

Food Self-sufficiency Ratio Targets and Policies for Securing a Stable Food Supply

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This study reviews the points of the food self-sufficiency ratio target and stable supply of food positioned in the basic plan. Regarding the target of the food self-sufficiency ratio targets, in addition to the setting based on the conventional thinking, we set a new target for the food domestic production rate. Regarding food policy, we positioned responding to the increasingly diversifies and sophisticated needs of consumers, promoting government-integrated exports, ensuring food safety, eating habits, and establishing comprehensive food security that takes into account changes in education and food supply risks.

Key words: basic plan for food, agriculture and rural areas, food self-sufficiency ratio, food self-sufficiency potential, securing stable food supply, food policy

1. Introduction

This paper addresses food self-sufficiency ratio targets and food policies.

2. Food Self-sufficiency Ratio Targets

1) Food self-sufficiency ratio target

Article 15 of the Basic Act stipulates that the target food self-sufficiency rate shall be set in the Basic Plan with the aim of improving it. In addition to the targets for food self-sufficiency, issues to be addressed by farmers and other stakeholders are also listed by agricultural product as a guideline for domestic agricultural production and food consumption.

With regard to the food self-sufficiency ratio, focusing on the calorific value of food (calorie), two indicators are used: (1) the ratio on a calorie supply basis, which can be used to evaluate the state of food security in Japan, and (2) the ratio on a production value basis, which can be used to evaluate the state of economic activities by Japan's agriculture, forestry and fisheries are evaluated.

2) Discussion of food self-sufficiency ratio targets

Long-term changes in food self-sufficiency are shown in Figure 1. Both the supply calorific value basis and the production value basis show a long-term downward trend and leveling off from the 2000s. The target has not been reached.

The main factors behind the long-term decline are: ① the decrease in rice consumption with high self-sufficiency due

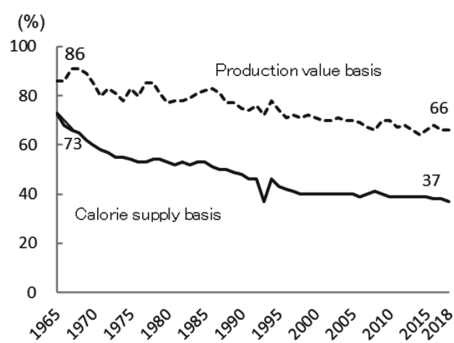


Figure 1. Data on food self-sufficiency ratio

Source: Food supply and demand table.

to major changes in dietary habits and the increase in consumption of livestock products with low self-sufficiency, and ② the increase in domestic consumption that finds it difficult to produce domestically with these changes in consumption habits. We analyzed the factors behind the flat food self-sufficiency rate since the enactment of the Basic Act as follows: ① rice consumption continues to gradually decline and consumption of livestock products increases, while ② domestic production of wheat, soybeans, etc. in line with demand continues to be firm amid the decrease in the number of calories supplied per capita and per day. The factor analysis of changes in the calorie-based self-sufficiency ratio after the Basic Act is shown in Figure 2. The main reason why the food self-sufficiency rate has not started

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to rise is that while the contribution of negative factors has increased, the contribution of positive factors has remained constant. This analysis was carried out in a similar manner in the past, but in this study, demographic factors were also taken into account. The results showed a negative contribution until FY2016, but the contribution in recent years has been 0 points. Nakashima (2018) pointed out “the decline in population and the decrease in per capita calories will act as a bonus to improve the self-sufficiency rate in the future,” and it is expected to make a positive contribution in the future.

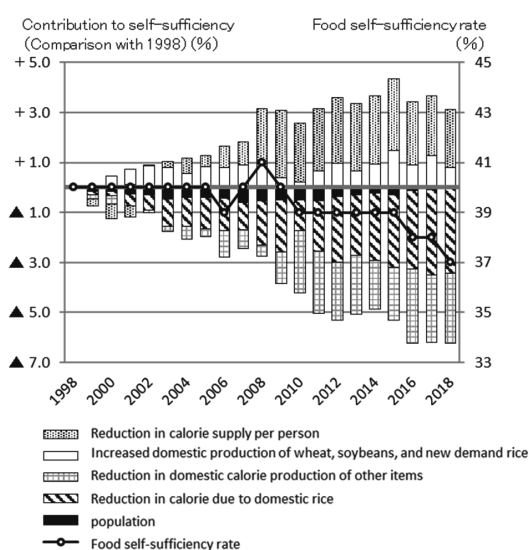


Figure 2. Trends and factor analysis of food self-sufficiency ratio

Source: Food, Agriculture and Rural Policy Council Planning Subcommittee.

