

FY2019

**Summary of the Annual
Report on Food, Agriculture
and Rural Areas in Japan**

June 2020

MAFF

**Ministry of Agriculture,
Forestry and Fisheries**

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FY2019 Annual Report on Food, Agriculture and Rural Areas in Japan

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- Based on the Food, Agriculture and Rural Areas Basic Act, a new Basic Plan for Food, Agriculture and Rural Areas was formulated in March 2020 as a medium- to long-term basic guideline for agricultural policies.
- In the new basic plan, challenges are identified as securing a stable supply of food that is indispensable to people's lives, improving the food self-sufficiency ratio and establishing food security by promoting "industrial policy" for transforming agriculture and food industries into a growth industry as well as "regional policy" for promoting the maintenance and implementation of agriculture's multifunctional roles as the two driving forces.
- In addition to the total food self-sufficiency ratio targets set on a calorie basis and a production value basis, new targets for "food domestic production ratio" that does not reflect the feed self-sufficiency ratio are set as an index to evaluate the situation of domestic production regardless of whether the feed is domestic or imported.

New Basic Plan for Food, Agriculture and Rural Areas

- There have been significant changes in the situation surrounding Japan's food, agriculture and rural areas, such as a full-fledged declining birthrate and aging population, lifestyle changes and expansion of overseas markets, weakening of production base due to the decrease in the amount of farmland and number of workers engaged in farming and concerns over the maintenance of local communities.
- To pass Japan's food culture and lively agriculture and rural areas onto the next generation, various measures are promoted, such as the development of production and supply systems that adapt to changes in demand structure, strategic expansion into global markets, strengthening of the production base of various entities, such as those run by SMEs and families and integration of regional policies in collaboration with the relevant parties.

Basic Plan for Food, Agriculture and Rural Areas (March 2020)

- Passing Japan's food culture and lively agriculture and rural areas onto the next generation -

Circumstances surrounding food, agriculture and rural areas

Steady progress of agricultural policy reform

Export of agricultural, forestry and fisheries products and foods
449.7 billion yen (2012) → 912.1 billion yen (2019)

Agricultural production income
2.8 trillion yen (2014) → 3.5 trillion yen (2018)

Newcomer youths in agriculture
18,800 persons/year (average for 2009-2013)
→ 21,400 persons/year (average for 2014-2018)

Environmental changes inside and outside Japan

- (1) Shrinking Japanese markets and expanding overseas markets
• Decline in population, diversification of consumer needs
- (2) New international environment such as TPP11 and Japan-U.S. Trade Agreement
- (3) Frequent large-scale natural disasters, new infectious diseases
- (4) Outbreak of CSF (classical swine fever) and response to ASF (African swine fever)

Weakening production base

Substantial reduction in the number of persons engaged in farming and farmland area

Basic policies

Promote **industrial policies** and **regional policies** as **two wheels of a cart** to stably supply food essential for people's life now and in the future, and achieve **improved food self-sufficiency ratio** and **establishment of food security**

Basic viewpoints for promoting measures

- ✓ Policies that meet the needs of consumers and users
- ✓ Forming a national consensus on establishment of food security and importance of agriculture and rural areas
- ✓ Developing and securing human resources toward ensuring the sustainability of agriculture and deploying policies for enhancing production bases
- ✓ Accelerating smart agriculture and promoting digital transformation of agriculture
- ✓ Integrating regional policies and maintaining and demonstrating multifunctional roles
- ✓ Reinforcing measures against risks that threaten the sustainability of agriculture, such as disasters, livestock diseases, and climate change
- ✓ Promoting measures for increasing income in agriculture and rural areas
- ✓ Policies that bolster sustainable activities triggered by SDGs

Food self-sufficiency ratio targets, etc.

[Calorie supply basis] 37% (2018 result) → 45% (2030 target) (To assess the situation of food security)
[Production value basis] 66% (2018 result) → 75% (2030 target) (To assess the situation of economic activity)

[Feed self-sufficiency ratio] 25% (2018 result) → 34% (2030 target)

[Food domestic production ratio] Newly specified to assess the situation of domestic production without reflecting the feed self-sufficiency ratio
<Calorie supply basis> 46% (2018 result) → 53% (2030 target)
<Production value basis> 69% (2018 result) → 79% (2030 target)

Food self-sufficiency potential indicator (potential capacity of food production)

An indicator that takes into account labor in addition to farmland area is proposed. Also, prospect for 2030 is presented.

Key points of the new Basic Plan for Food, Agriculture and Rural Areas

- Continued promotion of agricultural policy reform for developing agriculture industry to a growth sector
- Setting the goal of expanding agriculture, forestry and fisheries products and food exports to 5 trillion yen by 2030
- Raising the standard of agricultural business at various management entities including small-/medium-sized and family farms through enhancement of production base
- Integration of regional policies mustering all policies related to promotion of regions including rural areas through collaboration with interested parties
- Formation of a national consensus on food and agriculture through development of new national movements

New food self-sufficiency ratio targets and food self-sufficiency potential indicator

Food self-sufficiency ratio targets

- The total food self-sufficiency ratio targets are set each on a calorie basis, which evaluates the food security situation and a production value basis, which evaluates the situation of agricultural economic activities.
- The food self-sufficiency ratio excludes the livestock products produced from imported feed, however, "food domestic production ratio" targets are set as the new targets focusing on domestic production that do not exclude these products.
- To improve the food self-sufficiency ratio, in terms of production, efforts are made to strengthen production/supply systems compatible with changes in domestic and overseas demand and enhance domestic agricultural production bases. In terms of consumption, efforts are made to deepen the connection between consumers and food and agriculture and collaboration with the food industry.

Targets for food self-sufficiency ratio, etc.

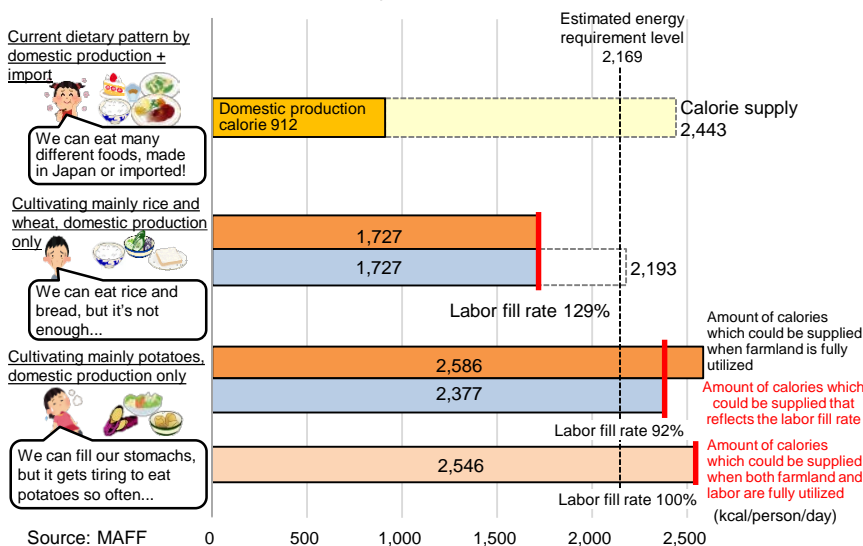
(Unit: %)

	FY2018 (Results)	FY2030 (Targets)
Total food self-sufficiency ratio (Calorie basis)	37	45
Total food self-sufficiency ratio (Production value basis)	66	75
Feed self-sufficiency ratio	25	34
Food domestic production ratio (Calorie basis)	46	53
Food domestic production ratio (Production value basis)	69	79

Source: MAFF

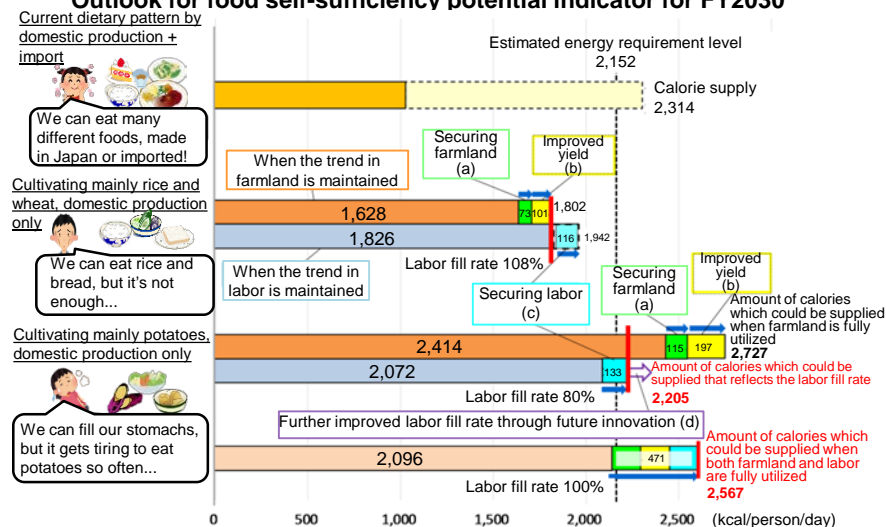
Food self-sufficiency potential indicator

- To secure food supplies in Japan even in the case of an unforeseen event, it is important to always keep track of, maintain and improve the food production potential of Japan's agriculture, forestry and fisheries (food self-sufficiency potential).
- Calories of food that can be obtained by fully utilizing Japan's potential production capacity are presented as the food self-sufficiency potential indicator.



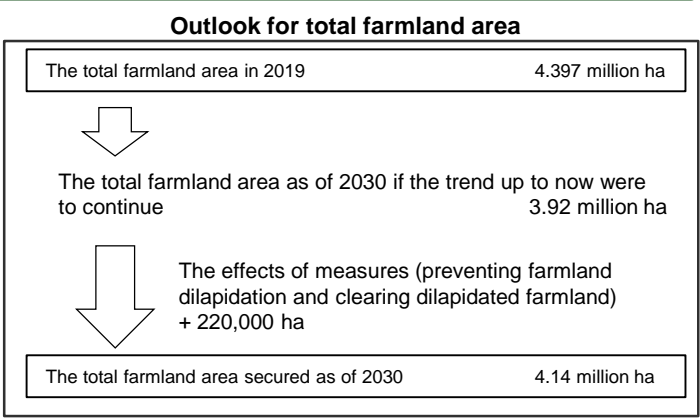
- The food self-sufficiency potential indicator is improved to also consider agricultural labor and labor-saving agricultural technologies in addition to farmland and a new outlook for the future food self-sufficiency potential indicator (FY2030) is presented.
- Based on the relationship between the food self-sufficiency potential indicator and farmland, yield, labor, etc., it is necessary to work on securing farmland and labor, increasing yield and promoting technological innovation.

Outlook for food self-sufficiency potential indicator for FY2030



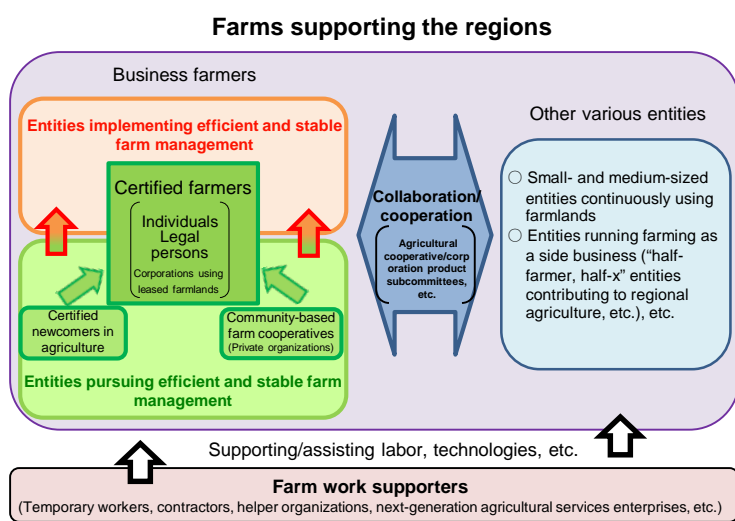
Outlook and securing of farmland, agriculture structure outlook

- The outlook for the total farmland area in 2030 is estimated to be 4.14 million ha, taking into consideration the trend and the effects of measures (preventing farmland dilapidation and clearing dilapidated farmland).
- For the agricultural structure outlook, establishing an agricultural structure in which 80% of the total farmland area is used by business farmers will be pursued by developing agriculture management entities ("farms") that aim to improve their management, regardless of their management form such as family or corporation, into business farmers, according to local circumstances.



Source: MAFF
 Note: The trend refers to the case when no measures are taken.

- Considering the fact that small- and medium-sized entities also support the regions together with business farmers by continuously producing agricultural goods, consideration will also be given to them to continue farming.



Source: MAFF

Farm management outlook

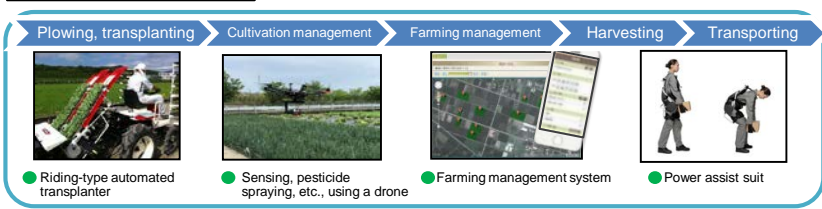
- For the farm management outlook, concrete models and examples are presented so that various business farmers, including farm households, can maintain and develop regional agriculture as it is becoming increasingly difficult to secure farmers and labor, expecting to see progress in the efforts for developing small-scale farm households and business farmers and increasing their income.

An example of a farm management model

Farming category	Outdoor grown vegetable (eaten raw, farmland maintenance type)	Target region	West of Kanto
Key point of the model			
Family business attempting to save labor and improve productivity through joint use of farming equipment and outsourcing of some work in the aging family management entities			
Outline of technology/project			
> Increase in management cost is avoided and transplanting work time is reduced by approximately 50% by joint use of riding-type automated transplanter. > Burden on middle management is reduced and work time sensing, pesticide spraying, etc., is reduced by approximately 25% by outsourcing such work to be performed using drones. > Efficiency of work is improved by outsourcing some work and mechanization to resolve the issue of labor shortage associated with aging, and burden of hard labor such as transporting crops by using power assist suit. > Temporary staffing companies that cover labor for agricultural work are utilized under the situation where procuring labor from the region is becoming difficult due to depopulation and aging.			
Management development			
[Type of management]	Family management (2 members (one of which is primary worker), 1 temporary worker)	[Estimate results]	(Reference) Management model used for comparison
[Operation size, cropping pattern]	Cultivated land under management 1.7ha Cabbage 1.2ha Watermelon 0.5ha	Gross income 12.47 million yen Operating costs 6.53 million yen Agricultural income 5.95 million yen	[Type of management] Family management (2 members, 1 temporary worker)
		Income of primary worker (/person) 4.19 million yen	[Operation size, cropping pattern] Cultivated land under management 1.7ha Outdoor grown vegetable 1.7ha
		Work hours of primary worker (/person) 1,514hr	

- For farm management models, labor-saving and highly productive management models that introduced new technologies, etc., are shown by main agriculture type and region (total 37 models).

- Also, efforts to realize new lifestyles, such as half-farmer, half-x and efforts to maintain farmland and contribute to regional vitalization while maintaining small but stable management are shown as examples.



Source: MAFF
 Note: The above is based on a trial calculation and may not necessarily indicate the actual situation.

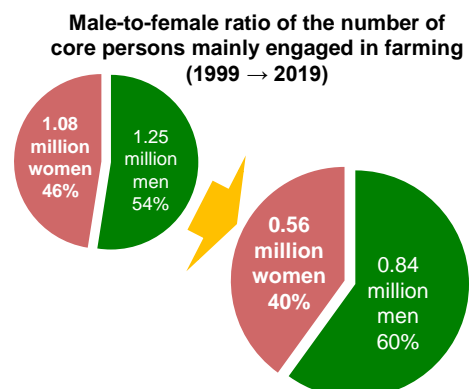
- Women farmers play an important role in agriculture and regional promotion. However, despite the large burden of women's farm work, housework, childrearing, etc., their work has not been appropriately evaluated so that various efforts have been made to encourage women's participation in agricultural management and local communities.
- In recent years, there has been an increasing number of women farmers who are actively working as certified farmers and those who are engaged in entrepreneurial activities, and entities with women management tended to have higher profitability.
- Towards sustainable development of agriculture and rural areas, it is important to promote the further success of women by creating an agricultural/rural environment where women can work and live pleasantly.

History of the role of women farmers - From "life improvement" to the era of "success"

- After World War II, women were overworked with housework, childrearing and nursing care, in addition to farm work. In 1948, life improvement extension services were launched to improve the status of women farmers and through these services, housework became more efficient with improved stoves and kitchens.
- Entering the period of rapid economic growth, the opportunities for men to do work other than farming expanded and women played a more central role in agricultural production while also bearing the burden of housework, childrearing and nursing care.
- From around the 1970s, farm work has become much easier due to the introduction of rice planting machines, etc. With this, entrepreneurial activities utilizing insight and wisdom unique to women began to rise and women participating in management by their own will also started to emerge.
- In 1992, MAFF formulated its first action plan for women, Round-table Conference Report on the Medium- to Long-term Vision for Women in Rural Areas.
- In 1999, the Basic Act for Gender Equal Society came into effect with the purpose of realizing a society where every citizen is able to fully display their individuality and ability regardless of gender and across society. In the same year, gender equality was also stipulated in the Food, Agriculture and Rural Areas Basic Act.
- Thereafter, various measures were promoted based on these laws, such as disseminating and raising awareness for gender equality, encouraging farming households to conclude Family Business Agreements, supporting entrepreneurial activities and AFFrinnovation, providing training to become certified farmers and developing next-generation leaders.

