

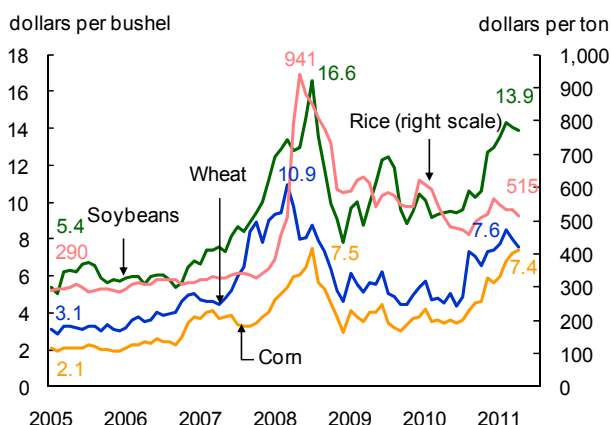
Chapter 1 Toward a securing stable food supply

(1) World food situation

○ Past and forecast changes of grains and food prices

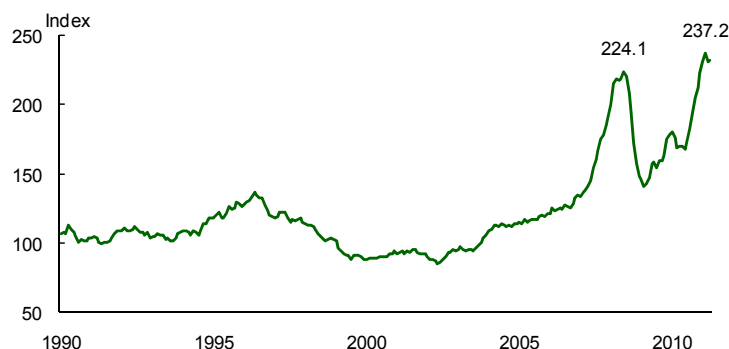
International prices of grain and other food products have risen close to the record highs posted in 2008. The FAO food price index (covering grains, meats, sugar, dairy products, and oils and fats) has hit a record high.

(Changes in international prices of grains and soybeans)



Sources: Prepared by MAFF based on data from Reuter and Rice Committee, Board of Trade of Thailand

(FAO Food Price Index Changes (100 for 2002–2004))



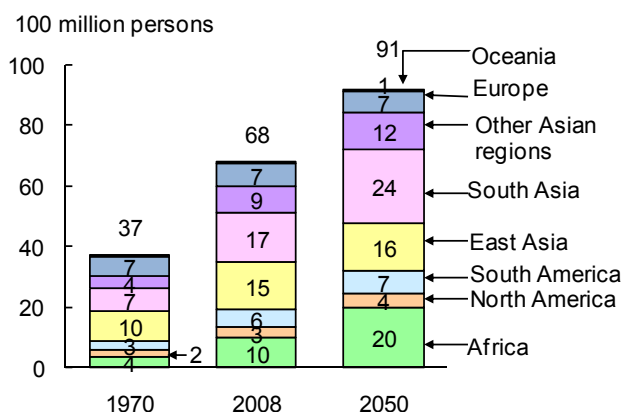
Source: FAO, "Food Price Index"

○ Population growth mainly in developing countries and continuation of economic growth in BRICs, especially China

World population is estimated to increase to 9.1 billion in 2050. India and China may account for one-third of the world population. Substantial population growth is expected in Asian and African developing countries.

BRICs countries have continued economic growth, especially China, which has replaced Japan as the world's second largest economy in terms of GDP.

(Past and forecast changes of world population)



Source: Prepared by MAFF based on the United Nations' "World Population Prospects: The 2008 Revision."

(GDP results and forecasts for major countries)

(Unit: \$1 billion)

	2009	2015	Ratio of 2009 GDP to 2015
U.S.	14,119	18,029	127.7
China	4,984	9,982	200.3
Japan	5,069	6,517	128.6
Brazil	1,572	2,789	177.4
Russia	1,231	2,499	203.0
India	1,287	2,412	187.4

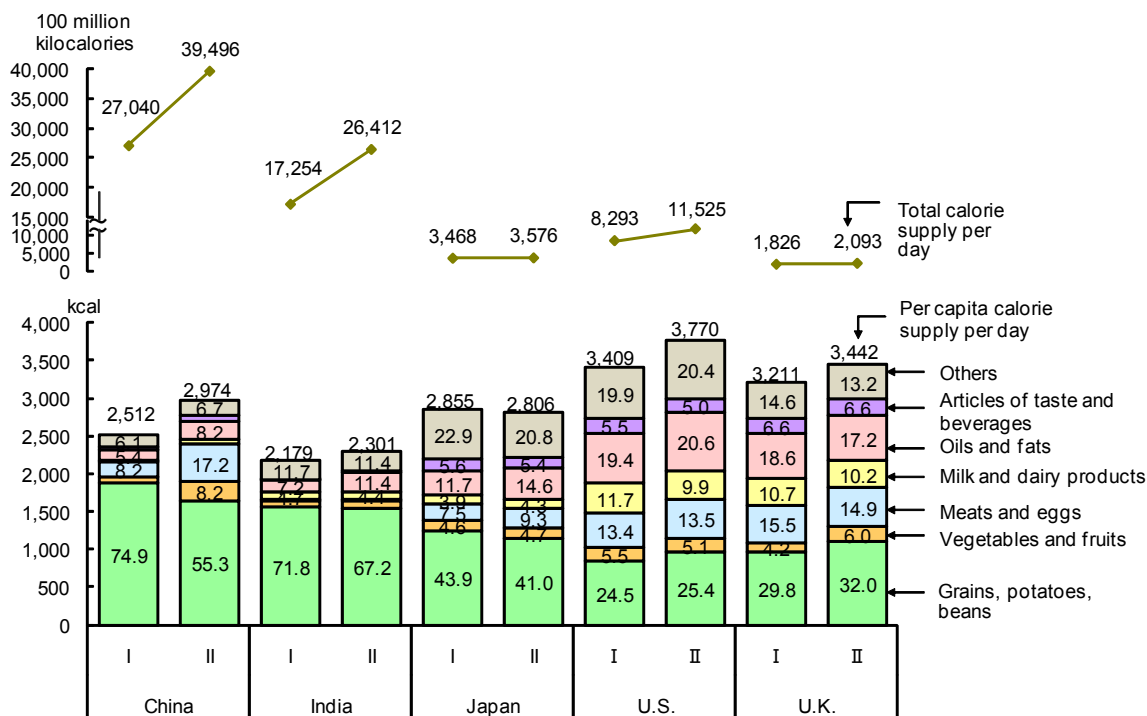
Source: IMF, "World Economic Outlook Database, October 2010"

Note: Covering the three largest economies in terms of forecast 2015 GDP, and Brazil, Russia and India

○ Changes in food consumption in major countries

Regarding food demand, China and India posted sharp growth in food consumption in calorie terms in line with the growing consumption of meats, eggs, vegetables, fruits, and fats and oils.

