietary habits (Yoshida, 1988)—have continued to progress since 1990, but the speed has moderated when surveyed over a long span of time. The new change replacing the previous trend is the externalization of food. The academic discipline of food system studies was created<sup>3)</sup>, and has become established, as an academic scheme for approaching the distance between agricultural production and food consumption that has increased due to externalization. In the field of food system studies, the previous notion of westernization is regarded as a maturation of food consumption, and changes since then are taken to be moves toward greater luxury, diversity, simplicity (externalization), and health/safety orientation (Tokoyama, 1999). In this context, the westernization trend is shifting to externalization—for example, when the externalization of food described in the next section is connected with the decline in rice consumption, an argument can be made that *onigiri* (rice balls) from convenience stores are acting as a check on the trend away from rice. Safety problems are coming to the fore as a phenomenon accompanying this externalization<sup>4)</sup>.

### 3. Externalization of Food as the Backdrop to Safety Problems

#### —Increasing Distance in the Food System—

The problem of safety has been frequently covered by the mass media since the group food poisoning incident due to O-157 which occurred in 1996. Externalization of food is the social context in which these incidents are given major coverage. The externalization phenomenon is also the departure point for food system studies. In the interval from production to final consumption, many entities provide

mediation in stages and distribution is increasing in scale, so affected regions and incident scale are also growing in size. It is not just that food has been externalized. Because of increased distance in terms of geography, stages, and time (Takahashi, 1991: p. 5), incidents are becoming larger in scale, and investigating causes takes time so that the damage spreads even further. Due to the system's complexity, it is hard for information to reach customers directly, and difficult to provide risk communication when there are safety problems, and this adds increased psychological distance as a fourth type of distance (Takahashi and Shimizu, 2016: pp. 5-6).

Externalization of food can be regarded as having three main aspects: (1) Externalization of food of the farmers themselves who produce food, (2) Decline in food self-sufficiency of Japan (externalized dependence on foreign sources), and (3) Externalization of home meals (plus an extra factor).

The Agricultural Basic Act which came into effect in 1961 set out an approach of improving the income of farmers through structural reform and selective increases in scale. This was to be the future direction of the agricultural sector, where rationalization was not progressing, in comparison with an industrial sector that was moving toward high economic growth. Until that time, farmers carried out mixed operations with livestock in a system of small, dispersed landholdings. Their dietary habits were supported by these mixed operations and home meals centered on rice, and the food self-sufficiency rate of farmers at that time was about 70%. However, at-home supply capability declined starting in the 1960s, and taking the 14.1% figure in 1990 data of the Farmer Cost of Living Survey as the last available value, it is very possible that decline continued after that. Against the backdrop of westernization as a general consumption trend, and efforts to selectively increase scale under the agricultural administration of the Basic Act, there was a gradual decline in the self-sufficiency rate of farmers, resulting in externalization of the food of farmers themselves.

The second type of externalization derives from Japan's dependence on foreign sources of food, and manifests itself as the food self-sufficiency rate. This decline would later result in setting numerical targets for food self-sufficiency in the New Basic Act.

The third type of externalization is externalization of home meals. Figure 2 shows the home meal replacement

3) The Food System Research Society, the forerunner of the Food System Research Association of Japan, was established in 1993. It changed to the current name in 1997, and rapidly established itself during this period.

4) Since the occurrence of BSE, more extensive research has been carried out regarding safety measures and building trust in response to frequent food accidents, but the pioneer here was Niiyama (2001), and there is a shared recognition of increasing distances in the food system at the base of subsequent research on safety problems by Nakashima (2004).

rate and dining-out rate for working households of two or more people, and the total of those two is indicated as the externalization rate. As can be seen, since around the 1970s, the externalization rate has consistently risen, but until the 1990s, there was a marked increase in the dining-out rate, and from around the 2000s, dining out was in a flat or declining trend, while the home meal replacement rate increased. Kusakari (2017) points out the problem of the imported ingredient rate in the home meal replacement and dining out industries, which externalization depends on, due to this externalization of home meals to home meal replacement and dining out. When people opt for home meal replacement over home meals, and dining out over home meal replacement, the figures include a higher imported ingredient rate, and thus externalization of home meals includes an extra factor of externalization because it brings about a rise in imported ingredients as part of general dietary habits.