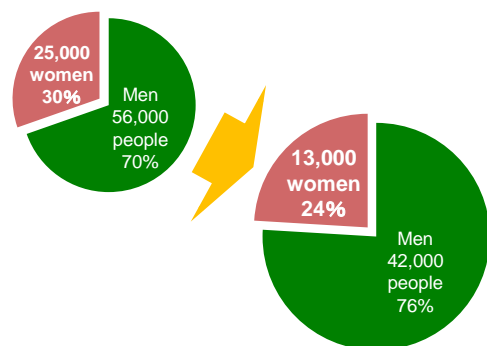
Growing empowerment of women farmers in the agricultural workplace - Looking back on 20 years

- Over the 20 years from 1999 to 2019, the ratio of women in the core persons mainly engaged in farming decreased from 46% to 40%.



➤ The ratio of women newcomers in agriculture also decreased from 30% in 2006 to 24% in 2018.

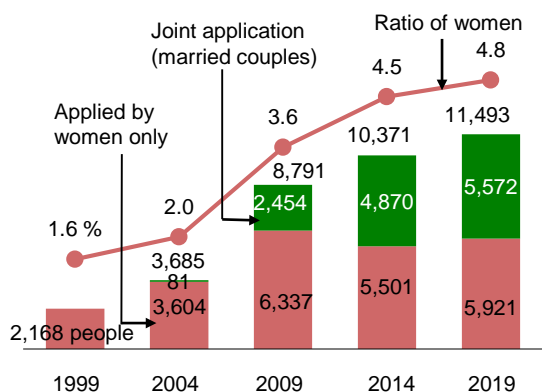
Male-to-female ratio of newcomers in agriculture (2006 → 2018)



Source: MAFF, Survey on Newcomers in Agriculture

➤ Meanwhile, the number of certified women farmers increased fivefold, from 2,000 people in 1999 to 11,000 people in 2019. The ratio of women as certified farmers also increased threefold over the 20 years, from 1.6% to 4.8%.

Ratio of certified women farmers



Source: MAFF, Status of Certification of Plan for Improving Agricultural Management (by Business Type)
Note: As of March 31 each year

➤ The ratio of women directors in agricultural corporations was 21.8%. This was almost the same as or slightly higher than the construction, manufacturing, transportation/postal and wholesale/retail industries.

Ratio of women directors in agricultural corporations

(Unit: %)

	Agriculture	Construction	Manufacturing	Transportation/postal	Wholesale/retail	Accommodations/eating and drinking services	Medical care/welfare
Ratio of women directors	21.8	20.3	18.7	19.6	21.8	31.9	47.9

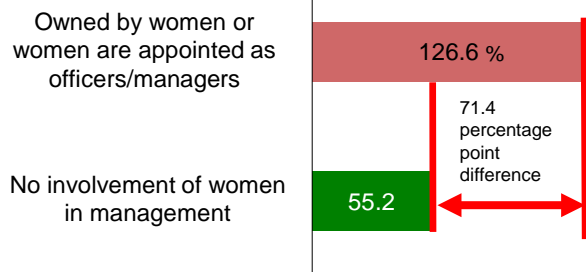
Source: Prepared by MAFF based on data from Japan Agricultural Corporations Association (FY2017) and Basic Survey of Gender Equality in Employment Management (FY2018) by MHLW

Note: The figure for agriculture was based on the data from Japan Agricultural Corporations Association and the figures for other industries were based on the Basic Survey of Gender Equality in Employment Management by MHLW.

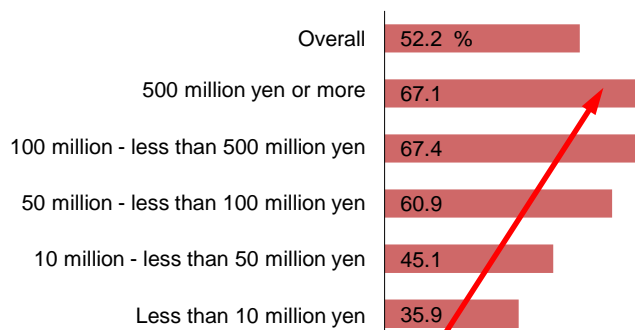
➤ Women play an important role in agricultural management. There is a correlation between women's involvement in management and increasing profit in farms.

Women's involvement in farm management and improvement of profitability

(Net profit increase rate (last 3 years) by women's involvement in management)



(Ratio of women's involvement in farm management by sales volume)



Source: Prepared by MAFF based on the 2019 July Agricultural Economic Survey (published in December 2019) by Agriculture, Forestry, Fisheries and Food Business Unit, Japan Finance Corporation

Notes: 1) The survey was administered covering 19,215 borrowers of Super L Loan offered by Japan Finance Corporation or agricultural improvement fund (recovery rate of 28.0%).

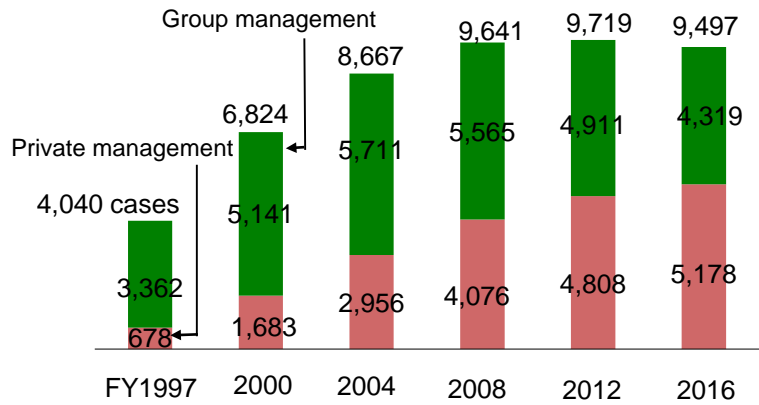
2) The graph shows the ratio of establishments with one or more women involved in management as directors or managers.

Source: Prepared by MAFF based on the FY2016 First Half Agricultural Economic Survey (published in September 2016) by Agriculture, Forestry, Fisheries and Food Business Unit, Japan Finance Corporation

Note: The survey was administered covering 21,389 borrowers of Super L Loan offered by Japan Finance Corporation or agricultural improvement fund (recovery rate of 28.0%)

- The number of businesses started by women in rural areas also increased more than twofold, from 4,040 in FY1997 to 9,497 in FY2016.
- The number of businesses started by individuals has been on the rise, with cases of people becoming independent from their groups after finding business opportunities and starting a business from other fields.
- When women are in charge of the AFFrinnovation sector, their ability to pay attention to details, handle matters with feminine perspectives and use ideas unique to women are advantageous to them.

Number of businesses started by women in rural areas



Source: MAFF, Survey on Entrepreneurship Activities of Women in Rural Areas

<Case study> Women-only agricultural corporation empowering for women (Oita Prefecture)

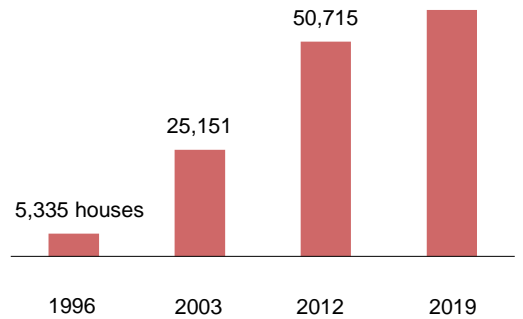
- Ami Hirayama from Kunisaki City, Oita Prefecture started a women-only company in 2015 to grow lettuce in a hydroponic greenhouse.
- By developing products that meet the market needs based on their experiences and perspectives as female consumers, their sales increased from 42 million yen in FY2016 to 72 million yen in FY2018.



Ami Hirayama (second from the right in the front row) and everyone at Women Make Co., Ltd.

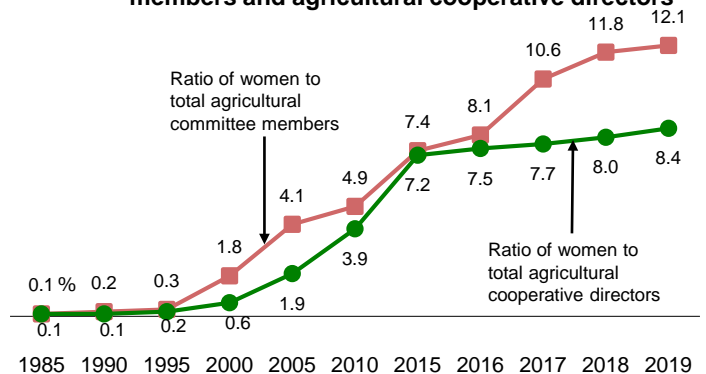
- The number of households that concluded Family Business Agreements increased more than tenfold, from 5,335 in 1996 to 58,182 in 2019. The increase was triggered mainly due to the joint application for the plan for improving agricultural management and enrollment in the farmer annuity.
- Looking at the ratio of women among agricultural committee members and agricultural cooperative directors as an index of women's participation for formulating regional agricultural policies, both ratios increased from 1.8% to 12.1% and 0.6% to 8.4%, respectively, between 2000 and 2019.
- Women's participation was supported by the fact that the target ratios of women to total agricultural committee members and agricultural cooperative directors were set in the 4th Basic Plan for Gender Equality formulated in 2015 and the revisions made to the Act on Agricultural Commission, etc., and Agricultural Cooperatives Act in 2016 included a provision stating that there shall be no significant differences in age and gender.

Changes in the conclusion status of Family Business Agreements



Source: MAFF, Survey on Family Business Agreement

Ratio of women to total agricultural committee members and agricultural cooperative directors



Source: MAFF, Status of Women's Participation in Agricultural Committees and Statistics on Agricultural Cooperatives

Notes: 1) Agricultural committee members: As of October 1 each year

2) Agricultural cooperative directors: End of each fiscal year

The figures for FY2019 are based on data from the Central Union of Agricultural Cooperatives (Zenchu).

Further efforts should be promoted.

➤ While the number of agricultural high school students is decreasing, the ratio of female students is increasing. This is due to reasons, such as offering a wide range of subjects related to professions that are popular among female students, for instance processing and sales, instead of just learning about cultivation technology.

➤ In 2016, the *Nougyou-Joshi Project* (Campaign for women farmers to be more active in agricultural business by cooperation with various industries to tap women farmers' knowledge and experiences) formed the Team *Hagukumi* which aims to add "farming" as a career option for young women. Through the collaboration between the programs offered by educational institutions, such as high schools and universities and the members of the *Nougyou-Joshi Project* who play active roles, initiatives that lead to the increase of new farmers are promoted.

Changes in gender ratio of high school students by subject (Unit: %)

	FY1999		FY2019	
	Men	Women	Men	Women
General course	48.6	51.4	49.5	50.5
Agricultural course	61.4	38.6	51.1	48.9
Business course	33.8	66.2	37.2	62.8

Source: Prepared by MAFF based on the School Basic Survey by MIC

<Case study> A woman with no farming background taking over the management of a Konnyaku producer (Gunma Prefecture)

➤ In 2005, Haruna Endo became a new farmer by taking over the management of a konnyaku producer in her husband's hometown, Numata City, Gunma Prefecture. She also engaged in AFFrinnovation and developed a konnyaku product (Chururin Balls) processed into round bite-size shapes that do not require pretreatment to remove harshness.

➤ In addition to serving as a special lecturer at Kamata Women's High School, which is a partner school of the Team *Hagukumi* of the *Nougyou-Joshi Project*, she also contributes to educational activities for the next-generation, such as accepting internships from the prefectural farmer's academy.



Haruna Endo (second from the right) and all staff members

To achieve further empowerment - Issues surrounding women farmers and countermeasures

Creating an agricultural/rural environment where women can work and live pleasantly

➤ The population of women in rural areas has decreased in recent years. Among them, a significant decrease was seen in the population of childrearing generations (aged 25 - 44) and also more in women than men.

➤ In rural areas, housework and childrearing are still recognized to be a woman's work, placing a heavier burden on women than men. Women workers engaged in agriculture, forestry and fisheries spent a total of 7 hours and 7 minutes per day on work, housework and childrearing, which was 1 hour 19 minutes longer than that of men engaged in agriculture, forestry and fisheries.

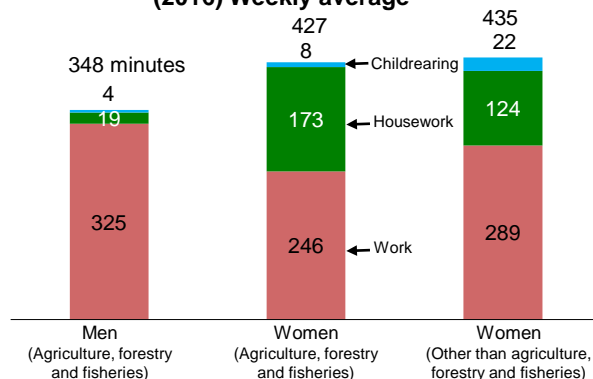
➤ Due to the increased demand in the medical care/welfare fields, there is greater competition for securing a female labor force in rural areas. It is important to promptly promote initiatives to create an agricultural environment where women can work without stress.

Changes in the population of women in rural areas (Unit: 10,000 people, %)

	2000	2015	Rate of change and percentage point difference (%)
Population of women in rural areas	1,442	1,268	-12.1
Including women aged 25 - 44	314	246	-21.7
Ratio of women in rural areas	51.8	51.8	0.0
Including women aged 25 - 44	49.8	48.5	-1.2

Source: Prepared by MAFF based on the Current Status and Trends of the Women Labor Force in Family Farming (2018) by Policy Research Institute, Ministry of Agriculture, Forestry and Fisheries

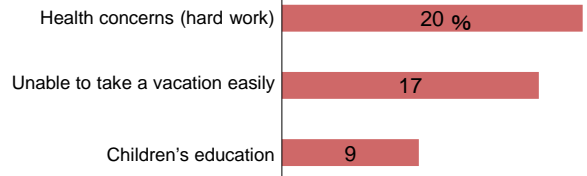
Comparison of the time spent on work, housework and childrearing by gender and by occupation (2016) Weekly average



Source: Prepared by MAFF based on the Basic Survey on Social Life by MIC

- Women newcomers in agriculture tend to have concerns for the hard work of farming, cultivation technology, childrearing, etc.
- To create an agricultural/rural environment where women can work and live pleasantly, it is necessary to change the mindset of people in rural areas and promote the understanding of the people regarding women playing an active role in agriculture.
- Therefore, it is necessary to promote the conclusion of Family Business Agreements that clarify the division of roles, such as work, housework, childrearing and nursing care, joint application of the plan for improving agricultural management and strengthening connections between women farmers.
- It is also necessary to promote the development of networks that support childrearing locally, utilization of external support services for farming, spread of agricultural machinery that is easy for women to work with, securing of training opportunities for agricultural management, including e-learning and improvement of the working environment of agricultural corporations.

Concerns of women newcomers in agriculture (lifestyle)



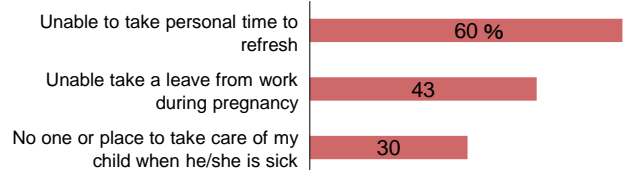
Source: Prepared by MAFF based the Results of the Survey on Farming Situation of Newcomers in Agriculture (2017) by National Chamber of Agriculture/National Consultation Center for New Farmers

Concerns of women newcomers in agriculture (management)



Source: Prepared by MAFF based the Results of the Survey on Farming Situation of Newcomers in Agriculture (2017) by National Chamber of Agriculture/National Consultation Center for New Farmers

Worries and concerns about balancing farming and childbirth/childrearing/parenting (multiple answers)



Source: MAFF, FY2019 Questionnaire Survey on Promotion of Women's Active Participation (Survey conducted in August 2019)

<Case study> Sharing farm work and childrearing by concluding a Family Business Agreement (Mie Prefecture)

- Keisuke Minami and his wife Emi in Ise City, Mie Prefecture, started farming as a couple in 2006 to produce strawberries. Around the time when their business was picking up, they concluded the Family Business Agreement considering the birth of their child and recommendation made by the extension advisor.
- Concluding the agreement created an environment where they can always consult with each other and make decisions together. They now share the childrearing responsibilities and are building a business with an improved working environment, such as setting days off according to the lifestyle of their children, so that the entire family can live happily.



The Minami family

Reflecting women's opinions in the formulation of regional agriculture policies

- Towards the sustainable development of agriculture and rural areas, it is important to reflect the voices of women who have various perspectives as ordinary citizens, consumers and also farmers in the formulation of regional agriculture policies.
- Therefore, it is necessary to promote the development of women farmers who will take the lead in regional agriculture, development of networks with consumers, etc., and participation of women in local discussions on people and farmland plans.