(Changes in food categories' shares of consumption and total calorie supply per day in major countries)



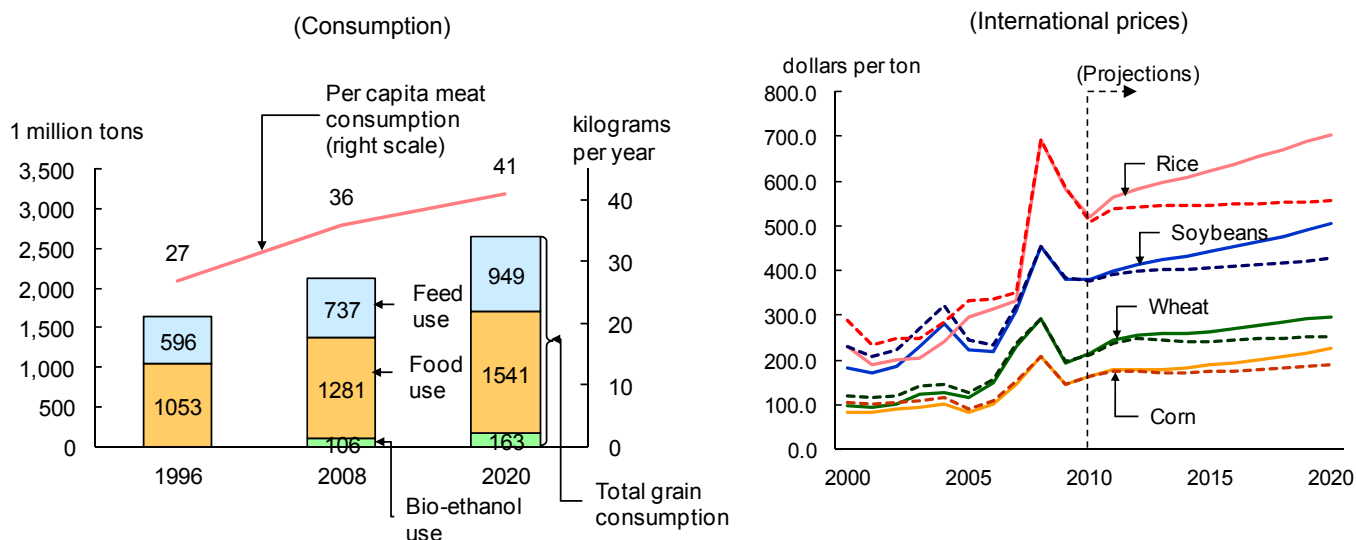
Source: Prepared by MAFF based on FAO "FAOSTAT"

Notes: 1) Average per capita calorie supply per day in the 1985–1987 period (I) and the 2005–2007 period (II) for each category was computed to calculate each category's share of total supply.

2) Numbers in the bar graph represent percentage shares of per capita calorie supply per day

○ Future prospects for world grain consumption and international prices

Grain and soybean prices in 2020 are estimated to be a nominal 24–35% higher than the average for the three years between 2007 and 2009 as demand for agricultural products for food, feed and biofuel uses expands in line with population and income growth.



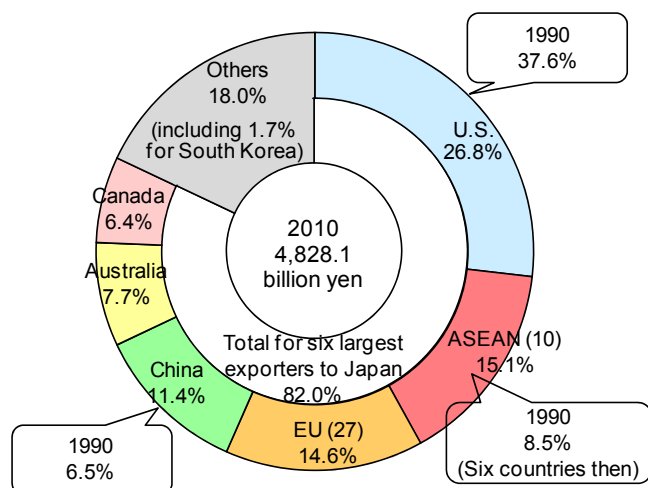
Source: MAFF Policy Research Institute, "World Food Supply and Demand Projections to 2020" (released in February 2011)

Note: The solid line for international prices indicates nominal prices and the dashed line real prices.

(2) Trends of Japan's agricultural product imports and food self-sufficiency ratio

Country-by-country breakdown of Japan's agricultural product imports

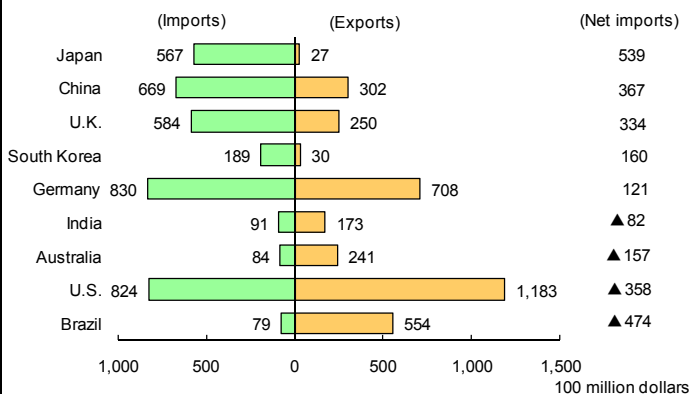
Japan's agricultural products imports in 2010 totaled 4.8 trillion yen, of which the six largest exporters to Japan accounted for 82%. The share declined for the United States but rose for China and ASEAN.



Source: Prepared by MAFF based on Ministry of Finance, "Trade Statistics"

Agricultural products imports by Japan and other major countries (2008)

Japan features far less agricultural products exports and more imports. It is the world's largest net importer of agricultural products.



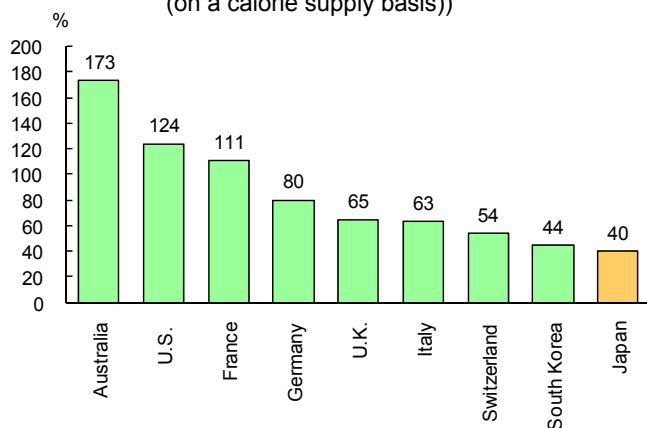
Source: Prepared by MAFF based on FAO "FAOSTAT"
Note: EU imports and exports include those within the EU.

Food self-sufficiency ratios in major foreign countries (on a calorie supply basis)

Japan's food self-sufficiency ratio on a calorie supply basis stood at 40% in 2009, the lowest among industrial countries.

Japan's grain self-sufficiency ratio came to as low as 28%, the 27th highest among the 30 OECD members.

(Food self-sufficiency rates in major foreign countries (on a calorie supply basis))



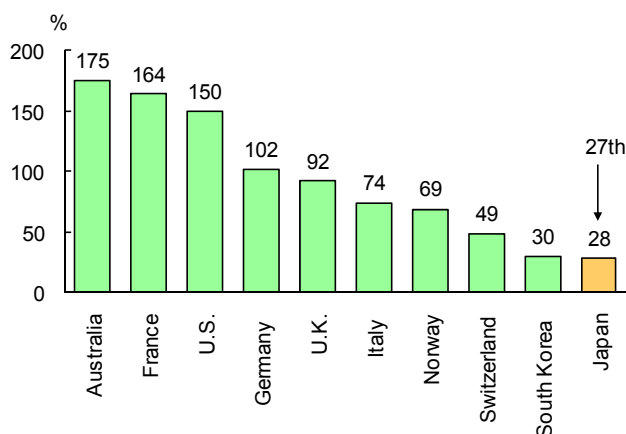
Source: Prepared by MAFF based on MAFF "Food Balance Sheet," FAO "Food Balance Sheets," etc.