Various discussions were held at the Planning Committee on the improvement of the food self-sufficiency ratio. As issues on the production side, it was pointed out that it was necessary to strengthen the production base and expand the production of items with domestic demand, such as wheat and soybeans, and to close the gap with the demand side by observing the changing demand in order for domestic agricultural products to respond to processed foods that use a large amount of imported raw materials. On the other hand, many of the issues on the consumption side pointed out the necessity of stimulating public debate on food education and understanding of agriculture and rural areas in order to

expand the consumption of domestic agricultural products and improve the self-sufficiency rate. It was pointed out that farmers, consumers, the food industry, and others should each be aware of what needs to be addressed in a clear manner.

In addition, some argued that the self-sufficiency rate based on the production value should be emphasized rather than the calorie base, since the current agricultural policy is directed toward agriculture which promotes high value-added products in accordance with demand. Various discussions took place, but the calorie-based self-sufficiency ratio is the main pillar for evaluating the food security situation, as it clearly shows the people’s stance of supplying calories, which are the basic nutritional value. The self-sufficiency ratio based on the value of production is in line with the actual state of agricultural production in Japan, which is trying to promote measures to increase added value in response to demand. In order to grasp the current state of agriculture in Japan, it is meaningful to present indicators that can be examined and analyzed from various angles. Therefore, it has been decided to continue to include them in this report.

On the other hand, the relevance of the food self-sufficiency index was also discussed. Particularly controversial was the handling of feed. Food self-sufficiency ratios for livestock products are calculated by reflecting feed self-sufficiency, but are lower than those calculated using actual domestic production. Although it is effective in assessing food security to assess whether domestic production and supply, including feed, are possible, even if the increase in food self-sufficiency rate is placed on the production side, it is not a measure that reflects the production efforts of livestock farmers in particular. Therefore, it was argued that the self-sufficiency rate should not be reflected and the self-sufficiency rate as seen in the production stage should be newly set as a target. Food self-sufficiency ratios are calculated in accordance with “Food Balance Sheets A Handbook” (FAO). However, there is no particular regulation on how feed self-sufficiency ratios are calculated, and in fact, countries such as Switzerland, Norway, and Germany that publish food self-sufficiency ratios do not consider feed self-sufficiency ratios, but both are published. As a result of discussions on the significance of the figures and the way in which they are named for understanding by the public, a new target was set under the name “food production rate in the country.”

3) New food self-sufficiency ratio target

Based on these discussions, the new food self-sufficiency ratio targets were compiled as Table 1.

Table 1. New food self-sufficiency ratio targets

	2018 (base year)	2030 (target year)
Food self-sufficiency ratio (calorie supply basis)	37%	45%
Food self-sufficiency ratio (production value basis)	66%	75%
Feed self-sufficiency ratio	25%	34%
Domestic food ratio (calorie supply basis)	46%	53%
Domestic food ratio (production value basis)	69%	79%

Some people pointed out that the domestic food production rate was created to pretend the food self-sufficiency ratio was higher, but it makes the necessity of improving Japan's feed self-sufficiency rate by adding both figures together clearer. In addition, efforts to improve the self-sufficiency rate of livestock farmers will be visualized, and it is hoped that related parties will work to improve the self-sufficiency rate with a greater sense of reality.

4) Food self-sufficiency potential indicator

“Food self-sufficiency potential” represents the “food production potential possessed by Japan's agriculture, forestry and fishery industries,” and represents the estimated daily calories per capita from agricultural resources such as agricultural land and water, agricultural technology, and agricultural workers. Fishery products consist of the potential production volume and fishery workers, and the maximum amount of food that can be produced by domestic production alone. In the discussion at the time of the previous Basic Plan in 2015, it was newly included from the viewpoint of fostering a common understanding of food self-sufficiency among the people (Figure 3).