The BSE problem that surfaced in September 2001 became a particularly large social problem. Due to this incident, the responsibility of the national government to manage safety became a major issue, and there was a marked shift in the government's crisis management policy toward food, exemplified by enactment of the Food Safety Basic Act and establishment of a Food Safety Commission. In addition, the problem of radioactive contamination due to the accident at Tokyo Electric Power's Fukushima Daiichi Nuclear Power Plant, which occurred in March 2011, led to renewed debate, even in this association, on all types of risks, including the affected area's status as a food supplying region, quantitative food risks, reputational damage, regional economics, community, food exports, risk evaluation, and the best approaches for addressing electric power supply and demand. Thus the focus was broadened to the best approach for recovery of the affected area, and for risk communication pertaining to the radioactive contamination level and reputational damage.

#### **4. Policy Responses Subsequent to the New Basic Act**

Policy responses regarding safety subsequent to the New Basic Act can be roughly divided into: creation of a system of food safety administration subsequent to BSE, and delivery of information to consumers and problems of risk communication, subsequent to the radioactive contamination problem resulting from the accident at the Tokyo Electric Power Fukushima Daiichi Nuclear Power Plant.

##### **1) Risk analysis techniques and food safety administration**

The national government, whose responsibility became an issue due to the occurrence of BSE, received a report from the Research and Examination Committee Regarding the BSE Problem, and made a major shift in food safety administration.

The basic approach took protection of the citizenry's health as the top priority, and on that basis, risk analysis techniques were incorporated into food safety administration. It was decided to (1) Conduct scientific investigation of impacts on people's health (risk evaluation, Food Safety Commission), (2) Have involved parties such as scientists, consumers, producers, the food industry, and the administration engage in risk communication, and (3) Have the administration determine and implement measures, through cooperation with the involved parties, to curb risk so that severe adverse effects on health did not occur (risk management). To achieve risk communication, preparation was also needed by the consumers on the side which received information. The first step here was removing "protection" from the 2004 Basic Consumer Protection Act, and amending it to the Basic Consumer Act which calls on consumers to be responsible and self-reliant in their independent information gathering. Furthermore, the Basic Act on Dietary Education was enacted in the following year, 2005, and in its Preamble, it required consumers themselves to learn about topics such as nutritional deviation, dependence on overseas sources, and safety problems. To ensure consumer peace of mind and trust in food, the Food Safety Basic Act incorporated regularization of labeling, adoption/dissemination of traceability (tracking food production and distribution history), promotion of dietary education, promotion of local production for local consumption, and sharing/provision of information with inspection and customs departments on matters such as animal and plant quarantine. To promote this series of reforms, the act emphasized the "importance of establishing face-to-face relationships between consumers and producers, and efforts to achieve mutual understanding" (Food, Agriculture and Rural Areas White Paper FY2014), and it is increasingly recognized that closing the distance in the food system is connected with ensuring the safety of food.

##### **2) Food labeling as risk communication**

Aside from policies like the above, there was active improvement of food labeling. The food labeling system in

Japan had been prescribed by laws such as the Act on Japanese Industrial Standards under the jurisdiction of the Ministry of Agriculture, Forestry and Fisheries (enacted in 1950), the Food Sanitation Act under the jurisdiction of the Ministry of Health, Labour and Welfare (enacted in 1947), the Act against Unjustifiable Premiums and Misleading Representations, and the Unfair Competition Prevention Act under the jurisdiction of the Fair Trade Commission (both enacted in 1962). Originally, the purposes of food labeling were to provide information as a guide for food selection by consumers, and to promptly determine responsibility and take administrative measures in case of an accident, and in that sense, labeling has a role in closing the growing distance between food and farm. However, food labeling was prescribed by multiple laws, despite being an important source of information for consumers, and thus the system was operated without adequate cooperation between the ministries and agencies with jurisdiction over each law, and was hard to understand for both consumers and businesses, e.g., due to a lack of uniformity in label terminology. Thus, in 2013, the Food Labeling Act was enacted with the aim of a unified labeling system that was easy for consumers to understand.