Notes: 1) The South Korean data are from the Korea Rural Economic Institute's "Food Balance Sheet" and Swiss data from an annual agriculture report by the Federal Office for Agriculture.

2) Japan's data are for FY2009 and other countries' data for 2007.

3) The food self-sufficiency ratio on a calorie supply basis is the ratio of domestic calorie supply to total calorie supply. For livestock products, imported feeds are taken into account.

(Grain self-sufficiency ratios in major countries (2007))



Source: MAFF, "Food Balance Sheet"

Notes: 1) Ratios are specified for 10 out of the 30 OECD members.

2) The grain self-sufficiency ratio covers rice, wheat, barley, naked barley, corn, kaoliang and other cereals, including those for feed use.

○ Foreign economies publishing or setting targets for food self-sufficiency ratios

As well as Japan, other major food importers, such as South Korea, Switzerland, Norway and Taiwan, have published food self-sufficiency ratios on a calorie supply basis. South Korea has set a target ratio. China has established a target for its grain self-sufficiency ratio.

South Korea

- Ministry for Food, Agriculture, Forestry and Fisheries sets targets for the calorie-based total food self-sufficiency ratio as well as for self-sufficiency ratios by each food category, the staple grain and grain in general in its basic plan for agricultural and rural development. [2015 target: 47% (on a calorie supply basis, with feed imports taken into account*)]
- The Korea Rural Economic Institute publishes the food self-sufficiency ratio on a calorie supply basis. [2008: 49% (on a calorie supply basis*)]

Switzerland

- The Federal Office for Agriculture publishes both calorie-based and value-based total food self-sufficiency ratios and self-sufficiency ratios by each food category.
[2008: 62% (on a calorie supply basis, with no feed imports taken into account*)
55% (on a calorie supply basis, with feed imports taken into account*)
68% (on a value basis*)]

Norway

- The Norwegian Agricultural Economics Research Institute (a research institute at the Ministry of Agriculture) publishes the food self-sufficiency ratio on a calorie supply basis.
[2008: 52% (preliminary) (on a calorie supply basis, with no feed imports or exports taken into account*)]

Taiwan

- The Council of Agriculture publishes calorie-based and value-based total food self-sufficiency ratios and self-sufficiency ratios by each food category.
[2009: 32% (on a calorie supply basis, with no imported feeds taken into account*)
69% (on a value basis*)]

U.K.

- The Department for Environment, Food and Rural Affairs publishes the food self-sufficiency ratio on a value basis. [2009: 59% (preliminary) (on a value basis*)]

China

- The medium to long-term national food security plan outline (2008–2020) sets food self-sufficiency ratio targets for grains, etc.
[2020 target: 95% or more for grains, etc. (including rice, wheat, corn, beans and potatoes) (on a weight basis)]

Russia

- The Russian food security doctrine sets category-by-category food self-sufficiency ratio targets.
[2020 targets: 95% or more for grains, 80% or more for sugar, 85% or more for meat and processed meat products, 90% or more for milk and dairy products, 95% or more for potatoes, etc. (on a weight basis)]

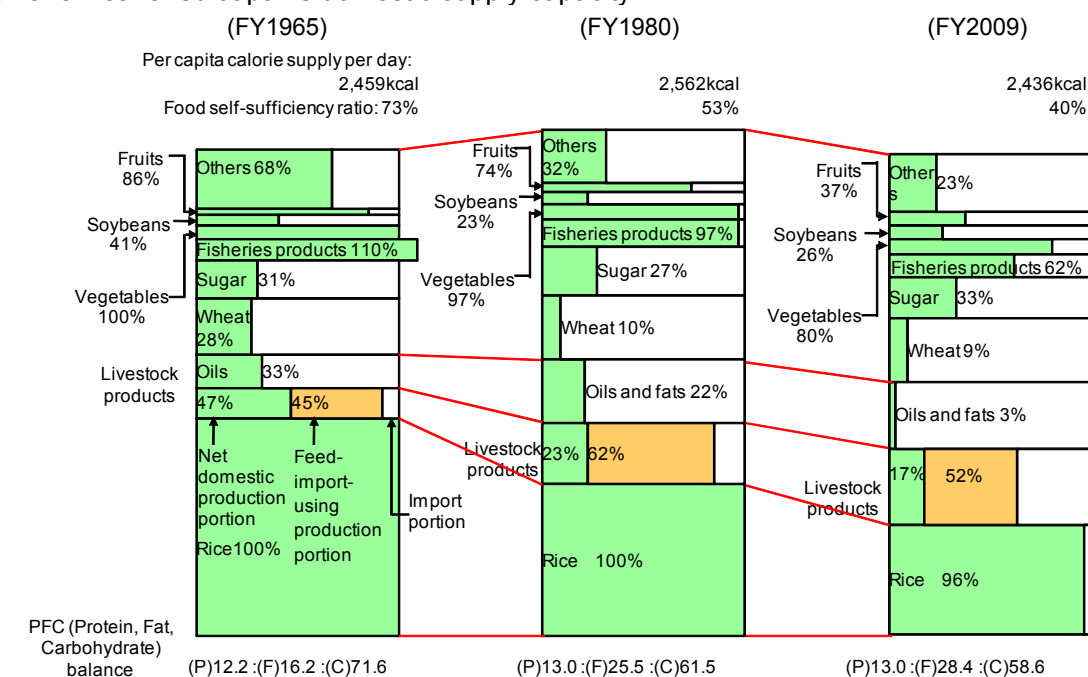
Source: MAFF surveys

Note: * means the total food self-sufficiency ratio covering all foods

○ Trends of category-by-category food self-sufficiency ratios (on a calorie supply basis), etc.

Japan's food self-sufficiency ratio on a calorie supply basis has declined due to both production and consumption factors. Around 1965, the rice that Japan could supply independently accounted for nearly 50% of food consumption, with livestock, oil and fat product consumption limited. Japan had maintained an appropriate nutrition balance under the Japanese dietary pattern until the mid-1980s. Later, however, rice consumption declined with livestock, oil and fat production consumption expanding, leading to the problem of the deteriorating nutrition balance.