5) Process of discussions at the Council of Food, Agriculture and Rural Area Policies on food self-sufficiency

The index of food self-sufficiency at the time of the formulation of the previous Basic Plan was largely dependent only on changes in farmland area. However, in order to promote public understanding of the importance of securing not only farmland but also farmers and farming techniques, the index has been improved so that the agricultural labor force and labor-saving agricultural technologies can be

considered. For securing farmland and agricultural labor for the future and for yields.

We were able to quantitatively assess how the improvement can contribute to the increase in available calories per person per day. In conjunction with the improvement of these indicators, the Planning Committee pointed out the necessity of deepening the understanding of the people. As the Basic Plan is disseminated in the future, the significance of food self-sufficiency will be utilized to promote understanding by the people.

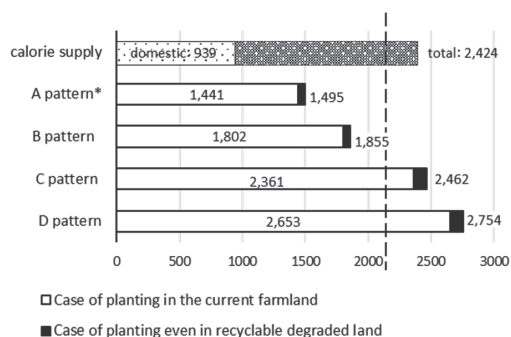


Figure 3. Index of food self-sufficiency potential in the previous plan

3. Food Policy

1) Securing a stable supply of food

With regard to food policies, that is to say, measures for securing a stable supply of food, Article 2 of the Basic Act provides for the basic principles, and in Articles from 16 to 20 measures are stipulated. With regard to food, which is essential for the maintenance of human life, it is important to ensure a stable supply of quality food at reasonable prices for the future, and measures necessary for this purpose are described. Specifically, it includes measures for enhancing policies on food consumption, sound development of the food industry, measures for importing and exporting agricultural products, food security in times of emergency, and promotion of international cooperation.

2) Process of discussions in the Council on Food Policy

The following describes the results of the deliberations of the council and the contents of the deliberations, as well as the opinions of business operators in the field that were heard by the council, regarding the verification of current administrative measures and the direction of future deliberations.

① Measures on food consumption

With regard to the provision of information on food consumption (Article 16, Paragraph 2), measures concerning *food education* and expansion of consumption of domestic agricultural products are taken. This is an extremely important area directly linked to the domestic food consumption portion of the food self-sufficiency target. In this field, efforts have been made to hold the National Shokuiku Promotion Conference and Shokuiku Activity Awards, the national movement Food Action Nippon to increase domestic consumption, and the protection and succession of Japanese cuisine. The council is the most interested in food policy and has received many opinions. In particular, it was pointed out that from the viewpoint of understanding of consumers, efforts to achieve the aforementioned target of food self-sufficiency ratio are extremely important. It was pointed out that it is important not only for Shokuiku but also for the people to gain understanding of the current agricultural situation and the current situation and challenges surrounding food, agriculture and rural areas, such as the multiple functions of agriculture and farming villages. Based on the discussions by the council, Measures for Formulation of a National Consensus through Development of a National Movement for Food and Agriculture were separately established as an issue for the entire food, agriculture and rural areas in the Basic Plan.

② Measures for the food industry

The gross domestic product of agriculture and food-related industries accounts for 10% of total economic activity and occupies an important position in the Japanese economy. In addition, Japan's food manufacturing industry procures about 70% of raw materials in Japan, and the sound development of the food industry is extremely important not only for food business operators but also for agriculture and rural communities in Japan. In addition to the discussions at the Planning Committee, intensive discussions were also held at the Food Industry Committee, which was attended by many business operators involved in the food industry.

③ Policies on food security

With regard to food security, the Basic Act stipulates food security in contingencies (Article 19) as a crisis management response that ensures a minimum level of food supply for the people even in case of contingencies. However, the Basic Plan for Food Security in 2010 stipulates related measures from the standpoint that it is important to establish

comprehensive food security by taking into account not only contingencies but also access aspects in peacetime, in light of the various destabilizing factors surrounding the stable supply of food that arise from the Basic Plan.