<Case study> Countryside heroines who have achieved generational change (Kumamoto Prefecture)

- *Inakano Heroine Wakuwaku Network* founded in 1994 has been engaged in providing an urban-rural network focused on women farmers and manufacturing of processed products, but found itself at the risk of dissolution due to the aging of its members. To address the issue, the first director, Yoko Yamazaki, proposed a generational change.
- After changing its name to Heroines for Environment and Rural Support (HERS) in 2014, they made a new start under the new director, Eri Otsu, from Kumamoto Prefecture and active young women farmers under aged 40 as executives. Their efforts include disseminating information and accepting farm trainees to resolve the shortage of successors in farming.



Director Eri Otsu (seventh from the left) and all members of HERS

- The SDGs, international development goals to be achieved by the year 2030, were adopted at the 2015 United Nations Summit.
- Agricultural sector and food industries are based on natural resources and the environment so that their activities may bring the new possibility of growth by guiding consumer behavior and investment from other sectors while taking initiatives to contribute to achieving SDGs.
- Various activities are promoted by the public and private sectors based on the implementation guidelines. To disseminate sustainable production and consumption patterns, MAFF has established a Study Group for Sustainable Production and Consumption Patterns and published an interim report in March 2020.

From MDGs (Millennium Development Goals) to SDGs

- The MDGs (Millennium Development Goals) were adopted at the United Nations Millennium Summit in 2000. MDGs are aimed at solving various issues in developing countries and have 8 goals regarding poverty, gender, etc.
- In 2015, under the basic principle of “leaving no one behind”, SDGs were adopted as the goals that are universal to all countries including developed countries. SDGs consist of 17 goals and 169 targets.

Promotion of the implementation of SDGs through the public and private sectors

- In December 2016, the SDGs Implementation Guiding Principles of Japan were decided. SDGs were reconstructed to eight issues that Japan needs to particularly focus on.
- In December 2019, the SDGs Implementation Guiding Principles was revised, which identified the next generation of youth as a key player to achieve goals and set a policy to strengthen awareness and education.

<Column> Discussions on the SDGs held at the G20 Niigata Agriculture Ministers' Meeting

- In May 2019, the G20 Niigata Agriculture Ministers' Declaration 2019 was adopted, which stated all countries should make active efforts to realize the SDGs.



At the G20 Niigata Agriculture Ministers' Meeting

Efforts in the food, agriculture and rural areas

- In the fields of food, agriculture and rural areas, it is necessary to actively promote environmentally friendly production activities and also promote sustainable consumption and sustainable community development. Therefore, measures to support these efforts are developed.
- NPOs, private companies, consumers, local governments, cooperatives, etc., are also important partners for implementing the SDGs.

<Column> Efforts of SDGs that start from rural areas

- Among the 17 goals of the SDGs, those that are closely related to “environment” are the base of other goals.
Also, efforts using various "technologies" are ongoing to maintain and circulate the "environment" in an economically sustainable way.
- From the perspectives of "environment", "technology" and "business model", leaflets are created to promote the efforts in rural areas for the SDGs.



(1) Realization of gender equality and a society where every person can play an active role and gender equality



- Promote *shokuiku* (food and nutrition education), such as the “Japanese dietary pattern” to achieve a healthy dietary pattern and support the foundation of a society where every person can play an active role.
- Promote environmental improvements, such as providing advanced cases and support measures for improving food access, etc.



Children’s cafeteria, “Dandan”

(2) Achievement of good health and longevity



- While the number of starving people in the world is growing, support the global expansion of nutrition improvement business of domestic food business operators, etc., to solve the problems of malnutrition in developing countries, etc.

(3) Creating growth markets, revitalization of rural areas, and promoting science technology and innovation



- Launch the Smart Agriculture Demonstration Project to accelerate the nationwide deployment of smart agriculture utilizing advanced technologies, such as robots, AI and IoT.
- Towards the transformation of agriculture to a growth industry, promote full utilization of paddy fields and infrastructure development for creation of multipurpose paddy fields and upland fields to support conversion to highly profitable crops, etc.
- Promote the securing and developing of newcomers in agriculture as the human resources that will lead the agriculture, forestry and fisheries industries.
- To improve the safety of agricultural, forestry and fisheries products and foods, conduct surveys on the actual conditions of hazardous chemical substances and microorganisms and studies to obtain scientific knowledge.
- To revitalize regions including rural areas, promote the development of regional systems that can implement countryside stays as a business and efforts for agriculture-welfare collaboration.



Autonomous multifunctional robot



Countryside stay

<Case study> Cultivation of wine grapes in consideration of biodiversity (Nagano Prefecture)

- Mercian Corporation has developed 29 ha of wine vineyards by using idle farmland in Ueda City, Nagano Prefecture since 2003.
- Hedge-grown and vegetative vineyards have formed a vast grassland body and after an investigation, 168 species of insects including those that are rare, such as Benimonmadara (*Zygaena nippona*), and 258 species of plants were found to be inhabiting the vineyards.
- Working collaboratively with NPOs and volunteers, they are also engaged in activities to restore vegetation around the vineyards.



Hedge-grown and vegetative vineyards

(4) Sustainable and resilient land use, promoting quality infrastructure



- Farmland and irrigation water are the basic resources for agricultural production. Promote farmland consolidation and intensification for business farmers, expansion of farmland partitions to secure and effectively use these resources.
- In preparation for natural disasters that are becoming more frequent and severe, promote disaster prevention/reduction measures in rural areas that appropriately combine tangible measures, such as enhancing structural longevity and seismic resistance of agricultural irrigation facilities and intangible measures, such as creation of hazard maps, etc.

(5) Energy conservation and renewable energy, disaster risk reduction and climate change countermeasures, sound material-cycle society



- Promote the introduction of renewable energy that is in harmony with agriculture, forestry and fisheries, such as farming-photovoltaics and biomass power generation utilizing resources in rural areas.
- Implement the assessment of the impact of climate change in the agriculture, forestry and fisheries fields and development of technologies to mitigate climate change, such as greenhouse gas reduction.
- To reduce food loss and waste, review business practices such as easing the delivery date requirements, promote sales such as meeting the demand for seasonal products, etc.



Cultivating peanuts under the solar panels

(6) Conservation of biodiversity, forests, and oceans, and other environments



- To promote sustainable agriculture, accelerate environmentally friendly agriculture, such as organic farming.
- To promote conservation of genetic resources, implement international cooperation activities, such as collection and preservation of overseas plant genetic resources.
- As the measures to address marine plastic waste, promote proper treatment and emission control of plastic containers and packaging for food and agricultural plastic waste, etc.



Biodegradable mulches

(7) Means and frameworks for the implementation of the SDGs



- Support developing countries in building their food value chains by dispatching Japan's private-public missions to these countries and utilizing frameworks, such as bilateral policy dialog with these countries, etc.



A local farmer holding harvested cabbages

To spread sustainable production and consumption patterns

- In November 2019, MAFF established a Study Group for Sustainable Production and Consumption Patterns and published an interim report in March 2020, which contained the establishment of a Sustainability Day and giving awards. Going forward, voluntary efforts by businesses and collaboration between businesses will be promoted by building a network of businesses, etc.

- Japan-U.S. Trade Agreement entered into force in January 2020.
- Japan's tariff concessions are within the range of the past Economic Partnership Agreement including TPP (e.g., rice is excluded from tariff reductions). Achievements for export include the significant expansion of the low-tariff rate quota on beef.
- To take advantage of export market expansion, thorough measures to strengthen the production base of Japan's agriculture, forestry and fisheries industries and to promote the development of new markets are being implemented.

Overview of negotiations

- Negotiations for the Japan-U.S. Trade Agreement started in April 2019, reached an agreement at the Japan-U.S. summit on September 25 and the two nations signed the Agreement on October 7.

Agreement details

Agreement details on major items (imports from the U.S.) (excerpt)

Provisions related to Japan's tariffs

- Rice (rice in the husk, brown rice, milled rice, broken rice) as well as rice preparations are excluded from tariff reductions/eliminations.
- No new U.S.-specific quotas are accepted for items that are set with TPP-wide tariff rate quotas set in the TPP, such as skimmed milk powder and butter.
- Tariff reduction on beef imports is the same as in the TPP and the safeguard trigger level in FY2020 is set at a lower level than the actual import level from the U.S. in FY2018.

Items	Agreement details
Rice	- Rice and rice preparations are excluded from tariff reductions/eliminations. (also no U.S.-specific quota is established)
Wheat	- Markup is reduced by 45% as with TPP (maintain the current state trading system, out of quota tariff (55 yen/kg)). - U.S.-specific quota is established as with TPP.
Barley	- Markup is reduced by 45% as with the TPP (maintain the current state trading system, out of quota tariff (39 yen/kg)). - No U.S.-specific quota is established.
Beef	- Tariff on beef will be reduced to 9% with the same details as specified in the TPP and a long-term tariff reduction period is ensured with a safeguard. - The safeguard trigger level for FY2020 is 242,000 t. Thereafter, the level will be gradually expanded in the same way as specified in the TPP, rising to 293,000 t in FY2033. - From FY2023 onwards, if the TPP11 Agreement is revised, discussions will be made to shift to the TPP overall trigger level including imports from the U.S. and TPP11 signatory countries.
Pork	- With the same details as specified in the TPP, tariff on the ad valorem duty portion will be eliminated and tariff on the specific duty portion will be reduced to 50 yen/kg. The gate-price system and its gateprice (524 yen/kg) are maintained and a long-term tariff reduction period is ensured with a safeguard. - The safeguard for the ad valorem duty portion is the TPP overall trigger level including imports from the U.S. and TPP11 signatory countries. The level will be 90,000 t in FY2022 and thereafter, it will be gradually expanded in the same way as specified in the TPP, rising to 150,000 t in FY2027.
Skimmed milk powder/butter	- No new U.S.-specific quota is established.
Whey	- With the same details as specified in the TPP, a long-term tariff elimination period with a safeguard is ensured for whey (protein content of 25 - 45%, less than 25%), which is likely to compete with skimmed milk powder.
Cheese	- Same details as specified in the TPP - No U.S.-specific quota is established for fresh cheese used for the ingredient for shredded cheese.

Provisions related to the U.S. tariffs

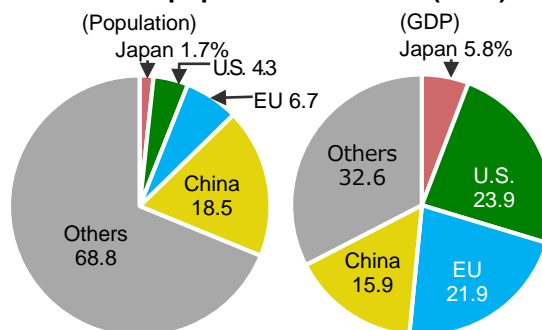
- Regarding beef, access to a low-tariff rate quota of 65,005 t is secured, which was the sum of the previous quota of 200 t for Japan and 64,805 t for other countries.
- Tariff reductions/eliminations are acquired for items that Japan has special interests to export (soy sauce, Japanese yams, cut flowers, persimmons, etc.).

Source: MAFF

Effect of the Agreement

- Japan-U.S. Trade Agreement came into effect on January 1, 2020.
- This consequently created a trade zone with a population of 450 million and a GDP of 25.5 trillion dollars, which is equivalent to 30% of the total world GDP.
- According to the Economic Impact Analysis by the Cabinet Secretariat, it is expected that the effect of the Japan-US Trade Agreement will push up the real GDP growth in Japan by about 0.8% (about 4 trillion yen), which will also increase labor supply by about 0.4% (about 280,000 people).

The share of Japan and the U.S. in the world population and GDP (2018)



Source: Prepared by MAFF based on data from the Ministry of Foreign Affairs

Revision of the Comprehensive TPP-related Policy Principles

- The conclusion of the Japan-U.S. Trade Agreement following the entry into force of TPP11 and the Japan-EU EPA has put Japan in a new international environment.
- The government provided a detailed explanation and information to the people and also revised the Comprehensive TPP-related Policy Principles in December 2019.
- The revised Principles included that MAFF will give consideration to motivated farmers, forestry and fishery workers who can demonstrate their creativity and originality to the fullest regardless of the size of their business and the type of environment they are in, such as hilly and mountainous areas; comprehensively promote the strengthening of production infrastructure that aims to increase the production/number of beef and dairy cattle farmed; establish a headquarters for exports.
- In the supplementary budget for FY2019, 325 billion yen was secured for competitiveness enhancement measures based on the revised Principles.
- In December 2019, MAFF published the estimated effects of the Japan-U.S. Trade Agreement on agriculture, forestry and fisheries production. MAFF estimated agriculture, forestry and fisheries production to decline by about 60 billion to 110 billion yen and about 120 billion to 200 billion yen when combining the effects of TPP11. MAFF expected that, while the production value would fall due to price drops accompanying tariff reductions, domestic measures would be taken to secure production and farm household income, with production volume being maintained.

Overview of the Comprehensive TPP-related Policy Principles

1. Building strong agriculture, forestry and fisheries (competitiveness enhancement measures)

Since the Principles were set out, various competitiveness enhancement measures have been implemented.

- Nurturing business farmers who have an excellent business sense and who will be responsible for the next generation Supporting a wide range of generations to be engaged in farming, expansion of farmland partitions/developing multipurpose farmland, measures for rice terrace/hilly and mountainous areas
- Exploring demand frontiers including the export of high-quality agricultural, forestry and fisheries products Establishment of a command tower for exports, creation of global production area
- Promoting the innovation of internationally competitive production sites The crop production base enhancement project, smart agriculture demonstration, nationwide land development
- Promoting comprehensive projects to enhance the profitability of livestock and dairy farming Stockbreeding cluster project, expansion of grassland partitions to support this, measures to increase the herd/production of beef cattle and dairy farm management
- Enhancing the international competitiveness of wood products including plywood, lumber and structural laminated wood
- Switching to sustainable, highly profitable business arrangements

2. Preparations for stable business and supply (related to five major products)

To secure business stability after the effect of the TPP, etc., the government will expand business stabilization measures upon the effect.

- Rice (revising the management of public rice reserves)
- Wheat/barley (implementing business income stabilization measures steadily)
- Beef/pork, dairy products (enhancing livestock and dairy farming stability measures)
- Sweetening resource crops (making sweetened prepared products subject to adjustment money collection)

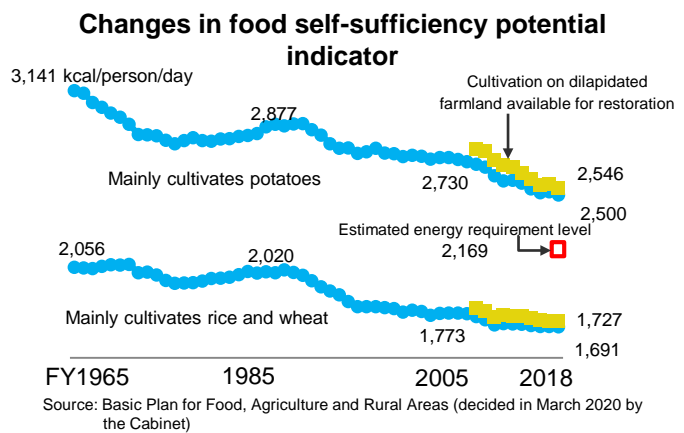
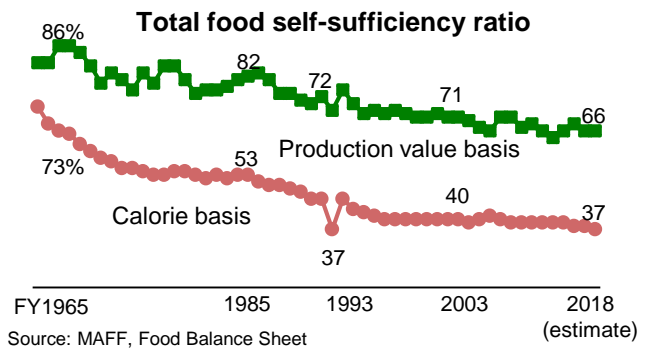
3. Promotion of intellectual property protection

- Geographical Indication (GI)
- Protection of new varieties of plants/Japanese beef cattle genetic resources

Source: Prepared by MAFF based on data from the Japanese Government's TPP Headquarters, Cabinet Secretariat

1. Food self-sufficiency ratio and food self-sufficiency potential

- In FY2018, due to the decrease in the production of wheat, etc., caused by adverse weather conditions, the food self-sufficiency ratio on a calorie basis decreased by 1 percentage point from the previous year to 37%, the lowest ever recorded. On a production value basis, the ratio stayed the same as the previous year at 66%.
- The food self-sufficiency potential indicator, which shows potential food production capacity, slipped below the estimated energy requirement level in rice/wheat-oriented cultivation and exceeded the levels in potato-oriented cultivation.
- To improve the food self-sufficiency ratio, it is necessary to strengthen the production base by promoting farmland consolidation and intensification for business farmers and recruiting new farmers, and promote consumption expansion, etc., of domestic agricultural products to consumers.