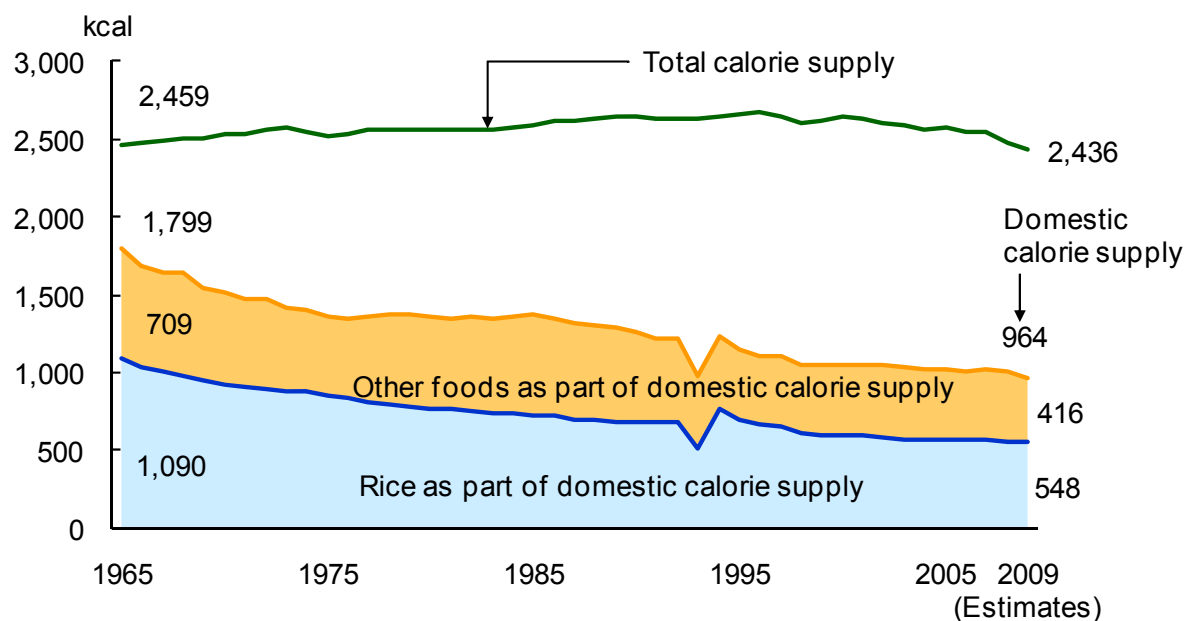
On the production side, a decline in the number of farmers, their aging, a fall in cultivated land and other factors have weakened Japan's domestic supply capacity.



Source: MAFF "Food Balance Sheet"

○ Changes in total calorie supply and domestic calorie supply

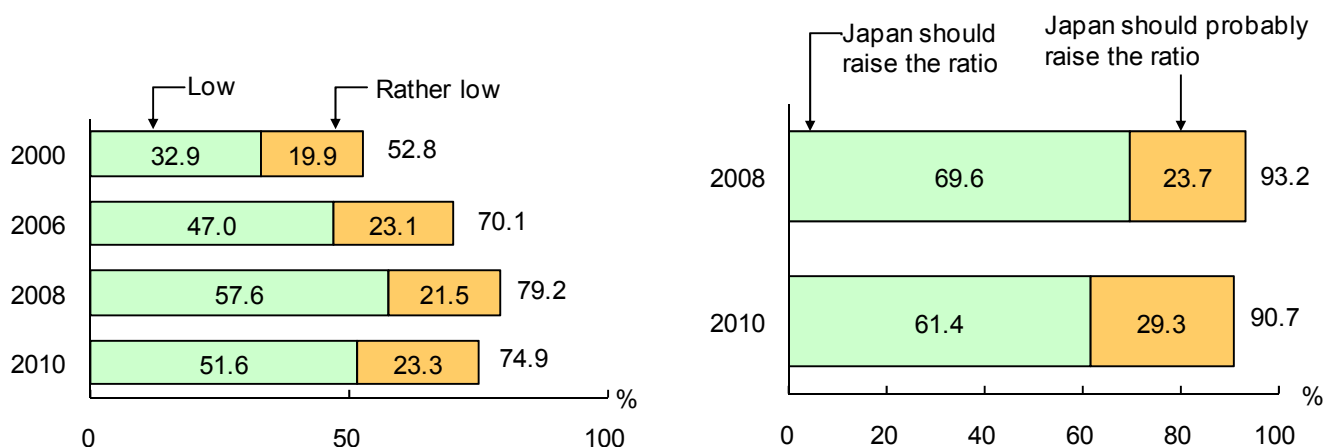
In Japan, domestic calorie supply as the numerator for the computation of the food self-sufficiency ratio on a calorie supply basis has declined considerably, regarding rice as well as other foods.



Source: MAFF "Food Balance Sheet"

○ Consciousness about food supply

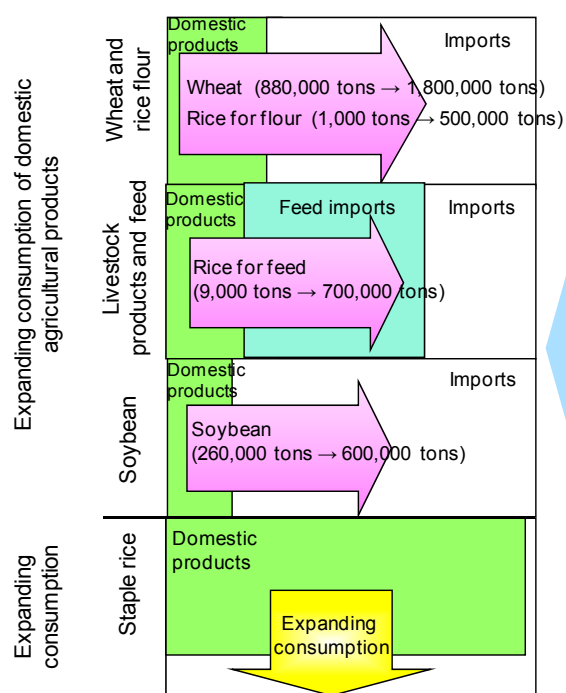
As Japan's food self-sufficiency ratio stands at around 40%, as high as 75% of poll respondents view the present ratio as low. Some 90% believe that the food self-sufficiency ratio should be increased.



Sources: Cabinet Office, "Special Poll on Food Supply" (released in October 2010) and other polls

○ Strategy for raising the food self-sufficiency ratio to 50%

The basic plan for food, agriculture and rural areas sets the calorie-based food self-sufficiency ratio target at around 50% for FY2020 and calls for relevant parties to be united to take such measures as the expansion of consumption of domestic agricultural products to boost the ratio.



Common measures

- Introduction of the Income Support Direct Payment Program
- Collaboration of primary, secondary and tertiary industries, etc.

Wheat and rice flour

- Increasing domestic wheat and rice flour portions of bread and Chinese noodles dramatically
- (less than 10% → 40%)

Livestock products and feeds

- Raising the feed self-sufficiency ratio (26% → 38%)

Soybean

- Increasing the domestic soybean portion of tofu, natto and other soybean products (30% → 60%)

Staple rice

- Expanding rice consumption through such measures as dietary pattern improvements for the 15 million people who skip breakfast

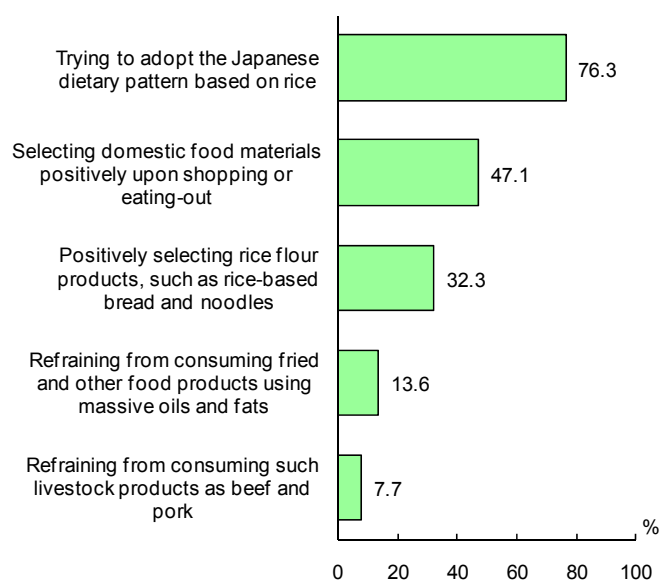
Others

- Promoting exports (1 trillion yen)

Source: Prepared by MAFF

○ Actions to improve the food self-sufficiency ratio

On the consumption side, people's willingness to eat more rice-based meals and positively select domestic food materials to improve the food self-sufficiency ratio should be linked to actual actions through "Food Action Nippon" and other campaign efforts.