As noted above, food labeling is useful information for closing distances in the food system. It is an important signal for food selection by the customer, and risk management, and is a type of risk communication (Niiyama, 2004). However, this labeling does not always provide appropriate information for consumers, e.g., in the system for foods with function claims or labeling of ingredient place of origin for all processed foods after enactment of the Food Labeling Act. Food labeling can be roughly divided into labeling that is mandatory for risk management, and labeling provided for product selection by consumers, but with the latter in particular, there is a jumble of non-mandatory, voluntary labels—resulting in a situation where products cannot be selected by consumers based on correct information. As the drivers of ever more complicated labeling rules, Ikedo (2015) points to diversifying consumer needs, ensuring trust due to greater unease resulting from increased separation of production and consumption, the proliferation of no-talk sales formats (where staff have no knowledge of products), differentiation from foreign-produced products using domestic labeling, adoption of international rules, and stronger regulations on false labeling. However, if the item is such that appearance

alone cannot be the criterion for selection, opportunities must be provided to learn about labeling again. There is a need for consumer education or home economics education enabling understanding of essential content.

### 3) Multifunctionality and environmental problems

Consumers needed to be more actively involved in food problems in order to realize risk communication, but under the New Basic Act, there was also a need for involvement in evaluation of multifunctionality. As described in Note 3, this multifunctionality is often used with an affinity for the term “environmental problems.” Since the 1990s, “environmental problems” have experienced a sort of boom, but, as shown in Table 1, there are major differences from previous pollution problems in the relationship between victims and perpetrators, and thus the hurdles for involvement of consumers or citizens in addressing problems are considerably lower, and at the same time, in the 1998 Act on Promotion of Specified Non-profit Activities, the term “citizen” is used probably for the first time in a Japanese law, and the establishment of voluntary citizen environmental NPOs in regions throughout Japan has also helped heighten the degree of interest. In that sense, the agency of consumers was expected due to establishment of a relationship between multifunctionality and environment problems. The following examines how that expectation was realized in educational settings.

**Table 1. Differences between pollution and environmental issues**

	Pollution	Environmental issues
Perpetrator	Identifiable	Unspecified number
Victim	Identifiable	Unspecified number
Exercise leader	Victims and their families	Many citizens

From the 1980s to around the 2010s, the Ministry of Education (currently the Ministry of Education, Culture, Sports, Science and Technology) promoted *yutori* (pressure-free) education, but in the government curriculum guidelines which came into effect in 2002, the guidelines were revised to emphasize life skills, and the content aimed to impart thinking ability through approaches such as a period of integrated study, investigative learning, experience-based learning, and other approaches. For this period of integrated study, various programs were devised combining elements such as food, agriculture, environment, experience, and education. Furthermore, fostering the values of respecting life, caring about nature, and desiring to

contribute to the preservation of the environment were set forth as one goal of education in the Basic Act on Education amended in December 2006. This sort of environmental education has been subsequently carried out in an integrated way with dietary education.

This dietary education was promoted as a major national campaign, in accordance with the Basic Act on Dietary Education enacted in 2005, but looking at the results, for example the rate of skipping breakfast, it appears though there was an effect immediately after adoption, the graph is almost flat. Changes over the five years after adoption of the basic plan are shown in the 2011 Dietary Education White Paper, but even there, there are items which did not achieve their target despite the rise in figures (e.g., interest in dietary education, percentage using locally-sourced produce in school lunches, percentage of citizens with dietary habits conforming to the balanced eating guide, percentage of municipalities with educational farm initiatives, percentage of citizens with basic knowledge of food safety, and percentage of prefectures and municipalities drafting/implementing promotion plans), and it is hard to say that major results have been achieved.