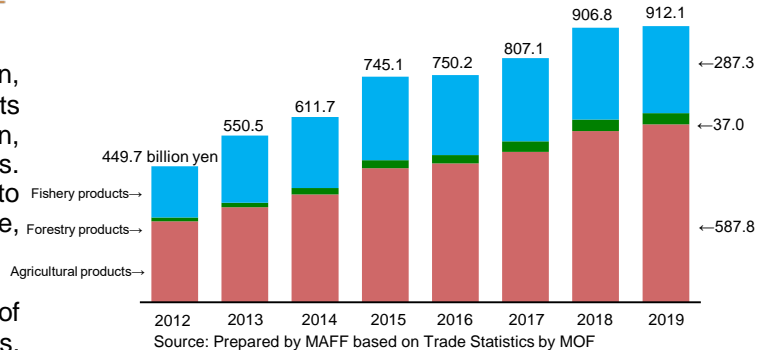


2. Strategic exploration of global market

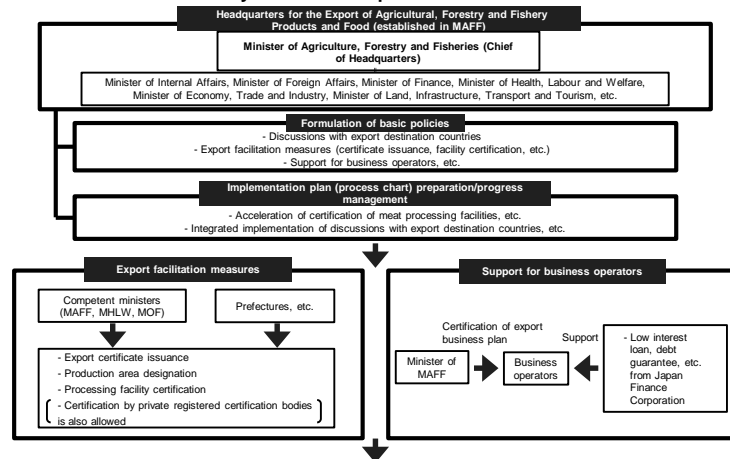
Promoting the export of agricultural, forestry and fisheries products and foods

- Although falling short of its target of 1 trillion yen, Japan's agricultural, forestry and fisheries products and food exports in 2019 was 912.1 billion yen, making a record high for seven consecutive years. Particularly, beef exports rose significantly due to the increased popularity of Japanese beef cattle, etc.
- Based on the Act on Promotion of Exports of Agricultural, Forestry, Fishery and Food Products, the Headquarters for the Export of Agricultural, Forestry and Fishery Products and Food was established in April 2020 as a command tower for export promotion.
- At the end of FY2019, 2,801 companies had been registered to GFP, a community site opened for producers with export ambitions to exchange and share opinions with other producers and hold negotiations. Also, 29 production areas approved the GFP Global Production Plan that meets overseas needs and regulations.
- Due to the progress of the animal and plant quarantine talks, 6 countries/regions lifted their bans or relaxed their quarantine requirements on 8 export items in FY2019, such as Thailand lifting its ban on Japanese pork exports.

Export of agricultural, forestry and fisheries products and foods



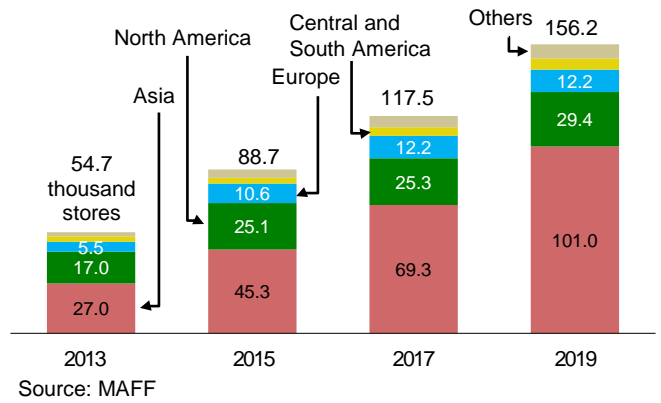
Developing a system for expanding the export of agricultural, forestry and fisheries products and foods



Promotion of Japanese food/food culture overseas

- In 2019, the number of overseas Japanese food restaurants reached about 156.2 thousand, an almost threefold increase from 2013.
- At the end of FY2019, a total of 4,776 stores have been recognized as Japanese Food and Ingredient Supporter Stores Overseas that proactively use food products made in Japan, a total of 1,375 foreign chefs have obtained Certification of Cooking Skills for Japanese Cuisine in Foreign Countries and a total of 109 persons have been recognized as Japanese Cuisine Goodwill Ambassadors, who effectively disseminate the appeal of Japanese food and dietary culture in Japan and abroad.

Number of overseas Japanese food restaurants



Utilizing standards and certification

- As of the end of FY2018, a total of 5,341 entities have acquired GAP certification for agricultural products, an initiative in which farmers check and improve their production process.
- For the mandatory implementation of HACCP scheduled in 2021, creating a manual for introducing sanitary control in line with HACCP and other necessary preparations were supported. As for the Japan-originated JFS (Japan Food Safety) certification, the number of certified establishments increased to 845 as of the end of FY2019.

Number of GAP-certified entities (agricultural products)

Japan's total	GLOBALG.A.P.	ASIAGAP	JGAP
	699	1,869	2,773

Source: Prepared by MAFF based on data published by the GAP Fukyu Suishin Kiko and the Japan GAP Foundation
 Note: As of the end of FY2018

Protection of intellectual property

- Based on the GI (Geographical Indications) protection system, which protects locally unique product names as intellectual property, 19 new products were registered in FY2019, resulting in a total of 94 products, as of the end of FY2019.
- A working group on the protection of new plant varieties was held to examine measures to control protected varieties to be exported without authorization by the right holder. A revision bill for the Plant Variety Protection and Seed Act was submitted to the Diet.

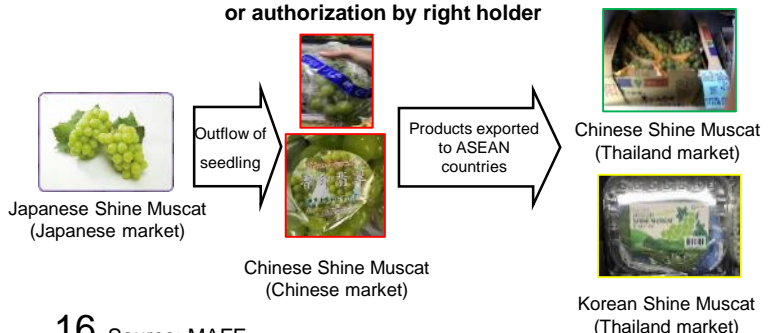
Products registered under the GI protection system in FY2019



Source: MAFF

- A study group on distribution management of the Japanese beef cattle genetic resources was established to examine measures to strengthen the production of the value of the Japanese beef cattle genetic resources as intellectual property. A revision bill for the Act for Improvement and Increased Production of Livestock for ensuring proper marketing of semen and fertilized ova for livestock artificial insemination and a bill to prevent unfair competition of livestock genetic resources for requesting an injunction against unfair competition of livestock genetic resources were submitted to the Diet.

An example of the protected variety to be exported without consent or authorization by right holder

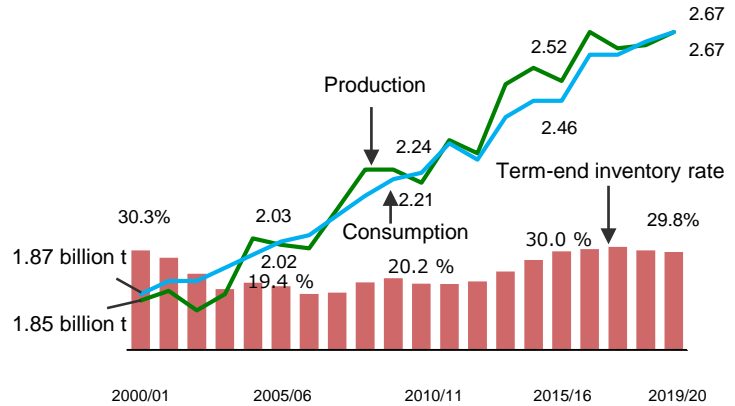


3. Global food supply and demand, and efforts for establishing food security

Global food supply/demand trends

- Global grain production increased for the second straight year mainly due to a yield increase, while global grain consumption increased due to population and income growth, etc.
- In 2019, the global population was 7.71 billion, which is expected to rise to 9.74 billion in 2050.
- Uncertainties, such as climate change, are present in the production of agricultural products.

Global grain production, consumption, term-end inventory rate

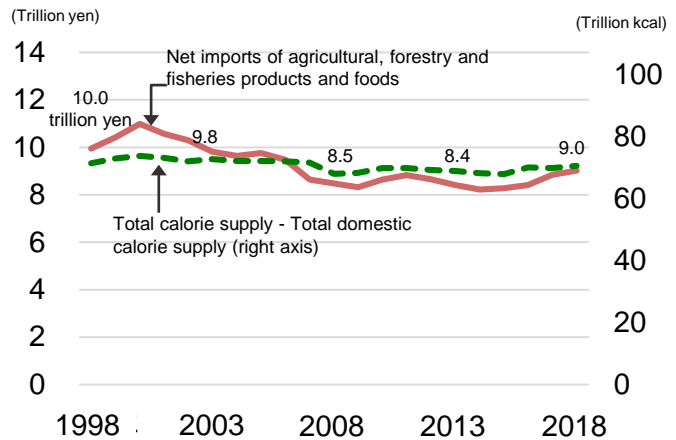


Source: Prepared by MAFF based on PS&D and World Agricultural Supply and Demand Estimates by the United States Department of Agriculture
Note: As of March 2020

Establishing comprehensive food security

- It is necessary to secure a stable food supply based on increasing domestic agricultural production in combination with imports and stockpiles.
- Imports of agricultural, forestry and fisheries products and foods are on an upward trend due to a rise in import prices owing to a weaker yen. Aside from price fluctuations, they are on a long-term declining trend. This is due to the decreasing total amount of calories supplied based on the total population.
- In 2019, corn imports were 384.1 billion yen, a 3.2% increase from the previous year and beef imports were 385.1 billion yen, a 0.1% increase from the previous year. On the other hand, wheat imports were 160.6 billion yen, a 11.3% decrease from the previous year and soybean imports were 167.3 billion yen, a 1.6% decrease from the previous year.
- To secure stable supply of major agricultural products dependent on imports from overseas, efforts are made to maintain/strengthen positive relations with export countries and collect related information.

Net imports of agricultural, forestry and fisheries products and foods

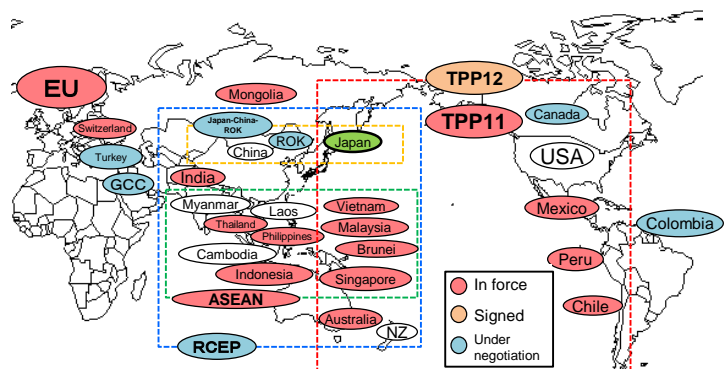


Source: MAFF

Agricultural products trade negotiations, maintaining/strengthening international relations

- As of the end of FY2019, Japan had put into effect or signed a total of 18 EPA/FTAs. Regional Comprehensive Economic Partnership (RCEP), etc. are still under negotiation.
- Taking advantage of the G20 Niigata Agriculture Ministers' Meeting held in May 2019, bilateral talks were held. Requested elimination/relaxation of import restrictions.

Status of EPA/FTA negotiations in Japan



Source: MAFF

4. Food consumption trends and promotion of shokuiku (food and nutrition education)

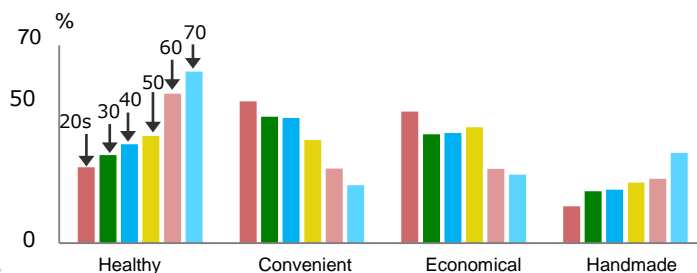
Food consumption trends

- By age, consumers preferring “healthy”, “handmade” and “domestically produced” food tended to increase as the age increased. Those preferring “convenient”, “economical” and “Gourmet” food tended to increase as the age decreased.

Promotion of *shokuiku* and protection/transmission of Japanese food culture

- Various *shokuiku* activities are promoted, such as providing support for cooking lessons and *shokuiku* classes for practicing a healthy and nutritionally balanced Japanese dietary pattern and offering opportunities for agricultural, forestry and fishery activities to increase consumer understanding and interest in food, agriculture, forestry and fisheries in Japan.
- While about half of the total population in Japan pass on Japanese food culture to the next generation, initiatives have started to create a database of the history and recipes of local cuisines in each region and disseminate the information to promote the protection/transmission of Japanese food culture.
- The Basic Act for the Promotion of Culture and the Arts was revised in 2017 and “food culture” was clearly stated. In 2018, the Person of Cultural Merit award was given to the “food culture” category for the first time in 30 years. The Agency for Cultural Affairs has started further study to evaluate and visualize the value of Japanese food culture as a cultural property.

Food preferences of consumers by age (January 2020)



Source: Prepared by MAFF based on Japan Finance Corporation, Survey on Consumer Trends



Local cuisines selected by each region

<Column> Certification system for healthy and nutritional meal patterns

- Establishment of the “Healthy meal and healthy food environment” certification system (common name: Smart Meal) As of December 2019, Smart Meals are offered by 304 companies and over 16,000 stores.



Smart Meal
スマートミール

Standards of “Smart Meal”

1	Energy equivalent is either 450-650 kcal per meal (<i>Chanto</i> (= adequate) diet) or 650-850 kcal per meal (<i>Shikkari</i> (= ample) diet).
2	As a guide, the basic combination of dishes is (1) Staple food + Main dish + Side dish or (2) Staple food + Supplementary food (main dish, side dish).
3	The PFC (protein-fat-carbohydrate) balance is within the range of the energy-providing nutrient balance for persons aged 18 years or older (PFC%E; proteins 13-20%E, fats 20-30%E, carbohydrates 50-65%E) provided in the Dietary Reference Intakes for Japanese (2015).
4	The weight of vegetables, etc. (vegetables, mushrooms, seaweeds, potatoes) is at least 140 g.
5	Salt equivalent is less than 3.0 g for the <i>Chanto</i> diet and less than 3.5 g for the <i>Shikkari</i> diet.
6	No standards are specified for milk, dairy products and fruits, but it is desirable to include them as appropriate.
7	Do not use food or ingredients for specified health uses.

5. Ensuring food safety and consumers' confidence

- Based on scientific evidence, MAFF develops and disseminates measures for preventing or reducing contamination in food at necessary stages throughout the food chain from production to consumption.
- The Act for Partial Revision to the Fertilizer Regulation Act promulgated in December 2019 requires measures, such as introduction of a raw materials control system, to be taken from the perspective of safer use of fertilizer.
- A procedure for handling agricultural, forestry and marine products and foods obtained by using genome editing technology has been established, which requires business operators, etc., to notify the relevant ministry prior to using such products. Then, the relevant ministry confirms the notification and publishes the information of the notified product..

Outline of the Act for Partial Revision to the Fertilizer Regulation Act

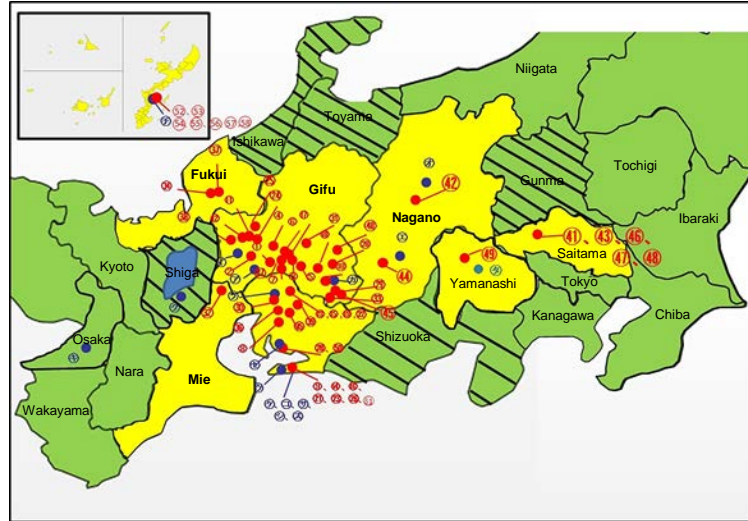
Key points of the revision

- Introduction of a fertilizer raw materials control system
 - Clarify that can be used for fertilizer by establishing standards, etc.
- Review of regulations on fertilizer mixture
 - It allows the production of fertilizers mixed with normal and special fertilizers and creates an environment where it is easy to work on labor saving and activities for soil improvement by simultaneous application.
- Development of fertilizer labeling standards
 - In addition to the labeling for composition, etc., establish standards also for the labeling for the effect of fertilizer, etc.
- Change of the title of the Act
 - The title of the Act was revised to Act on the Quality Control of Fertilizer.