Source: Cabinet Office, "Special Poll on Food Supply" (released in October 2010)

Note: The poll covered 3,000 adults aged at or above 20 throughout Japan (response rate at 64.6%)

○ Direct government payments' shares of net agricultural income in major countries (2006)

Direct government payments' share of net farm income stood at 78% in the EU, against 28% in Japan. In order to support agriculture, Japan's farm support will switch to direct payments to farming families and shift to a more transparent agriculture administration

	Japan	EU	U.S.
Direct government payments	694.3 billion yen	8,459.8 billion yen	1,851.2 billion yen
Net agricultural income	2,254.8 billion yen	10,790 billion yen	6,803.6 billion yen
Direct government payments' share of net agricultural income	28%	78%	27%

Sources: Estimates by MAFF based on countries' reports to the WTO in 2006; MAFF, "Farm Production Income Statistics" and "Agriculture Management Statistics Survey Report;" EU, "Eurostat Database;" USDA Economic Research Service, "Farm Economy"

Note: As Japan has no statistical data about "net agricultural income," we estimated "net agricultural income" by subtracting estimated wage and other costs based on farm household data from "agricultural production income."

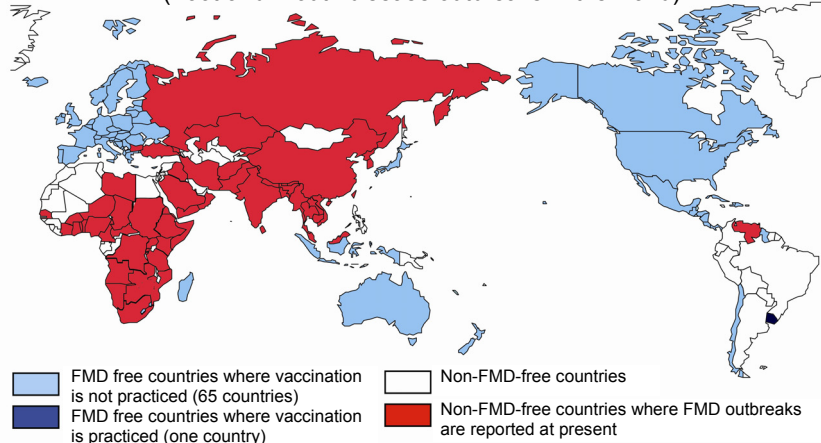
(3) Efforts to establish food security

○ Challenges over food security

Comprehensive measures are required for food security as there are challenges over food security, including the expansion of domestic production, the stabilization of imports, stockpiling, the stable procurement of fertilizers and other agricultural production materials, agricultural investment in foreign countries, and plant and animal quarantine.

Under such situation, animal quarantine is vital for preventing the entry or spread of foot-and-mouth disease, highly pathogenic avian influenza and other diseases affecting livestock production that have broken out in neighboring countries.

(Foot-and-mouth disease outbreaks in the world)



Source: OIE

Note: As of May 9, 2011

(4) Foot-and-mouth disease outbreaks and countermeasures

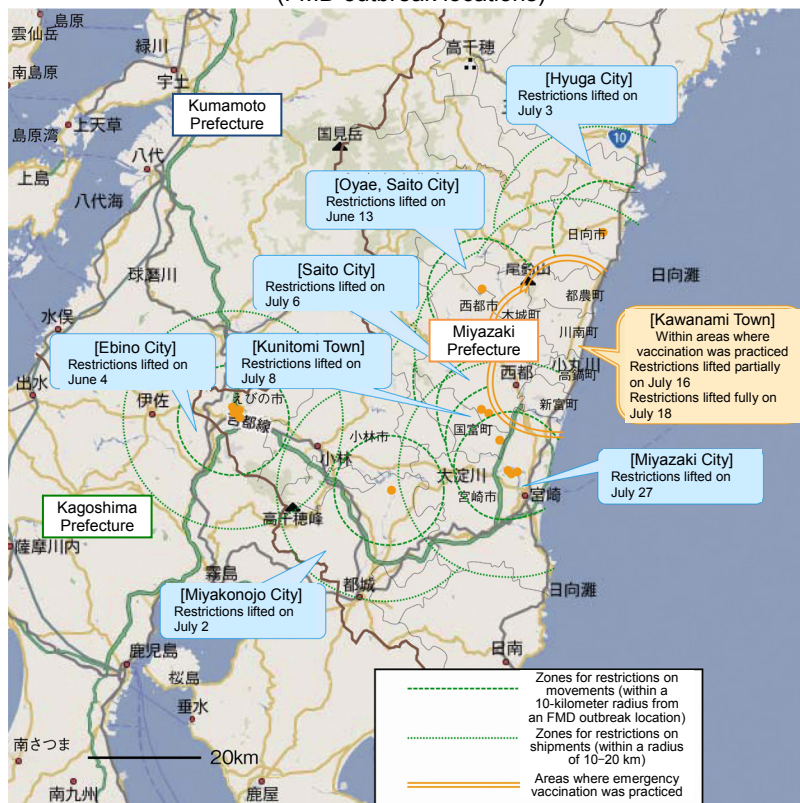
○ Status of FMD outbreaks

As FMD broke out in Miyazaki Prefecture in April 2010, about 70,000 cows and about 230,000 pigs were culled. Various countermeasures were then taken and all relevant parties were united to make epidemic prevention efforts. By the end of July 2010, all restrictions were lifted on livestock movements in the prefecture.

In February 2011, the Scientific Committee of the World Organization for Animal Health, known as OIE, identified Japan as regaining the status free from FMD.

The Act on Animal Infectious Diseases Control was amended in line with a report released in November 2010 by the FMD countermeasure verification committee comprising third parties.

(FMD outbreak locations)



Source: Prepared by MAFF



Disinfection at an FMD outbreak farm



Spraying disinfectants on vehicles



A calf auction resumed in Shintomi Town (Koyu County), Miyazaki Prefecture. (September 30, 2010)

(5) Toward establishing new trade rules

○ Progress in Japan's EPA/FTA

By February 2011, Japan concluded, signed or completed negotiations on economic partnership agreements with 13 economies.

The government established the Headquarters to Promote the Revival of the Food, Agriculture, Forestry, and Fishery Industries in November 2010 from the standpoint of promoting high-level economic partnerships that will withstand comparison with the trend of other such relationships and promoting appropriate domestic reforms with respect to agriculture and other areas under the Basic Policy on Comprehensive Economic Partnerships as decided by the Cabinet in November 2010.

In response to the Great East Japan Earthquake, the Cabinet decided on a policy promotion guideline on May 17, 2011. Regarding EPA/FTA, the guideline mentions the basic policy for strengthening "kizuna" (the bonds friendship) with other countries, taking into consideration such factors as the sentiments of the farmers and fishermen who have suffered enormous damage by the earthquake and the nuclear incident, progress made in the international negotiations, and concerns of de-industrialization.