In the course of this study,

- It is necessary to forecast and analyze trends in the international food supply and demand, resulting from the addition of food, and to show them to the public in an easy-to-understand manner.
- It is necessary to make efforts to enhance the appeal of food self-sufficiency and self-sufficiency from the viewpoint of food security, although it is not possible to stir up too much crisis for the people.

④ Export promotion of agricultural, forestry and fishery products and food products

One of the most important policies in food policy is the strategic development of global markets. Exports are becoming an increasingly important factor in terms of ensuring a stable supply of food. Figure 4 shows that Japan's exports of agriculture, forestry and fisheries have increased significantly over the past few years. Of course, it is extremely important to increase domestic production, increase domestic consumption of domestic agricultural products, and increase the share of domestic raw materials in domestic consumption. However, looking at the size of the domestic and international food and beverage markets, it is clear that domestic demand will decline in the future, while overseas demand will increase (Table 2). In order to enhance the sustainability of domestic agriculture, it is necessary to expand demand frontiers by focusing on overseas markets, rather than relying solely on domestic markets to achieve a balanced contraction.

The Council also discussed the importance of export promotion and its measures. One of the major points of discussion was the following objectives. It can be seen that Japan is much less dependent on overseas markets than other countries (Table 3). From the viewpoint of building a system to target overseas markets for approximately 10% of domestic production in the agriculture, forestry and fisheries industries and the food industry, the ambitious target of 5 trillion yen by 2030 has been set, and the government and the private sector is working to build a system to realize this goal.

3) Main contents of the Basic Plan

Based on the above discussion process, the composition and main contents of the Basic Plan are as follows.

- ① Cultivation of demand by creating new value
- ② Strategic development of the global market

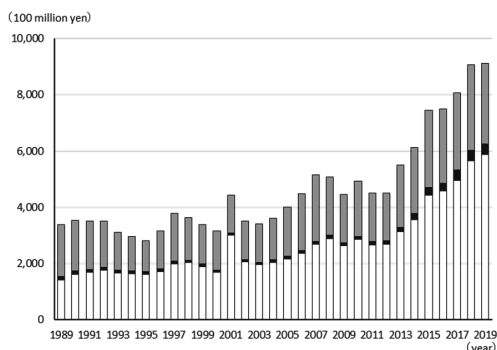


Figure 4. Exports of agriculture, forestry and fisheries products of Japan

Source: Ministry of Finance “Trade Statistics.”

Table 2. Prospects for population and market size

	Past	Current status	Outlook
Population of Japan	126 million (1995)	127 million (2017)	119 million (2050)
Domestic food market size	82 trillion yen (1995)	84 trillion yen (2015)	—
World population	5.7 billion (1995)	7.4 billion (2015)	9.8 billion (2050)
Food market size in major countries	—	890 trillion yen (2015)	1,360 trillion yen (2030)

Table 3. Exports of agricultural and food products in foreign countries

(U.S. \$100 million)

Country	Production value	Export amount	Export ratio
US	12,335	1,442	12%
France	2,591	730	28%
Italy	2,302	485	21%
UK	1,548	286	18%
Netherlands	1,066	1,018	95%
Japan	4,725	84	2%

Source: FAOSTAT, Mitsui & Co., Inc. Strategic Research Institute, Global Trade Atlas, Production Agricultural Income Statistics, Industrial Statistics, Forestry Output. Created from fishery output, economic calculation of agriculture/food related industries.

- ③ Deepening of links between consumers and food and agriculture
- ④ Ensuring of food safety in response to international trends and ensuring of consumer confidence
- ⑤ Establishment of comprehensive food security by looking at food supply risks
- ⑥ New international environment such as the Trans-Pacific Partnership and strategic responses to future international negotiations

4) Concluding remark

This paper introduces the position of the food self-sufficiency rate and food policy under the Basic Law, the progress of the discussions in the Planning Committee, and the points of the new plan. Because of the limitations of space, it was difficult to cover all of them. For detailed discussion, please see the minutes on the website.

References

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