6. Animal and plant quarantine

- The CSF (Classical Swine Fever) outbreak, which occurred in Japan in September 2018 for the first time in 26 years, has spread. As of the end of March 2020, 58 cases have occurred at farms in 8 prefectures.
- In addition to guidance on compliance with the Standards of Rearing Hygiene Management provided to farms, a new quarantine guideline was implemented in October 2019, which allowed giving prophylactic vaccinations to domestic pigs. Measures implemented to address the problem of wild boars, which are considered one of the transmission routes, include increasing the capture rate and establishment of a “vaccination belt” by spraying oral vaccines.
- In August 2018, ASF (African swine fever) occurred in China and spread to other Asian countries. ASF has no cure or prevention so that its spread can be a threat to the stable supply of livestock products. Therefore, strict border control has been implemented to prevent the entry of the virus in Japan. The Act on Domestic Animal Infectious Diseases Control revised in February 2020 allows for pre-emptive culling when an ASF outbreak occurs in Japan.
- In order to enhance measures against infection of wild animals, ensure the thorough implementation of rearing management at farms and strengthen import and export quarantine of livestock products, a bill to partially revise the Act on Domestic Animal Infectious Diseases Control was submitted to the Diet, which passed in March 2020.
- To prevent the entry/spread of plant diseases and pests in Japan, quarantine inspections on imported plants and emergency control of the entered pests have been implemented.

CSF outbreak locations



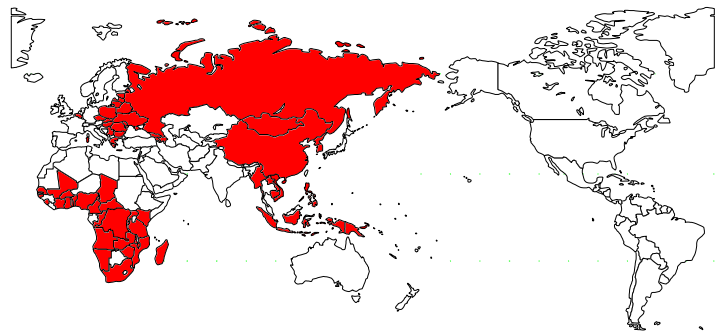
Source: MAFF

Notes: 1) As of the end of March 2020

- 2) Yellow areas are the prefectures with CSF infected domestic pigs or boars. Shaded areas are the prefectures with CSF infected wild boars.
- 3) The numbers are the farms with CSF infected pigs. Katakana letters are the farms, etc., whose animals are killed determining that they are suspected animals due to the movement of pigs from the affected farm.

ASF outbreak locations

■ = Countries/regions with outbreak reported to OIE, etc. after 2005

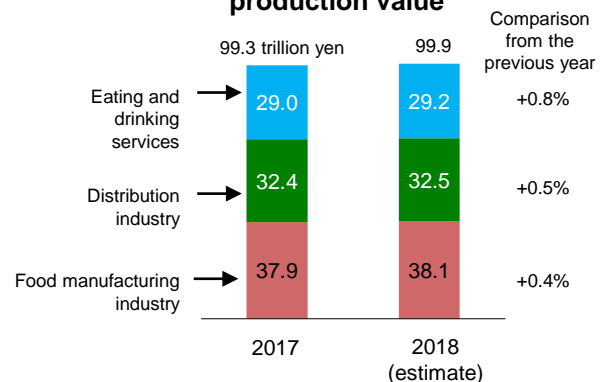


Source: MAFF (as of the end of March 2020)

7. Trends of food industry

- In 2018, the food industry's domestic production value was 99.9 trillion yen, a 0.6 trillion yen increase from the previous year.
- Compared to the previous year, the factory shipment value of seafoods, prepared foods, etc., increased in the food manufacturing industry, margin value of wholesale business increased in the distribution industry and sales of restaurants increased in eating and drinking services.

Changes in food industry's domestic production value



Source: MAFF, Economic Accounts for Agriculture and Food Related Industries

- Food manufacturing is facing problems of a labor shortage and securing human resources. In July 2019, Vision for Tackling the Labor Shortage Problem in the Food Manufacturing Industry was compiled.
- Japan's food loss and waste is 6.12 million t per year. In October 2019, the Food Loss Reduction Promotion Act was entered into force, stipulating the responsibilities of the national government, local governments and business operators, the roles of consumers, etc. Also, in the basic policy of the Food Waste Recycling Law, a target to reduce the amount of business-related food loss and waste to half has been set.
- Reviewing business practices is promoted, such as posting consumer enlightenment posters to reduce food loss and waste, easing the delivery date requirements by food retailers and displaying the expiry date in the year/month format by food manufacturers.
- In May 2019, the government formulated the National Action Plan on Marine Plastic Litter and the Plastic Resource Recycling Strategy. The agriculture, forestry and fisheries and food industries have taken several measures, such as reducing volume by using thinner and lighter containers and packaging, and conducting research and development on easily recyclable materials and products.

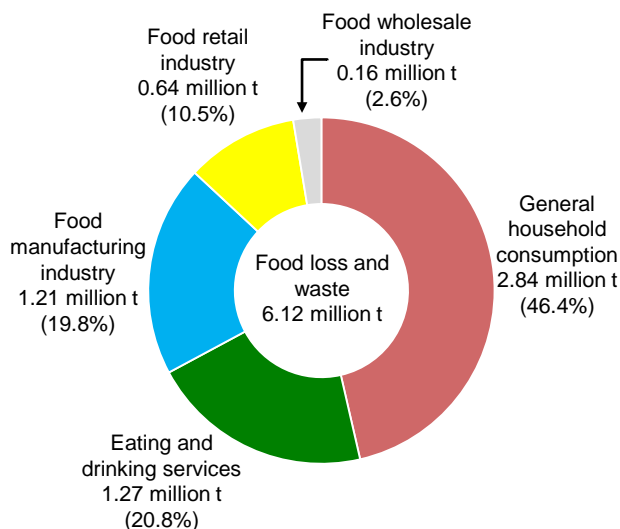
Vision for tackling the labor shortage problem in the food manufacturing industry

Direction of future measures (key points)

- (1) Increase the motivation of employees.
- (2) Improve productivity by introducing IT/mechanical equipment.
- (3) Utilize diverse human resources.

Source: MAFF

Amounts and locations of food loss and waste (FY2017 estimation)

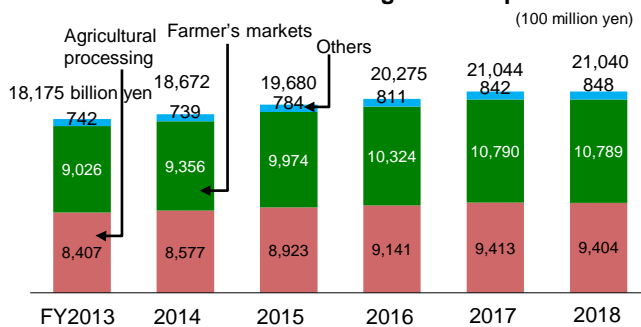


Source: MAFF

8. Creation of new values through production, processing and distribution stages

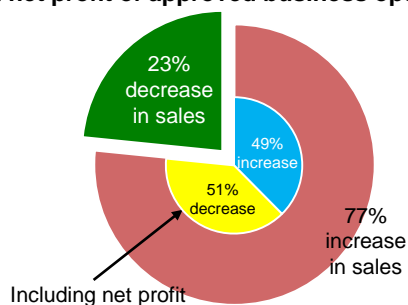
- Total sales from agricultural production-related initiatives, such as processing and farmers' markets, in FY2018 were 2,104 billion yen, equivalent to the previous year.
- According to a survey of business operators whose integrated business plans have been approved under the Act on Promotion of the "Sixth Industry" to Create New Value Added Using Agricultural Products In Rural Areas, nearly 80% of business operators saw increased sales but half of them saw decreased net profit. The main factors were an increase in the labor and depreciation costs associated with starting the business and an increase in expenses due to soaring prices of materials, etc.
- To improve management, measures, such as the development of a support system by financial planners, are promoted.

Total annual sales related to agricultural production



Source: MAFF, Comprehensive Survey on AFFRinnovation

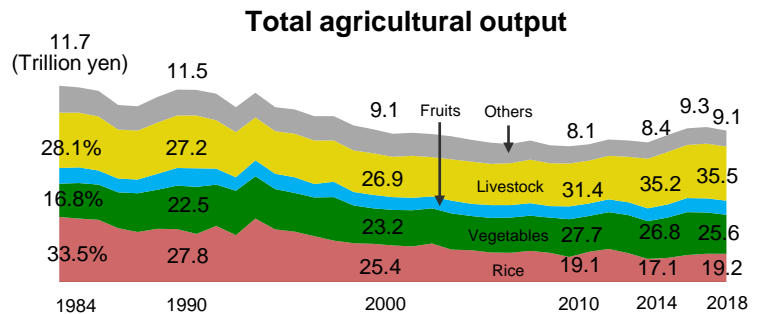
Sales and net profit of approved business operators



Source: MAFF

1. Trends of agricultural output, agricultural production income, etc.

➤ Total agricultural output increased for the third straight year since 2015 due to demand-based production, etc., but the total agricultural output in 2018 was 9.1 trillion yen, a 2.4% decrease from the previous year due to the lower prices of vegetables, pork, hen eggs, etc., following the increase in production volume.



Source: MAFF, Statistics of Agricultural Income Produced

➤ Agricultural income per entity in 2018 increased from the previous year in greenhouse grown vegetable farming and fruit farming, but it decreased in paddy field farming, dairy farming and fattening cattle farming.

Management conditions per entity (Unit: ha, 10,000 yen)

		2014	2015	2016	2017	2018	
Paddy field farming	Paddy field farming's aggregate planted area of crop	1.83	1.92	2.01	2.14	2.23	
	Agricultural income	34.3	63.3	77.6	89.6	72.4	
	20ha or more	Paddy field farming's aggregate planted area of crop	36.04	40.20	42.24	45.04	43.55
		Agricultural income	1,363.5	1,808.8	1,967.2	2,247.2	1,719.7
Greenhouse grown vegetable farming	Greenhouse grown vegetable farming's aggregate planted area of crop	0.47	0.51	0.53	0.54	0.55	
	Agricultural income	429.5	509.9	572.9	522.5	543.7	
	2ha or more	Greenhouse grown vegetable farming's aggregate planted area of crop	4.09	4.74	4.38	4.86	4.55
		Agricultural income	1,260.4	1,579.7	2,163.6	1,446.0	1,940.9

Source: MAFF, Management Status Per Agricultural Entity Based on the Statistics on Management by Farming Type (estimate)

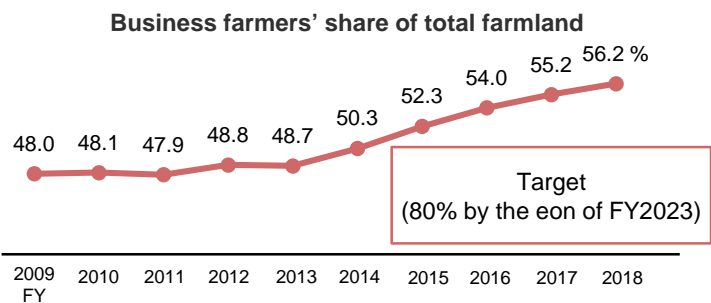
Note: Results of weighted average of the survey results of individual entities and organized/corporation entities by the number of entities in the population (Census of Agriculture and Forestry) per entity

2. Promoting structural reform of agriculture

Farmland accumulation and consolidation through operation of the Public Corporation for Farmland Accumulation to Business Farmers through Renting and Subleasing (Farmland Banks)

➤ The total farmland area in 2019 was 4.40 million ha, a decrease of 23,000 ha from the previous year.

➤ As a result of the Farmland Bank initiative launched in 2014, business farmers' share of total farmland rose each year, reaching 56.2% at the end of FY2018.



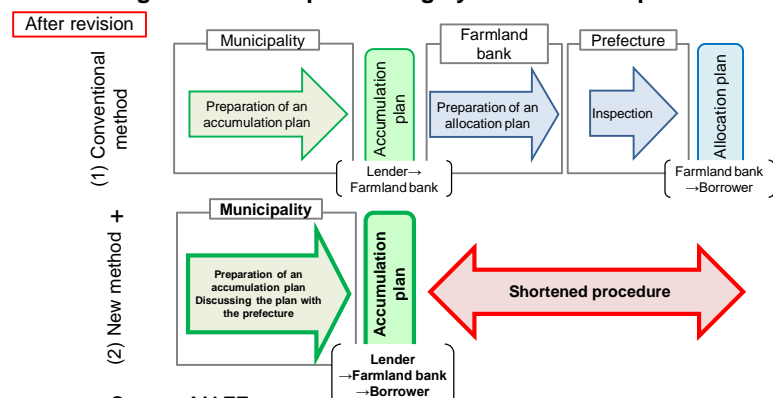
Source: MAFF

Note: Covering accumulation through means other than farmland banks

➤ To achieve the 80% target of the business farmers' share of total farmland by the end of FY2023, the revised Farmland Banks Act was promulgated in May 2019 and promoted the realization of "the Farmers and Farmland Plans".

➤ Further, farmland accumulation and consolidation for business farmers are accelerated by simplifying borrowing and subleasing farmland through Farmland Banks.

Image of one-time processing by accumulation plan

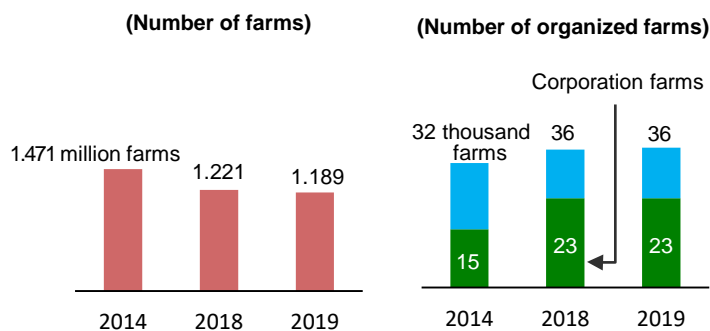


Source: MAFF

Developing and securing business farmers and strengthening human resources

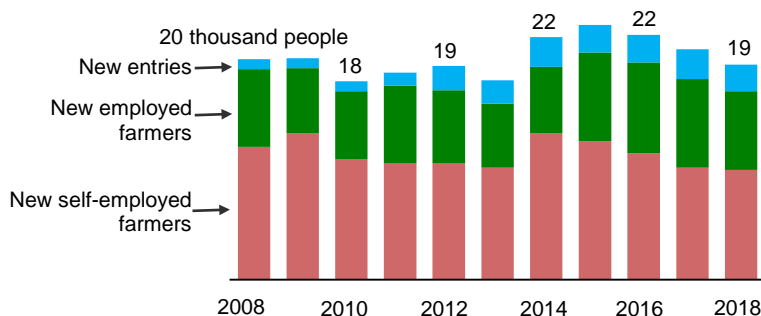
- The number of core persons engaged mainly in farming in 2019 decreased by 3.2% from the previous year to 1.404 million, with their average age standing at 67.
- The number of farms decreased by 2.6% from the previous year to 1.189 million farms. While the number of farms decreased, the number of corporation farms increased by 3.1% from the previous year to 23,000 due to their easier employment and business continuation.
- Amid intensifying competition for human resources with other industries, the number of newcomers in agriculture aged 49 or younger was 19,000 in 2018, which has been decreasing in recent years.
- In FY2019, the Investment Project for Next Generation of Farmers that supports young newcomers has extended the conventional age requirement for its benefit payment, which was age 44 or younger, to age 49 or younger to promote the use of the Project to solve the shortage of business farmers in hilly and mountainous areas.
- To address an increasingly serious labor shortage, Specified Skilled Worker Residency Status was established in April 2019 to accept new foreign workers. As of the end of March 2020, 686 foreign workers have been accepted in the agricultural sector.

Numbers of farms and organized farms



Source: MAFF, Survey on Movement of Agricultural Structure, 2015 Census of Agriculture and Forestry

Number of 49-year-old or less newcomers in agriculture



Source: MAFF, Survey on Newcomers in Agriculture

Implementation of revenue insurance

- A revenue insurance system was launched in January 2019 which compensates for income loss caused by not only natural disasters but also various risks. This is only available to farmers who file the blue form tax returns.
- In 2019, 23,000 farms enrolled in the insurance.
- From 2020, a new type will be created that offers an up to 40% discount in insurance premiums when the lower limit of compensation is selected. Agricultural mutual relief associations, governments, agricultural cooperatives and other related organizations are working to promote the enrollment by establishing promotion systems.

<Overview of revenue insurance>

- Insurance premium rates are around 1%, with 80% or more of the standard revenue being insured.
- The revenue insurance covers not only natural disasters but also a wide range of agricultural business risks such as price drops for all agricultural products.

<Example risks covered by revenue insurance>

<p>Yield declined due to natural disasters or wild animal damage</p>	<p>Market prices dropped</p>	<p>Disasters made planting impossible</p>
<p>An injury or disease hampered harvests</p>	<p>Warehouse flooding made products unavailable for sale</p>	<p>Exchange rate fluctuations caused a huge loss on exports</p>

*Up to 40% discount is offered when 70% of the standard revenue is selected as the lower limit of compensation.

Source: MAFF

<Case study> Voice of the insured person (Hokkaido Prefecture)

- Considering the risk of fluctuation in the market prices of vegetables, such as Japanese yams, I have been working to build a stable management program by increasing contract cultivation, but since it is not perfect, I also enrolled in the revenue insurance where income loss caused by price falls, etc., is also covered for compensation.