The guideline also mentions that the timing of a decision on whether to join negotiations for the Trans-Pacific Partnership (TPP) Agreement will be considered from an overall perspective. On the revitalization of the food, agriculture, forestry and fisheries industries, it mentions that every effort will be made for the restoration and reconstruction from the disaster, the Council to Promote the Revitalization of Food, Agriculture, Forestry and Fishery Industries will consider measures to cope with the new challenges of rehabilitating agriculture, forestry, and fishery industries in East Japan, and restoring confidence in Japan's agricultural and marine products, and so on.

	2009	2010	2011
Implementation, signing or completed negotiations	Singapore		
	Mexico		
	Malaysia		
	Chile		
	Thailand		
	Indonesia	Implementation	
	Brunei		
	Entire ASEAN		
	Philippines		
	Switzerland		
	Vietnam		
	India		OEPA signed in February
Ongoing negotiations	Peru	○Negotiations completed in November	
	Republic of Korea	Suspended negotiations	
	GCC	Ongoing negotiations	
	Australia	Ongoing negotiations	
Joint study, etc.	Japan-China-Korea	○Joint study started in May	
	EU	○Joint study started in July	
	Mongolia		○Joint study completed in March
	Canada		○Joint study launched in March
	FTAAP (Free Trade Area of the Asia-Pacific)	○An APEC summit in November decided to take specific actions to realize FTAAP.	
Broader regional economic partnership	ASEAN+3 (Japan, China, Korea)	○Government-to-government study started in October	
	ASEAN+6 (Japan, China, Korea, India, Australia, New Zealand)	○Government-to-government study started in October	
	TPP (Trans-Pacific Partnership) agreement	Consultations started with relevant countries to collect information	

As of April 2011

Source: Prepared by MAFF

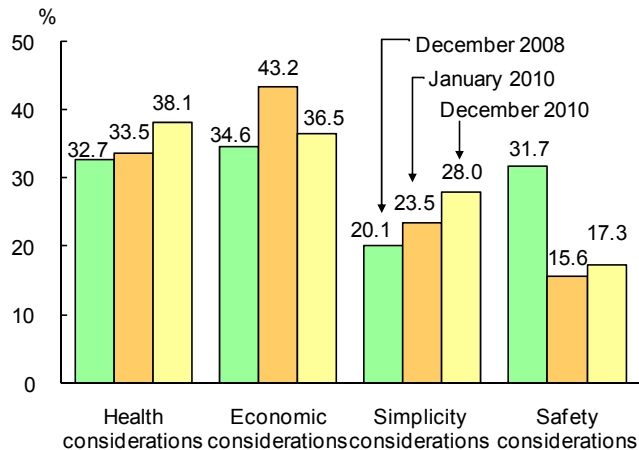
Notes: 1) The "New Growth Strategy" (Cabinet decision in June 2010) calls for "creating Japan's roadmap for building the Free Trade Area of the Asia-Pacific (FTAAP) by 2020."

2) Japan's EPA with the entire ASEAN took effect for Japan, Singapore, Laos, Vietnam and Myanmar in December 2008, for Brunei in January 2009, for Malaysia in February 2009, for Thailand in June 2009, for Cambodia in December 2009, and for the Philippines in July 2010. The only country this has not yet taken effect for is Indonesia.

(6) Food consumption, dietary habits and food industry trends

○ Changes in consumer considerations for food

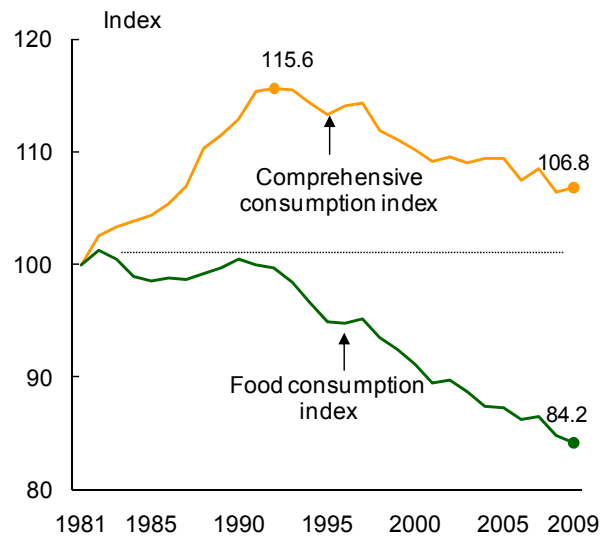
Consumers' economic considerations for food (or their willingness to cut food costs) are still strong. Health considerations (consumers' willingness to give considerations to health) and simplicity considerations (their willingness to save cooking and cleanup labor) have increased.



Source: Japan Finance Corporation, "2nd Consumer Trend Survey"
Note: An Internet poll covering men and women aged between 20 and 60 in Japan (2,000 respondents)

○ Food consumption index trends (100 for 1981)

The food consumption index has continued declining, standing at 84 in 2009 against 100 for 1981.

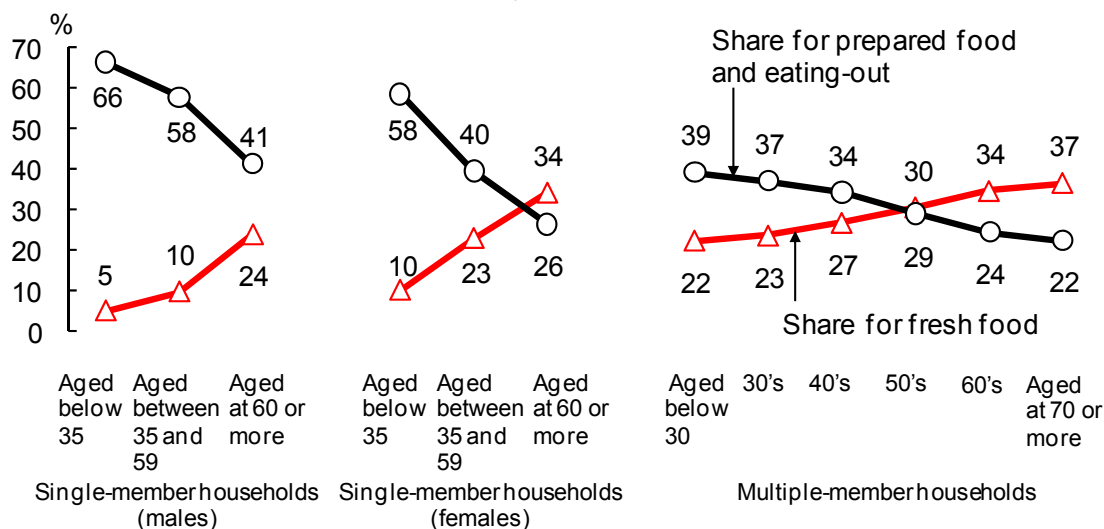


Source: Prepared by MAFF based on "Family Income and Expenditure Survey" by the Ministry of Internal Affairs and Communications

Note: Influences of the family size, the number of days in a month, price fluctuations and householders' ages on expenditure were excluded in computing the consumption index.

○ Category-by-category shares of monthly food consumption expenditure per family member (2010)

Over the recent years, the share for non-home meals combining eating-out and home-meal replacement has remained around 42%. A breakdown of food expenditure by family category indicates that the share for prepared food and eating-out exceeds 50% for people aged below 35, single-member households of males aged between 35 and 59, and those of females aged below 35.