After that, there was a slight rise in interest in dietary education, but in the 2017 Dietary Education White Paper, there was a shift in jurisdiction to the Ministry of Agriculture, Forestry and Fisheries, and in response to the question “What sort of agriculture, forestry, and fishery industry experiences have you participated in?”, 61.4% responded that they participated in initiatives at school. It is evident that, if there is involvement by people working in the agriculture, forestry, and fishery industries, major changes happen due to post-experience awareness, and one can see the importance of education or instruction by experts.

## 5. Conclusion

As seen thus far, a major distinguishing feature of food consumption since the New Basic Act has been the acceleration of externalization. It is predicted that this externalization will progress even further in the future due to factors such as population aging, living alone, household shrinkage, and advance of women into society, as indicated in Table 2. However, in connection with the fact that the rise in Engel’s coefficient in recent years is partly attributable to population aging, there are also signs that a return to domestically-produced ingredients can be expected.

As shown in Table 1, in households with single men, elderly men, or elderly married couples, Engel’s coefficient is high, and it is hard to believe this is a result of an increase in food intake. Therefore, it is expected that domestically produced ingredients with a high unit cost are being actively selected, and it is likely that an increase in the self-sufficiency rate can be expected as population aging progresses. As a support measure for domestic agriculture accompanying adoption of the TPP, the Abe administration has changed food labeling, keeping in mind the active consumption of domestically produced ingredients that consumers are engaged in. Domestic agricultural producers are cognizant of the consumer orientation toward safety and security, and in that sense, an aging society can be expected to increase consumption of domestically produced ingredients, including fresh/processed foods and dining out. If food safety and security improve as a result, then population aging may be the savior of Japanese agriculture. (Naturally this must be treated as a “set” with problems of income.)

**Table 2. Factors that promote food externalization**

Ratio of elderly people: 2000 year 17.4%→2017 year 27.7
Num.of.persons per household: 2000 year 3.31 persons →2015 year 3.02 persons (Two-or-more-person Households)
2000 year 2.76 persons →2017 year 2.47 persons (All Household Average)
Single parent households: 2000 year 24.1%→2017 year 27.0%
One-person households, Man of 65 years and over: 2001 year 10.9% →2017 year 15.5%
One-person households, Woman of 65 year and over: 2001 year 36.8% →2017 year 32.0%
Ratio of female employment: 2000 year 39.0%から 2014 year 42.8
Household head and spouse are workers: Since 1997, households with working head and spouse have outnumbered single-worker households.
Single-worker households 7.2 million households

On the other hand, judging from current conditions where externalization is frequently a cause of food safety problems, risk management and risk communication are expected to be increasingly important going forward. Needless to say, there will be a need to develop and adopt risk management in the form of new technology and systems, in addition to strengthening the current system, but what sort of information should be provided, and how, for the consumers who bear the risk? Provision of information in this case must be useful to the consumer for determining the consumer’s own consumption behavior (Takeshita, 2009: p. 80). In food labeling, the more consumer needs diversify the



more diverse the needed information becomes. At the same time, selection of what to indicate, and how, in the limited space available becomes an issue. Ikedo (2015) claimed that non-store retailing is also a factor in the increasing importance and complexity of food labeling, but at present consumers obtain product information on the Internet even if there is a store clerk. There is the option of indicating product information on the food package, or distinguishing supplementary information to be provided later via searching, and this is also true for products other than food. However, the most important thing at present is the hard work (i.e., corporate hard work and policy hard work) of devising labels that consumers themselves can read, and the hard work of consumers themselves in trying to read labels (i.e., consumer education).

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