Yoshitsugu Kuroda

Source: MAFF

3. Developing and conserving agricultural production infrastructure

Enhancing agriculture's competitiveness through expanding farmland partitions, developing multipurpose paddy fields and converting paddy fields into upland fields

- In 2018, 66% of rice paddies had been consolidated into 30 a or larger partitions, 70% were well drained and available as upland fields. Irrigation facilities had covered 24% of upland fields.
- Expanding farmland partitions, developing multipurpose paddy fields and converting paddy fields into upland fields can promote farmers to introduce smart agriculture and switch to a farming system that incorporates highly profitable crops, such as vegetables.
- The productivity at the construction sites for agriculture and rural area development has improved through computer-aided measures using information and communications technologies.

Extending service lives of agricultural irrigation facilities

- Developed agricultural irrigation facilities include core channels totaling 51,154 km and 7,582 core facilities including dams and diversion weirs.
- Systematic and efficient repairs, updates, etc., are implemented to extend the lives of facilities and reduce life cycle costs.

<Case study> Farmland development project in collaboration with Farmland Banks (Aichi Prefecture)

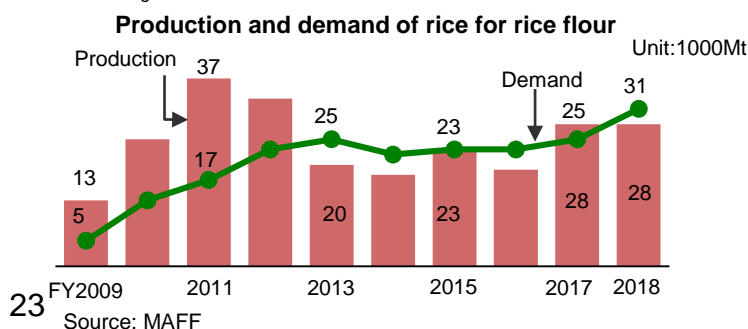
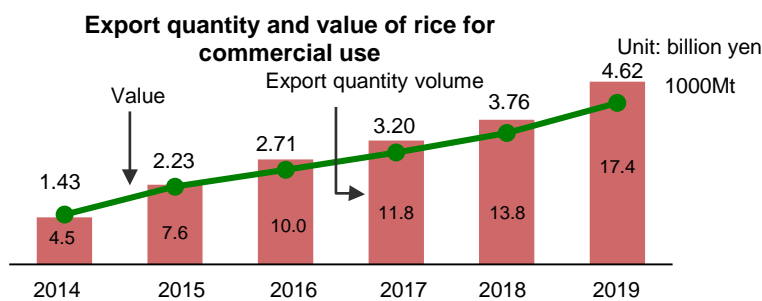
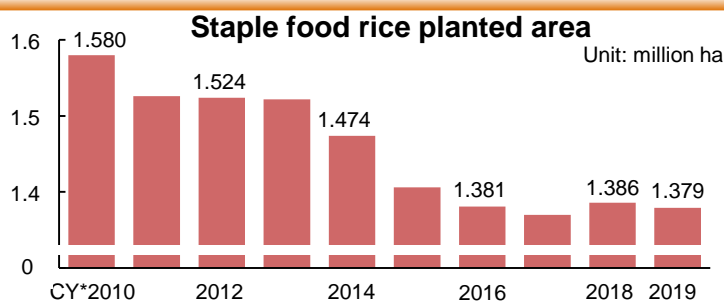
- Wajiota District in Tahara City, Aichi Prefecture was developed as paddy fields but most of it has become dilapidated farmland. It has been arranged to convert paddy fields to upland field, but it is not realized due to the problem of cost sharing.
- In response to the establishment of a farmland development project related to Farmland Banks to implement farmland development without costs for farmers, the project was launched to consolidate the farmland to 12 business farmers.
- To achieve more efficient land use by farmers, enlargement of paddy fields and conversion of paddy fields to upland fields are promoted. (scheduled to be completed in 2023).



District implemented with infrastructure development

4. Trends of rice policy reform

- Given the decline in annual rice consumption, the government abolished administrative allocation of a production target from CY2018, switched to a policy of leading production areas and producers to produce and sell various types of rice in line with demand and is promoting the policy so it becomes firmly established.
- While Japan's staple food rice planting area in CY2019 decreased by 7,000 ha from the previous year, the rice crop condition index was limited to 99, resulting in a 0.9% decrease in production to 7.26 million Mt. Prices remained almost at the same level as the previous year.
- As demand for staple food rice is expected to continue decreasing, farmers are encouraged to switch to strategic rice paddy products, such as wheat, soybeans, rice for rice flour and rice for feed, and highly profitable crops, such as vegetables and fruit trees, which are in demand.
- Exports of rice for commercial use have increased about fourfold over the last five years. Measures, such as development of overseas demand by exporters and linking between exporters and production areas, are promoted.
- The demand for rice for rice flour increased by 24% in CY2018 due to the operation of the third party certification system for non-gluten rice flour products, etc.

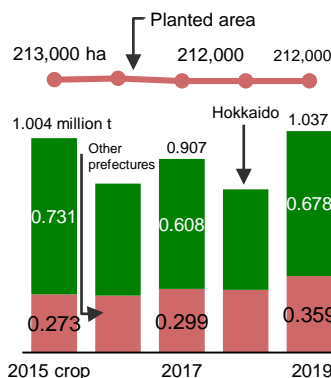


5. Production trends for major farm and livestock products

Wheat/Soybeans

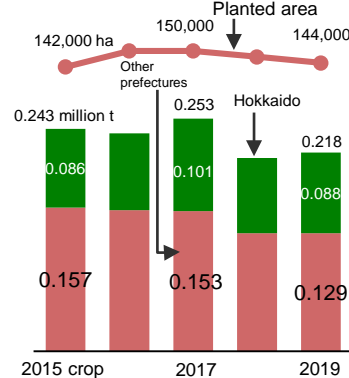
- The yield of wheat produced in 2019 increased by 36% from the previous year due to favorable weather conditions, etc. The yield of soybeans remained about the same as the previous year.
- Given the growing demand for domestic wheat and soybeans, it is necessary to realize/stabilize the quality according to demand. Therefore, various measures are promoted, such as strengthening collaboration with the food industry, cost reduction through smart agriculture, drainage measures and development/introduction of new varieties with excellent processing suitability, etc.

Wheat planted area and yield



Source: MAFF, Statistics on Crops

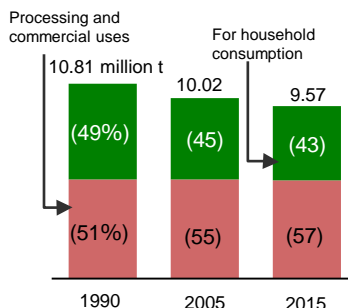
Soybean planted area and yield



Vegetables

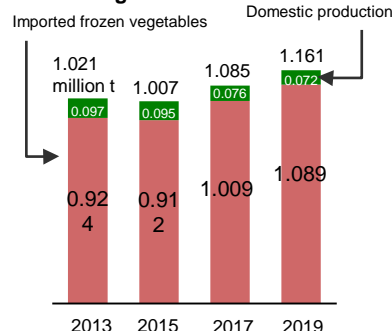
- Vegetable production in 2018 decreased by 2.1% from the previous year due to the adverse weather conditions.
- Demand for processing and commercial uses expanded to 60% of the total. In particular, frozen vegetables are on the rise due to their convenience, etc. Imported frozen vegetables account for most of the domestic distribution volume.
- To strengthen the production system to meet these new demands, various measures are promoted in collaboration with multiple production areas, such as the development of production base operators who will provide a stable supply to buyers and creation of new production areas utilizing paddy fields.

Supplies for processing and commercial uses and household consumption (main vegetables)



Source: Policy Research Institute, Ministry of Agriculture, Forestry and Fisheries
 Notes: 1) Estimated by using vegetables designated as main items (13 items).
 2) Figures in parentheses indicate the ratios of vegetables for processing and commercial uses and household consumption.

Domestic distribution volume of frozen vegetables

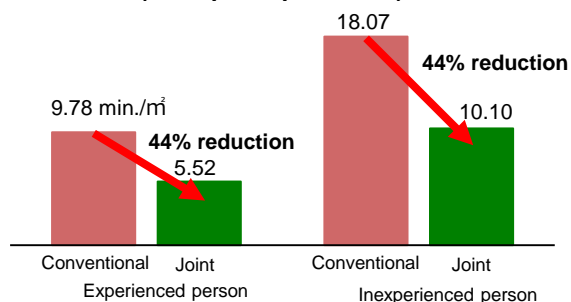


Source: Prepared by MAFF based on Production and Consumption of Frozen Food Products by Japan Frozen Food Association
 Note: Distribution volume of frozen vegetables is the sum of imports and domestic production.

Fruits

- Fruit production in 2018 increased by 0.9% from the previous year, which was affected by adverse weather conditions.
- To secure the production in line with demand amid the weakening production base, introduction of labor-saving tree forms that can improve labor productivity is promoted.
- While externalization/simplification of diet is progressing, supplies of fruits and processed fruits that meet consumer needs, such as deliciousness and easiness to eat, are promoted.

Pruning labor saving effect of the joint method (Example of pear trees)



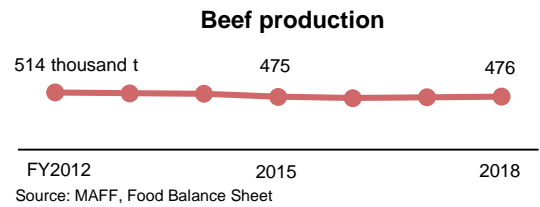
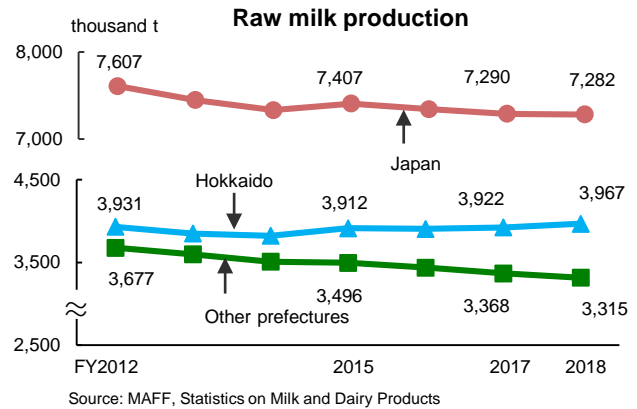
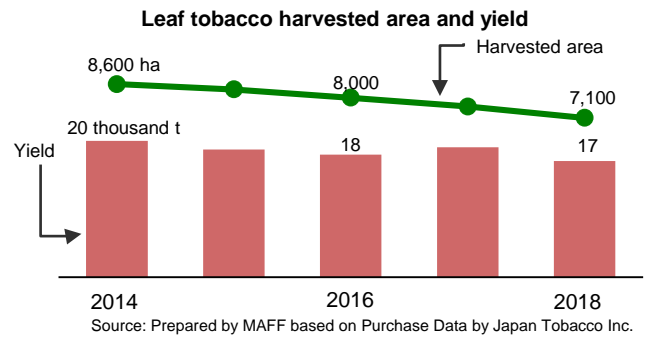
Source: Kanagawa Agricultural Technology Center, "Joint tree method for Japanese pear trees - Towards achieving early yield and developing labor-saving/low-cost cultivation technology"

Leaf tobacco

- While the planted area and yield of leaf tobacco are decreasing due to the aging of farmers, JT provides support for improving productivity.

Livestock products

- While the number of households raising livestock decreased for each livestock category, the number of animals raised per household increased, indicating the growth of large-scale production..
- Japan's total raw milk production still remains on a declining trend because while the raw milk production is increasing in Hokkaido, it is decreasing in other prefectures. However, given that the number of heifers less than 2 years old, which will be raised for milk cows, is increasing, raw milk production is expected to recover.
- Beef production increased for the second straight year due to an increase in the number of breeding cows.
- To respond to the growing domestic demand for dairy products and beef and expand exports, various measures are promoted, such as strengthening the production base by awarding financial incentives to cattle farmers for increasing their stock of dairy and beef cows and succession of the management base by improving facilities run by small and medium sized-business owners and families.



6. Promoting measures to enhance agricultural production competitiveness

Promoting smart agriculture

- Since FY2019, Smart Agriculture Demonstration Project, which introduces/demonstrates smart agriculture technologies at production sites, has been launched in 69 districts across the country and its management effects will be verified over two years.
- In April 2019, the operation of Agricultural Data Collaboration Platform (WAGRI), which allows collaboration and use of various agricultural data, was started and the participating companies began to offer services using WAGRI.
- To further spread agricultural drones, environmental improvements have been made in July 2019, such as facilitating the procedure for the aerial spraying of pesticides.

Main examples of the Smart Agriculture Demonstration Project



Variable fertilizer rice planter (Niigata City, Niigata Prefecture)

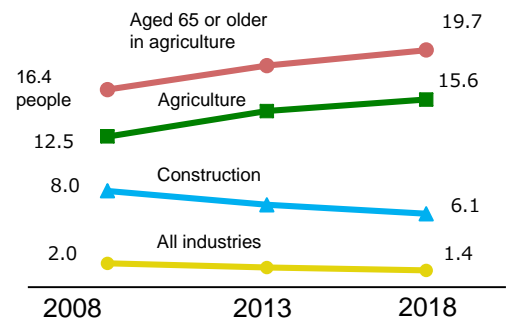


Wireless remote mower (Yabu City, Hyogo Prefecture)

Promoting farming safety measures

- The number of people who died due to accidents during farming per 100,000 people was 15.6, which was higher than other industries.
- Accidents related to agricultural machinery work are the main cause of farming accidents. To reduce the number of these accidents, various measures are being promoted, such as installation of safety cabins and frames on tractors and wearing seat belts and helmets.

The number of deaths caused by farming accidents per 100,000 people



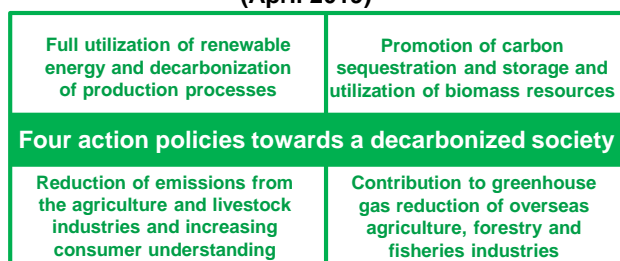
Source: Prepared by MAFF based on Fatal Accident Report by MHLW; Labor Force Survey by MIC; Survey on Fatal Accidents in Agriculture, Census of Agriculture and Forestry and Survey on Movement of Agricultural Structure by MAFF

7. Promotion of environmental policy such as responses to climate change

Promoting climate change mitigation/adaptation measures, etc.

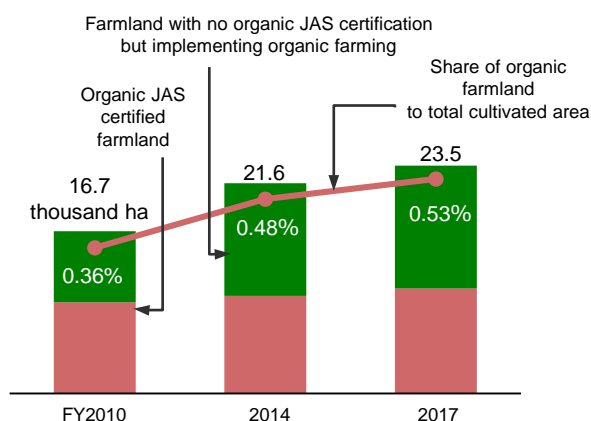
- According to the IPCC Special Report on Climate Change and Land released in August 2019, agriculture, forestry and other land use activities account for around 23% of global total net anthropogenic greenhouse gas emissions.
- In April 2019, MAFF compiled the Basic Concept of Agriculture, Forestry and Fisheries Towards a Decarbonized Society, promoting efforts to achieve a significant reduction of greenhouse gases under the four action policies.
- To adapt to inevitable climate change, development and dissemination of varieties and technologies that prevent/reduce the impact on agriculture is promoted, such as paddy field rice that does not deteriorate under high temperatures.

Basic Concept of Agriculture, Forestry and Fisheries Towards a Decarbonized Society (April 2019)



Source: MAFF

Japan's organic farming area



Source: MAFF

Promotion of ecofriendly agriculture

- The Japanese organic food market expanded 1.4 times in about 10 years. The organic farming area also expanded by 40% to 24,000 ha but it only accounts for 0.5% to the total farming area.
- In the new Basic Policy on the Promotion of Organic Farming, production and consumption targets are set for increasing production of organic farming and expanding domestic products share in Japanese organic market.

Targets of the new Basic Policy on the Promotion of Organic Farming

[Organic farming area]	23,500 ha (2017) → 63,000 ha (2030)
[Number of organic farmers]	11,800 people (2009) → 36,000 people (2030)
Domestic products share in Japanese organic market]	60% (2017) → 84% (2030)
[Percentage of consumers who use organic foods at least once a week]	17.5% (2017) → 25% (2030)

Source: MAFF

8. Agriculture-related organizations supporting agriculture

- During the agricultural cooperative reform intensive promotion period, progress has been made in the self-reform efforts aimed at increasing the farmers' income, such as the advantageous sale of agricultural products and the advantageous procurement of production materials.
- With the establishment of the Agricultural Committee Members for promotion of optimized farmland usage separate from the existing Agricultural Committee members, efforts of the Agricultural Committee to optimize the use of farmland in each region are expected to be vitalized.