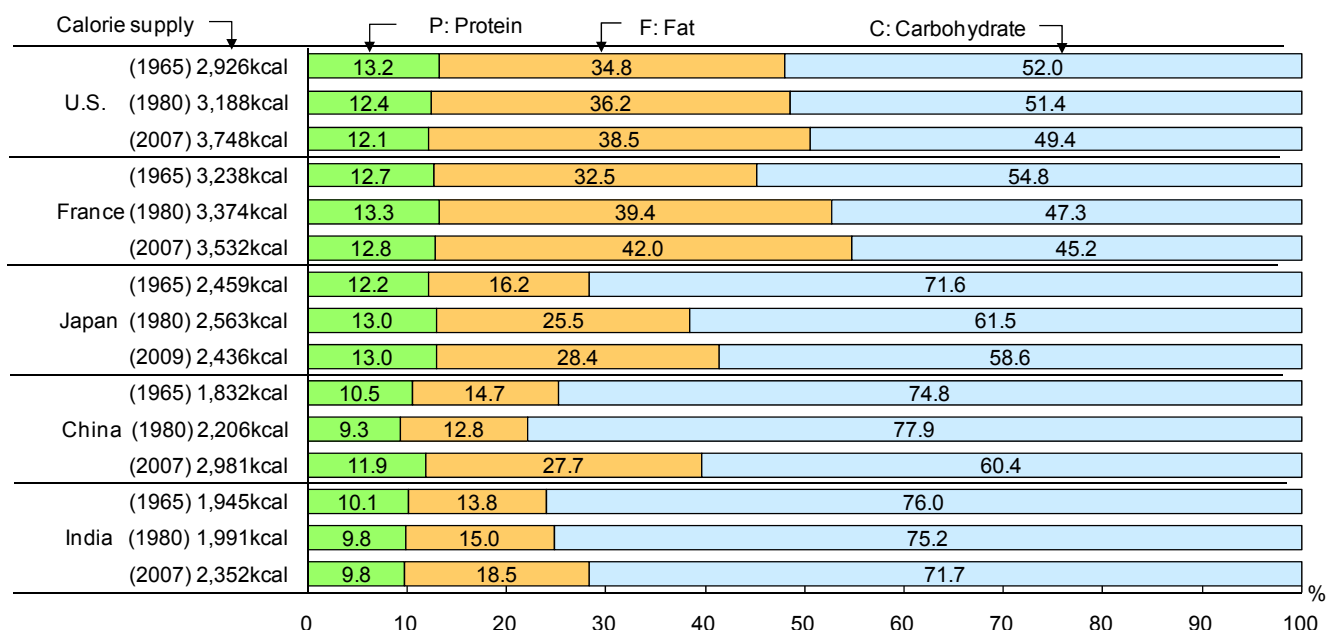
Source: Prepared by MAFF based on "Family Income and Expenditure Survey" by the Ministry of Internal Affairs and Communications

Notes: 1) Fresh food includes rice, fresh fish, fresh meat, eggs, fresh vegetables and fresh fruits. Process food covers all food other than fresh food, prepared food, eating-out, beverages and liquors.

2) The share for fresh food and that for prepared food and eating-out are percentages of total food consumption expenditure.

○ PFC (Protein, Fat and Carbohydrate) balance trends in major countries

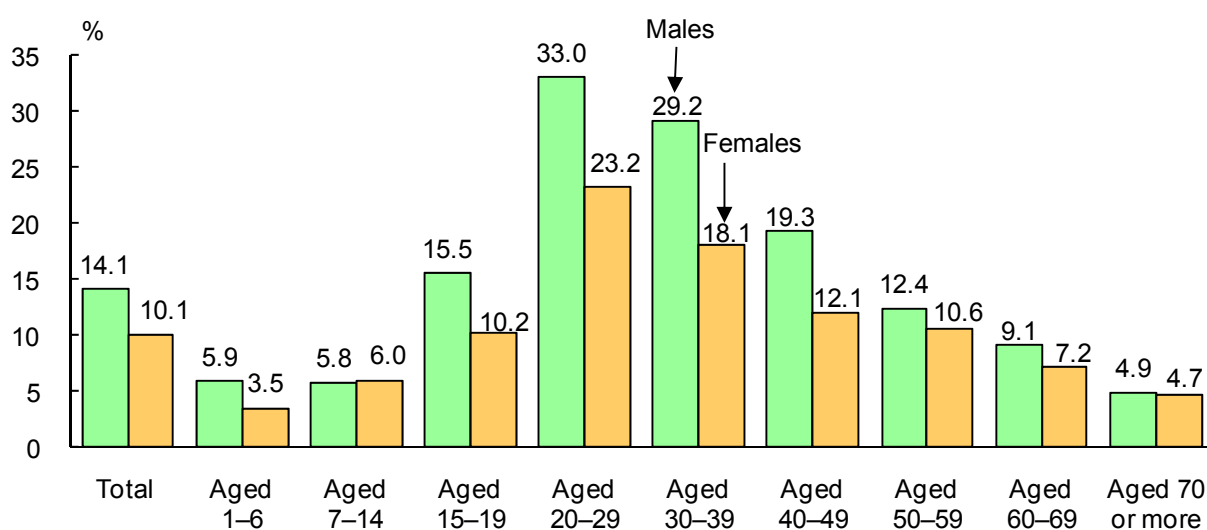
Excessive fat intake is a common trend in industrial countries. Japan's fat intake ratio (average), though falling short of U.S. and French levels, has risen considerably from earlier levels. As China has been achieving rapid economic growth over the recent years, its carbohydrate intake has declined substantially, with fat intake increasing, as seen in Japan.



Source: Prepared by MAFF based on its "Food Balance Sheet" and the FAO "Food Balance Sheets"

○ Rate of breakfast skipping (2009)

The rate of breakfast skipping stood at 14% for males and 10% for females. By age group, it was high for males in their twenties and forties, and females in their twenties and thirties. Breakfast skipping and excessive fat intake are seen as part of causes of lifestyle-related diseases.



Source: Ministry of Health, Labour and Welfare, "National Health and Nutrition Survey (2009)"

○ Food industry's roles and efforts for future development

The food industry has contributed much to the stable food supply and played a key role in supporting regional economies.

While the food products market has leveled off or declined, the industry over the recent years has made new efforts including the exploration of markets for breakfast and food for elderly people, and the development of new products meeting consumers' health considerations

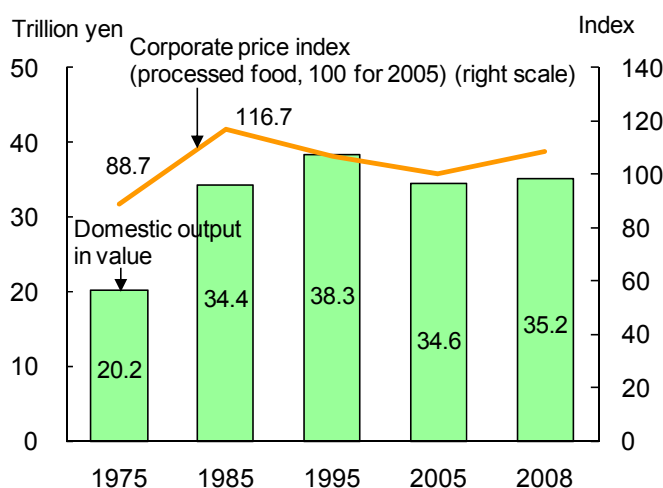
(Value of food manufacturing industry product shipments, and employees in rural and urban regions)

		Value of product shipments		Number of employees	
		Value (100 million yen)	Percentage share of total manufacturing industry shipments	Number of employees (persons)	Percentage share of total manufacturing industry employment
Prefectures featuring high shares of product shipments in value	Hokkaido	19,219 (Highest in Japan)	32.5 (Highest in Japan)	85,452 (Highest in Japan)	46.0 (Highest in Japan)
	Kagoshima	6,145 (13th)	30.0 (2nd)	25,591 (14th)	33.2 (3rd)
	Okinawa	1,354 (39th)	22.4 (3rd)	10,496 (35th)	41.7 (2nd)
Three major metropolitan regions	Tokyo	7,719 (11th)	7.6 (24th)	35,044 (11th)	9.7 (39th)
	Osaka	10,775 (9th)	5.9 (32th)	49,853 (5th)	9.5 (40th)
	Aichi	16,530 (2nd)	4.4 (42th)	67,652 (2nd)	7.9 (43rd)
Entire Japan		249,415	7.4	1,138,327	13.6

Source: Ministry of Economy, Trade and Industry, "Industrial Statistics Survey (2008)"

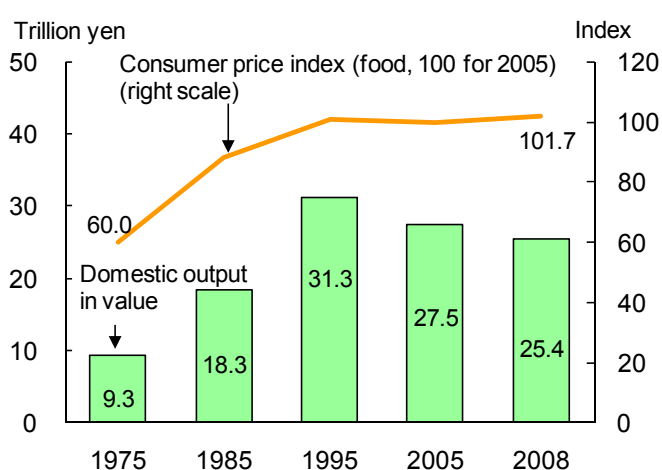
Note: Data cover business establishments with four or more employees.

(Trends of domestic food manufacturing industry output in value)



Sources: MAFF, "Agriculture/Food-related Industry Accounting,"
Bank of Japan, "Corporate Price Index"

(Trends of domestic food distribution industry output in value)

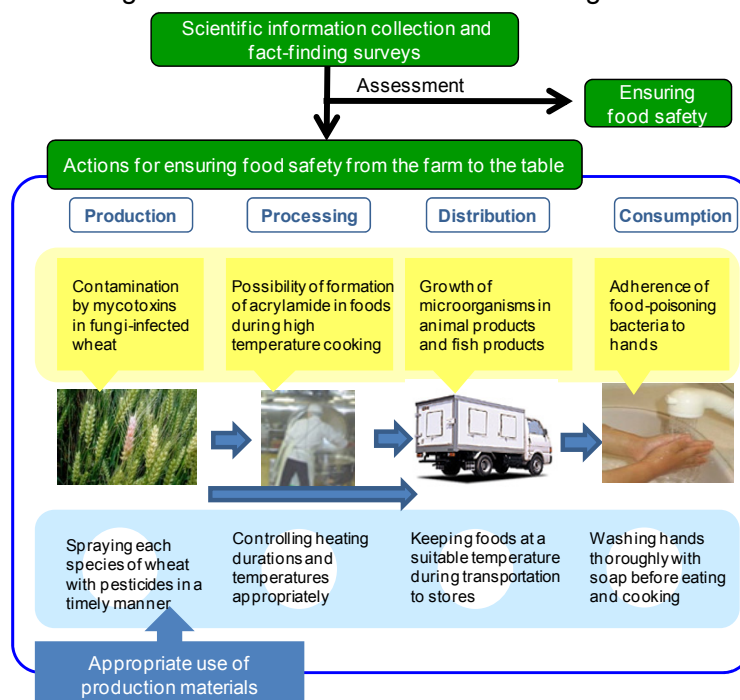


Sources: MAFF, "Agriculture/Food-related Industry Accounting,"
Ministry of Internal Affairs and Communications,
"Corporate Price Index"

(7) Ensuring food safety and consumer confidence

○ Actions for ensuring food safety throughout the food chain

It is important for improving food safety, from primary production to the final consumer and the understanding that the idea of “an ounce of prevention is worth a pound of cure” is central to the improvement of food safety. MAFF has implemented risk management decisions based on scientific grounds.



Source: Prepared by MAFF

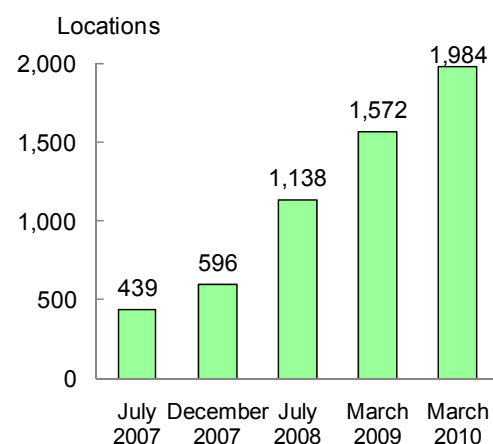
○ Good Agricultural Practice (GAP) and Rice Traceability System efforts

A growing number of agricultural production locations in Japan have introduced the GAP system to accurately implement, record and check each process in agricultural production according to check lists based on laws and regulations concerning food safety improvements, environmental conservation and the like. The number stood at 1,984 in March 2010.

The Rice Traceability Act has required records on transactions in rice and processed rice products to be created and kept since October 2010, allowing distribution routes to be promptly identified and problematic products to be recovered when they are found. Since July 2011, rice dealers have been required to provide other dealers and consumers with place of origin information of rice and rice ingredients.

We should also consider the introduction of the Hazard Analysis and Critical Control Point (HACCP) system, food labeling improvement measures, and the traceability system for food and beverage products other than rice.

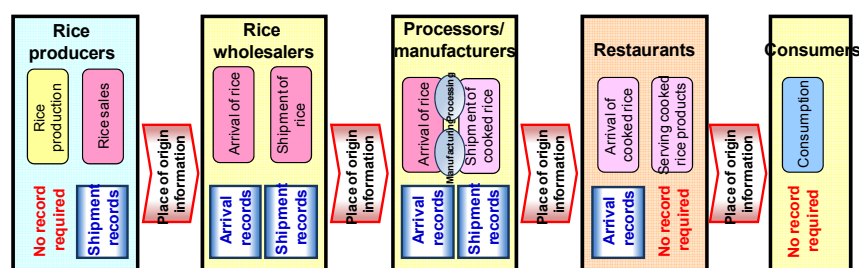
(Trends of GAP introducing agricultural production locations)



Sources: MAFF surveys

Note: The number of production locations covers locations where production enhancement and other plans have been prepared.

(Requirements for business entities under the Rice Traceability Act)



- All business entities that deal with rice and processed rice products are required to keep transaction records on these products.
- When selling or serving products to other business entities or consumers, these business entities are required to provide place of origin information of rice and rice ingredients.

Source: Prepared by MAFF