Questionnaire on reform of agricultural cooperatives

(Unit: %)

Category	Respondents	FY2016	FY2019
Regarding the review of agricultural product sales business, those who responded "concrete measures have been initiated"	Total JAs	68.0	91.4
	Farmers	25.6	40.4
Regarding the review of production material procurement business, those who responded "concrete measures have been initiated"	Total JAs	65.5	91.7
	Farmers	24.0	43.7

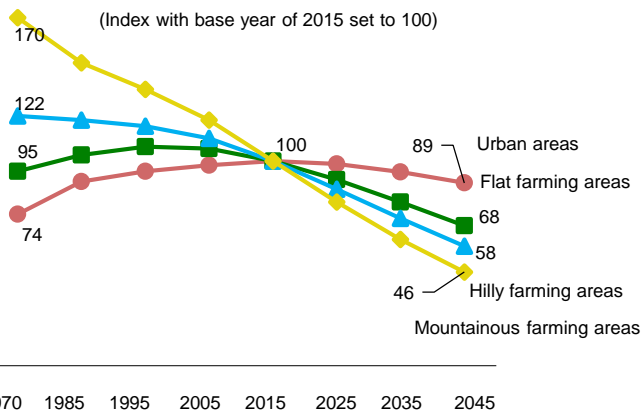
Source: MAFF, Questionnaire survey on JA Self-Reform (released in September 2019)

Chapter 3 Taking Advantage of Local Resources to Promote and Vitalize Rural Areas

1. Current status of rural areas and trends of regional empowerment

- While it is projected that the population will decrease in all types of areas, including urban areas, by 2045, there is a growing movement centered on young people who are interested in “returning to rural living” from urban areas.
- In the second phase of the Comprehensive Strategy for Revitalizing Towns, People and Work formulated in December 2019, it is stated that related ministries and agencies will work together to implement measures to rectify the over-concentration of people in the Tokyo metropolitan area.
- Under the Act on Promotion of Specified Regional Development Business, various regional jobs are combined to create employment opportunities throughout the year and promote the settlement of young people in rural areas.

Population changes and future forecast by classification of agriculture area
(Index with base year of 2015 set to 100)



Source: Policy Research Institute, Ministry of Agriculture, Forestry and Fisheries, Future Projections for Population in Rural Areas and Agricultural Communities - Agricultural Structure in 2045

2. Promoting agriculture in hilly and mountainous areas

- Hilly and mountainous areas account for 10% of Japan’s population and 40% of its total farming area and output, playing a key role in performing multiple functions including food production.
- Infrastructure development and revitalization are promoted, aiming to create 250 districts by FY2024 that will make various initiatives using local resources, such as contributing to increasing income in hilly and mountainous areas.
- The Act on vitalization of Tanada region came into effect in August 2019. Comprehensive support across relevant ministries and agencies is provided for initiatives/activities which various regional entities collaboratively take part in.

<Case study> Regional vitalization focused on rice terraces (Nagasaki Prefecture)

- Kasuga Village in Hirado City, Nagasaki Prefecture was designated as an Important Cultural Landscape by the Agency for Cultural Affairs. Taking this opportunity, the village has established tourist guide boards and promenades in consideration of history and scenery, been offering agricultural experiences utilizing abandoned farmland and commercialization of Japanese sake and other products using rice grown on terraced fields.
- In 2018, the village was registered as a World Heritage Site and the number of visitors increased to 20,000 people.
- In the village, the residents welcome visitors at the information center which was renovated from a vacant house.

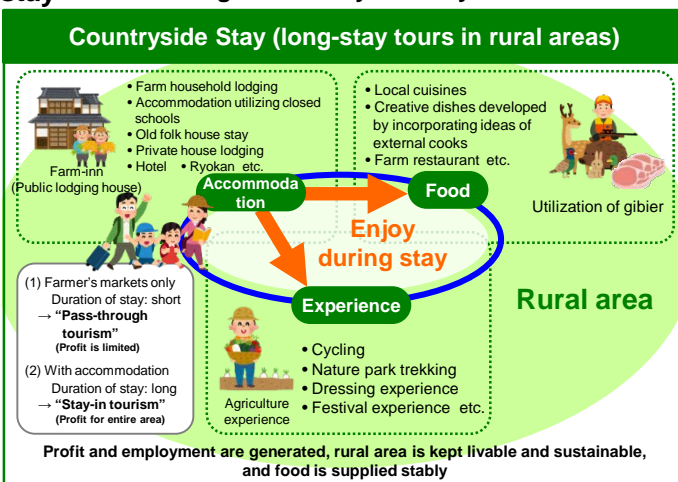


Hospitality provided by the Kasuga Village

3. Harmonious coexistence and interactions between cities and rural areas centered on countryside stay

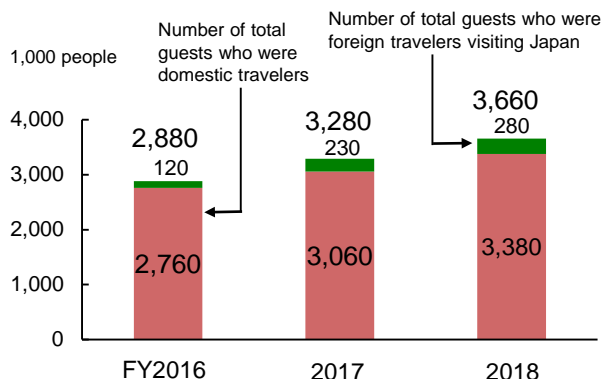
- Aiming to create areas prepared for countryside stay business, MAFF has selected 515 areas and supports their efforts for countryside stay.
- Up to FY2018, 349 areas had been supported by MAFF and the total number of guests, including foreign tourists, who stayed in these areas increased from 2.88 million in FY2016 to 3.66 million in FY2018.

Image of countryside stay



- The number of regions certified as SAVOR JAPAN regions that utilize mainly local food, and agriculture, forestry and fisheries to attract mainly foreign travelers increased to 27, including 6 new regions certified in FY2019.
- In 2019, the Discover Countryside Treasures in Japan program selected 31 areas and 5 people as excellent examples of revitalizing communities and/or rising income by drawing out the potential of the rural areas. Also, the Summit participated in by the areas selected until then was held.

Total number of guests



Source: MAFF
 Notes: 1) Targeted 349 countryside stay areas supported by FY2018
 2) As of the end of April 2019

<Case study> Increased visitors from overseas and cities through countryside stay (Miyazaki Prefecture)

- Forestpia Takachiho-go Tourism Association covering five towns in Miyazaki Prefecture, Takachiho, Hinokage, Gokase, Morotsuka and Shiiba, was established in 2012 as an initiative to increase visitors.
- By offering rural living experience, cultural exchange programs, such as straw and bamboo work and local cuisine, the Association attracts general travelers and students on overseas school trips.
- The first SAVOR JAPAN certified region in Kyushu.



A renovated old folk house rented for countryside stay, Corasita (Western-style room)

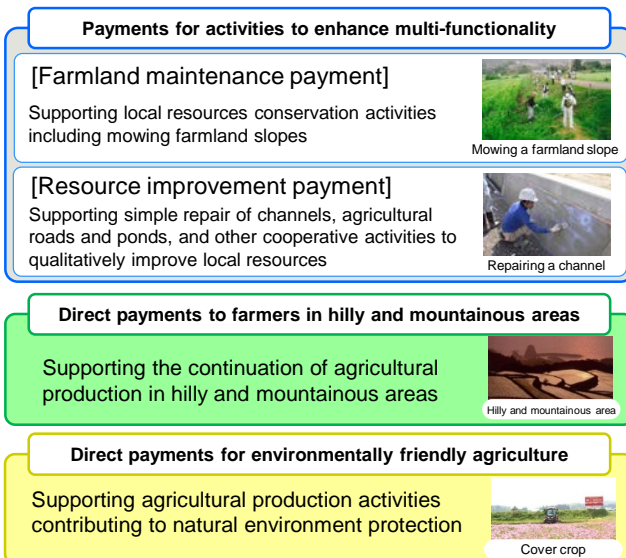


(Japanese-style room)

4. Maintaining and demonstrating multifunctional roles of agriculture and rural areas

- The effects of agriculture and rural areas' multifunctional roles (conservation of national land, cultivation of water resources, conservation of the natural environment, formation of good landscapes, maintenance of cultural traditions, etc.) are an important asset of not only rural residents but also all people, and it is important to continue agriculture to maintain and bring out these effects. It is also important to deepen the understanding of the people.
- The payment for activities to enhance multifunctionality has brought about various effects including non-farming people's growing participation where 2.42 million people and groups participated in joint activities in FY2018, and the appropriate conservation and management of agricultural irrigation facilities.
- The direct payment to farmers in hilly and mountainous areas has contributed to preventing the reduction of 75,000 ha of farmland.
- Activities supported by the direct payments for environmentally friendly agriculture contributed to reducing greenhouse gas emissions by 140,000 t a year.
- Initiatives towards branding of agricultural products and promotion of tourism are implemented that take advantage of the designation of Globally Important Agricultural Heritage Systems(GIAHS), Japanese Nationally Important Agricultural Heritage Systems(J-NIAHS) or World Heritage Irrigation Structures.

Outline of the Japanese agricultural direct payment system



Source: MAFF



Kakegawa area, Shizuoka Prefecture
Green tea popcorn

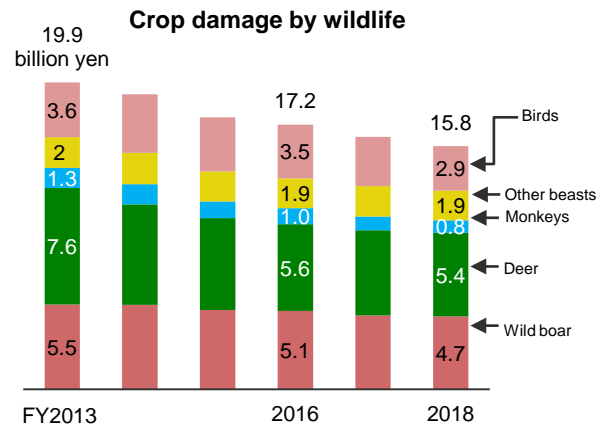


Kunisaki Peninsula Usa area,
Oita Prefecture
Brand certified rice

5. Wildlife damage and Gibier

Current status of wildlife damage and countermeasures

- Wildlife damage has been decreasing every year to 15.8 billion yen in FY2018, however, such damage discourages farmers from continuing agriculture or encourages them to abandon cultivation, posing serious impacts on rural areas.
- Based on the Act on Special Measures for Prevention of Damage Related to Agriculture, Forestry and Fisheries Caused by Wildlife, 1,198 municipal governments have established wildlife damage countermeasure teams as of the end of April 2019.
- The ICT-supported traps have also been deployed. The numbers of deer and wild boars captured have doubled in 10 years. On the other hand, there are still areas that are seeing increased damage, so measures that are tailored to the actual situations of each region are necessary.

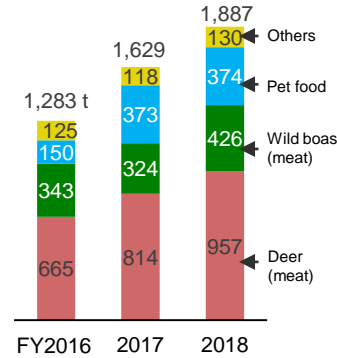


Source: MAFF

Growing Gibier Consumption

- Gibier consumption in FY2018 increased by 15.8% from the previous year to 1,887 t. The gibier utilization rate stood at 13% for deer and 6.0% for wild boars, both remaining low. Also, considering the impact of CSF infected wild boars on the meatpacking facilities in the affected areas, efforts are made to promote the conversion to deer meat use and prevent the spread of infection in wild boars.
- Efforts, such as the establishment of a domestic gibier certification system to ensure customers' security concerning gibier and the promotion of gibier, are made to promote the expansion of demand for gibier.
- Deer meat has been attracting attention as being a low-calorie and highly nutritional ingredient. Consumption by athletes is also expected.

Gibier consumption



Gibier certification mark

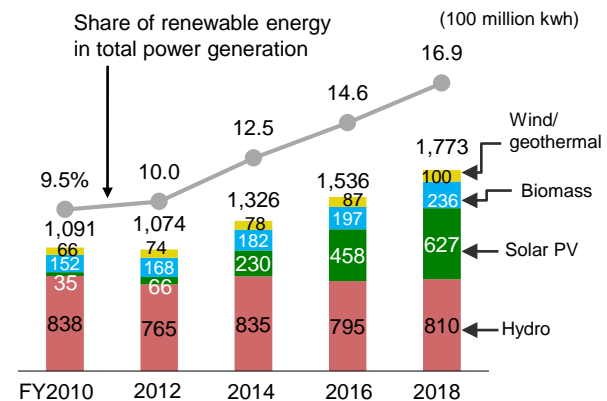


Source: MAFF, Fact-finding Survey on Wildlife Resources Utilization
 Note: "Others" indicate wildlife meat other than deer and wild boars, meat for household consumption, etc.

6. Utilizing renewable energy

- The Long-term Energy Supply and Demand Outlook indicates a target of boosting renewable energy's share of total power generation to 22-24% by FY2030. The share in FY2018 rose by 0.9 percentage points from the previous year to 16.9%.
- Under the basic policy based on the Act on Promoting the Generation of Electricity from Renewable Energy Sources Harmonized with Sound Development of Agriculture, Forestry and Fisheries revised in July 2019, the target of economic scale, such as revenues related to the electricity/heat generated from renewable energy sources, is set to 60 billion yen.
- By supporting the introduction of biogas plants, etc., the realization of local energy production and consumption and establishment of a new management model that also utilizes byproducts as fertilizer are promoted.

Renewable energy's share of total power generation

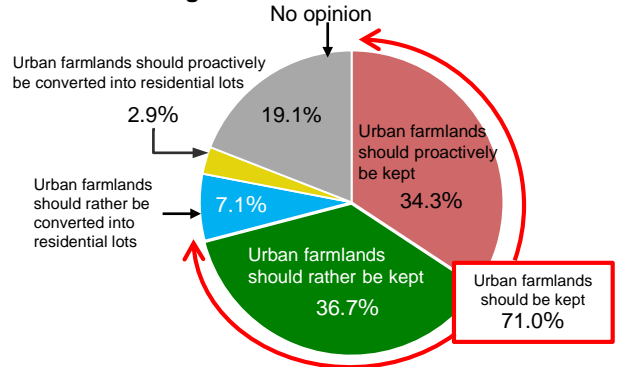


Source: Prepared by MAFF based on General Energy Statistics of Japan by Agency for Natural Resources and Energy, METI

7. Promotion of urban agriculture

- A poll of urban residents found that 70% of respondents sought to keep urban agriculture and farmlands.
- With an urban farmland leasing act put into force in September 2018, leasing farmlands in productive green zones can now be done with security and 83,000 m² of farmland has been certified/approved at the end of FY2018.

Urban residents' views on conservation of urban agriculture and farmlands



Source: MAFF, Poll on Urban Agriculture

Notes: 1) Poll conducted as of May 2019

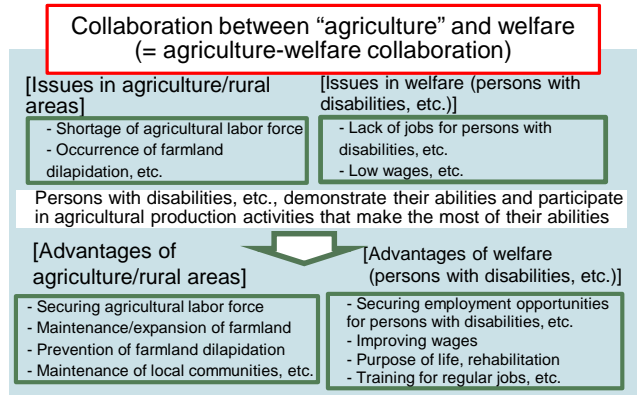
2) Online questionnaire conducted for residents of specified cities in three major metropolitan areas

3) Completed by 2,000 people

8. Promoting agriculture-welfare collaboration

- Farmers answered that working on agriculture-welfare collaboration was effective in improving their annual sales and efficiency by reviewing their work and persons with disabilities answered that their wages improved.
- In June 2019, the vision for promoting agriculture-welfare collaboration was decided at an agriculture-welfare collaboration promotion meeting.
 - To expand agriculture-welfare collaborations throughout the country, various efforts are promoted, such as development of strategic promotion plans, one-stop contact system, matching system and specialized human resources.
 - By FY2024, 3,000 new entities to work on agriculture-welfare collaboration will be created.
- To promote employment of persons with disabilities, etc., various efforts are promoted, such as raising awareness of agriculture-welfare collaboration by holding seminars, etc., and providing support for the installation of greenhouses, processing facilities and safety facilities, such as resting areas and handrails, for persons with disabilities will be working.

Image of agriculture-welfare collaboration



Source: MAFF

<Column> Specialized human resources that are the key to promoting agriculture-welfare collaboration

- Efforts to develop and dispatch specialized human resources who offer assistance between farmers and persons with disabilities to support the job retention of persons with disabilities are expanding to various regions.



Hands-on training for agricultural job trainers

Source: Mie Prefecture

<Column> "Noufuku" JAS Certification created by Agri- ("Nou")-Welfare ("Fukushi") collaboration

- "Noufuku" JAS, established in March 2019, specifies the production process and labelling standards for the production of agricultural, forestry and fishery products including processed foods produced by persons with disabilities engaging in major production processes.
- As of March 2020, 10 business operators have been certified.



First Noufuku JAS Certification



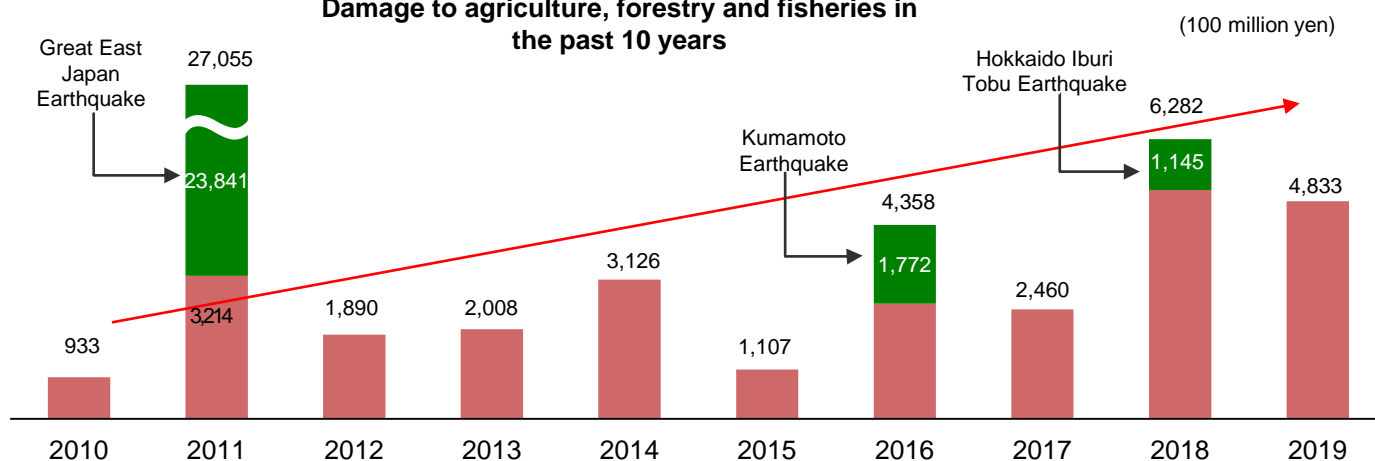
Noufuku JAS mark

1. Restoration/Reconstruction from natural disasters in FY2019

Frequent natural disasters in recent years and damage to agriculture, forestry and fisheries

- In recent years, damage to agriculture, forestry and fisheries caused by natural disasters is increasing. In 2019, the damage caused by natural disasters, such as Typhoon Faxai (Typhoon No. 15) and Typhoon Hagibis (Typhoon No. 19), was 488.3 billion yen.

Damage to agriculture, forestry and fisheries in the past 10 years



Source: MAFF

Notes: As of the end of April 2020

Responses to FY2019 Disasters

- Liaisons were dispatched to local governments, etc., in disaster-affected areas to quickly grasp the damage situation. For Typhoon Hagibis, etc., the liaisons accounted for a total of 871 man-days.
- According to the situations of the disaster-affected areas, push-type food containers and drink support were provided.
- Disasters, such as heavy rain due to the weather systems from August to September and Typhoon Hagibis, were designated as ordinance-designated severe disasters early and in a wide range to help local governments in disaster-affected areas to quickly work on restoration/reconstruction.
- In November, the government compiled “a countermeasure package for reconstructing the lives and businesses of people in affected areas”.
- Based on local requests regarding the disasters that caused considerable damage, MAFF decided on “support measures for damage related to agriculture, forestry and fisheries” necessary to continue farming. A pre-assessment construction system was used for early resumption of farming and national technical staff (MAFF-SAT) were dispatched to local governments in disaster-affected areas, providing physical and technical support for their early restoration.

Key points of the countermeasure package

	Main contents of support
Support for fruit tree farmers	Provision of support for the replanting of damaged fruit trees, management of young trees and farming in substitute farmland to secure income until the next production of fruits
Support for rice farmers	Implementation of special measures for rice farmers to resume farming for the next crop based on the flood damage to the preserved rice and rice straw in the private sector as well as a wide spread of cultivated areas.
Support for restoration of agricultural machinery	Provision of support for the reconstruction/repair of damaged agricultural greenhouses, agricultural machinery, etc. Regarding the damage caused by Typhoon Hagibis, which was designated as a specified extraordinary disaster, increasing the subsidy rate for agricultural machinery not covered by the horticultural facility mutual aid
Utilization of group subsidies	MAFF will collaborate with the Small and Medium Enterprises Agency to make group subsidies available in the agricultural field for the four disaster-affected prefectures

Source: MAFF

Status of restoration from FY2019 disasters

- For the restoration of agricultural greenhouses damaged by Typhoon Faxai, pre-assessment construction is promoted in each region to help farmers to quickly resume their farming through support, such as the comprehensive support grant available for disaster-affected farmers that will help develop a stronger agricultural base.
- Disaster assessment has been completed and restoration construction is gradually expanding for approximately 2,100 ha of paddy fields flooded with a large amount of sediments due to Typhoon Hagibis, etc. For the other approximately 15,600 ha of paddy fields, farmers are undertaking self-restoration efforts, removing accumulated rice straw, preparing soil, etc. For fruit trees damaged in Nagano and Fukushima prefectures, restoration work, such as removing mud and other debris, and pruning, has been completed.



Damaged glass greenhouses (Typhoon Faxai)



Removing rice straw (Typhoon Hagibis, etc.)

2. Disaster prevention/reduction, strengthening national resilience and preparations that should be made by farmers

Promoting measures for disaster prevention/reduction and strengthening national resilience

- As a response to natural disasters that are becoming increasingly frequent and severe, measures, such as providing an aseismatic structure to agricultural irrigation facilities and reinforcing agricultural greenhouses, are promoted based on the 3-years emergency measures package for preventing/reducing disasters and enhancing national resilience.
- Regarding reservoirs, measures, such as creation of hazard maps and repair of levees, are promoted for critical reservoirs for disaster prevention that were re-selected at the end of May 2019. Also, based on the Act on Management and Conservation of Agricultural Reservoirs that came into force in July, necessary measures for proper management and conservation of agricultural reservoirs are implemented by requiring mandatory reporting by persons involved in agricultural reservoirs, such as owners and managers, designating specific agricultural reservoirs by prefectures, etc.

Examples of disaster preparations that should be made by farmers themselves

- Introducing species and cultivation technologies that adapt to extreme weather conditions
- Maintaining, managing and reinforcing agricultural greenhouses
- Introducing low-cost weather-resistant greenhouses
- Enrolling in agricultural insurance and other relevant insurance
- Securing emergency power sources
- Establishing a business continuity plan (BCP)
- Implementing measures against diseases and pests based on occurrence prediction information released from prefectural plant pest control stations
- Removing/cutting coverings of agricultural greenhouses ahead of severe weather events, such as when a typhoon is approaching

Preparing for disasters

- To prepare for disasters, farmers themselves need to make efforts, such as introducing species and cultivation technologies that adapt to extreme weather conditions, maintaining and managing agricultural greenhouses and using agricultural insurance, etc. MAFF promotes technical guidance for preventing typhoon and snowfall damage and farmers' enrollment in horticulture facility mutual aid offering a new premium discount package and revenue insurance.

3. Restoration/Reconstruction from Great East Japan Earthquake

Earthquake and tsunami damage and restoration/reconstruction

- Salt removal, rice paddy boundary reconstruction and other restoration operations have made progress in 19,760 ha of farmland subjected to restoration and farming was resumed in 93% of this farmland as of the end of January 2020.
- In Iwate, Miyagi and Fukushima prefectures, farmland partitions have been expanded during restoration.

Impacts of the accident at Tokyo Electric Power's Fukushima Daiichi Nuclear Power Station and restoration/reconstruction

- In 12 accident-affected municipalities, the resumption rate of farming is polarized depending on the time when the government lifted evacuation orders.
- Toward resumption of farming, related agencies established a farming resumption promotion team in collaboration to promote the formulation of a future vision for the production areas, etc. MAFF will dispatch its staff to the 12 accident-affected municipalities from FY2020.
- To dispel harmful rumors, comprehensive support is provided from production to distribution/sales, such as promotion of the acquisition of a third-party GAP certification, investigation of distribution situations and sales promotion.
- As a result of sharing information, such as scientific data, with the 54 countries and regions that have introduced import measures on Japanese food following the nuclear power plant accident, 34 have now eliminated them.

Removal or relaxation of import measures in major export destinations due to the Tokyo Electric Power Fukushima Daiichi Nuclear Power Plant accident (FY2019)

	Export destinations
Removal	Democratic Republic of Congo (June), Brunei (October), Philippines (January)
Relaxation	U.S. (April, September, November, January), Philippines (May), UAE (July), Macao (October), EU and EFTA member countries (November), Singapore (January), Indonesia (January, February*)

Source: MAFF
Note: *From May 20, 2020

<Column> Victory bouquet made with flowers from the disaster-affected areas

- At the Tokyo 2020 Olympic Games and Paralympic Games, victory bouquets will be awarded to medalists as an extra prize.
- These bouquets will be made and provided by using flowers produced in the areas affected by the Great East Japan Earthquake, such as eustoma from Fukushima Prefecture. It is hoped that these bouquets will become a symbol of the progress of restoration efforts and appreciation for the support from all around the world in the aftermath of the earthquake.



Image of victory bouquets
Photo by Tokyo 2020 / Shugo TAKEMI

4. Restoration/Reconstruction from Kumamoto Earthquake

- At the end of FY2019, almost all farms seeking to resume farming had done so.
- Under a creative reconstruction initiative, the expansion of farmland partitions has been implemented.

5. Response to the Novel Coronavirus

Impact on the agricultural, forestry and fisheries products and food industry

- Novel Coronavirus was identified in China in December 2019 and has since spread all over the world.
- Due to the temporary closure of elementary and junior high schools, the government request to refrain from holding events, decreasing demand for eating out/tourism including inbound demand, entry restrictions from foreign countries, etc., in consideration of the spread of infection, Japan's agriculture, forestry and fisheries, and food industries are facing serious issues. These issues include cancellation of orders of milk, etc., for school lunches, decrease in sales and prices of flowers, beef, fruits, etc., cancellation of reservations for countryside stays, stagnation of acceptance of foreign technical interns and a decrease in exports.

Emergency response to affected industries

Considering the impact of the spread of the infection in Japan, the government decided to enact the first emergency measures in February 2020 and the second ones in March. The following measures are implemented in the agricultural, forestry and fisheries products and food industries.

- As financing support measures for agriculture, forestry and fisheries workers, raising the maximum amount of loans from the Agriculture, Forestry and Fisheries Safety Net Fund, providing loans with virtually no interest for the first five years, etc.
- Subsidizing the leave allowances, etc., paid to employees through the Employment Adjustment Subsidy and ensuring that all industries are thoroughly informed about it.
- Implementation of support for producers and venders who were planning to deliver their agricultural products for school lunches to find alternative sales channels for these remaining products and support for price differences caused by changing the use of raw milk intended for school lunches to processing skimmed milk powder, butter, etc.
- Providing information on preventive measures for the novel coronavirus to areas nationwide offering countryside stays.

Guidelines on business continuity for farmers (PR version)

Initiatives towards securing a stable food supply for the people

- To ensure a continuous food supply, guidelines on business continuity for the entire food supply chain have been formulated. Farmers, food business operators, etc., are called to establish a support system in accordance with these guidelines.

農業関係者のみなさまへ

新型コロナウイルス対策に関する農林水産省対策本部

水田・畑作・施設園芸等の農業者や集出荷施設等の従業員のみなさまは、国民への食料の安定供給等に重要な役割を担っています。
みなさまの中で新型コロナウイルス感染症の患者が発生した時に、業務継続を図る基本的なポイントをまとめました。
(令和2年5月8日までの知見に基づき作成)

※「農業における新型コロナウイルス感染者が発生した時の対応及び事業継続に関する基本的なガイドライン」<https://www.maff.go.jp/j/saigai/n_coronavirus/pdf/gl_nou.pdf>

1 予防対策の徹底

2 患者発生時の患者、濃厚接触者への対応

3 生産施設等の消毒の実施

4 業務の継続

※ 必要に応じて市町村等の関係機関に相談しましょう。

農林水産省は、みなさまの業務が継続できるように全面的に協力いたしますので、ガイドラインを参考に対応していただきますようよろしくお願いいたします。

Source: MAFF

Notes: 1) Guidelines revised on May 22, 2020

2) Guidelines for business types other than farmers have also been formulated and posted on the website of MAFF.

- MAFF created a special page on its website and also used SNSs, video-sharing services and other media to provide the public with information on the supply status, etc., of food products in an easy-to-understand manner. MAFF also established new coronavirus inquiry counters in Regional Agricultural Administration Offices.
- The government has requested food business operators, etc., to maintain a smooth food supply and called upon people not to overstock. Investigation/monitoring has been implemented to prevent buying up or holding back sales of food.

Example of *Hana Ippai* Project initiative



- To increase consumption of domestic agricultural, forestry and fisheries products, the *Hana Ippai* Project (for promoting the consumption of flower) and *Kokusan Shokuzai Morimori Campaign* (for promoting the consumption of domestically grown foods) have been launched.

Kokusan Shokuzai Morimori Campaign logo mark



Decision on emergency economic measures

- To prevent the spread of the novel coronavirus infection and subsequent economic recovery, the government has decided on Emergency Economic Measures in April 2020. To maintain/continue the production base and stimulate demand, these Measures include providing financing support for business continuity of agriculture, forestry and fisheries workers, securing the labor force, providing support for business operators facing difficulties in maintaining their business, promoting sales to maintain the production/supply system and promotion of public-private integrated campaigns for increasing demand.
- The government will continue to monitor and flexibly respond to changes in the situations in each region.

<Column> Disasters come before they are forgotten - The government has prepared various support measures for risks

- FY2019 has been a challenging year to deal with not only the novel coronavirus but also various other disasters, such as Typhoon Faxai, Typhoon Hagibis and CSF (Classical swine fever) which continued from September 2018.
- To address these natural disasters, infectious diseases of livestock and other various risks, the government takes detailed support measures while listening to requests, etc., from the affected sites.
- For various risks that may also occur in the future, it is important for farmers themselves to be always prepared by working on what needs to get done, such as inspecting/reinforcing agricultural greenhouses, enrolling in agricultural insurance, etc., and complying with the Standards of Rearing Hygiene Management. The government provides full support to farmers making such efforts to continue farming.



On the website of MAFF, check out "Disaster information", "Reverse lookup dictionary" and support measures related to disaster prevention/reduction.

FY2020 Measures for Food, Agriculture and Rural Areas

Summary

- Policy priorities, fiscal measures, legislative actions, tax measures, monetary measures

I Measures to maintain and improve Japan's food self-sufficiency ratio and potential

- Initiatives to maintain and improve Japan's food self-sufficiency ratio and potential
- Measures to realize the production targets for each major item

II Measures for securing a stable supply of food

- Exploration of demand through the creation of new values
- Strategic exploration of global market
- Deepening of the connection between consumers and food and agriculture
- Securing food safety compatible with international trends and securing consumer confidence
- Establishing comprehensive food security in anticipation of food supply risks
- Response to a new international environment, such as TPP and strategic reactions to international negotiations

III Measures for sustainable development of agriculture

- Development of/securing business farmers for realizing a strong and sustainable agricultural structure
- Active participation of diverse human resources and entities that support agricultural sites
- Consolidation of farmland to business farmers and securing farmland
- Promotion of initiatives towards stabilization of agricultural management
- Development of an agricultural production base that contributes to the transformation of agriculture into a growth industry and strengthening national resilience
- Strengthening of the production bases compatible with changes in the demand structure, etc., and streamlining of distribution/processing structures
- Promotion of innovations at agricultural production/distribution sites by utilizing information and communication technologies, etc.
- Promotion of environmental policy, such as responses to climate change

IV Measures for promotion of rural areas

- Securing income and employment opportunities by utilizing local resources
- Improvement of conditions necessary for people to continue to live in rural areas including hilly and mountainous areas
- Creation of new movements and vitality to support rural areas
- Development of a collaborative system of related ministries and agencies to continuously promote measures in line with the above three items

V Measures for restoration/reconstruction from the Great East Japan Earthquake and large-scale natural disasters

- Restoration/Reconstruction from Great East Japan Earthquake
- Preparedness for large-scale natural disasters
- Restoration from large-scale natural disasters

VI Measures for groups

VII Measures for forming a national consensus through the expansion of national movements on food and agriculture

VIII Response to new infectious diseases including novel coronavirus infections

IX Matters necessary for comprehensively and systematically promoting measures for food, agriculture and rural areas

Definitions

1. Confusing terms

Production value, income

Purpose

To know the total value of sales of agricultural products produced in Japan

To know the value added of agricultural products produced in Japan, or their sales value minus the costs for agricultural production

To compare the value added by agriculture as part of gross domestic product (GDP) with values in other industries and foreign countries

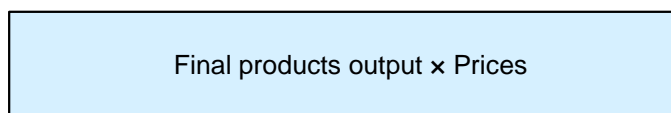
Term

- Total agricultural output
- Agricultural production income
- Gross agricultural production

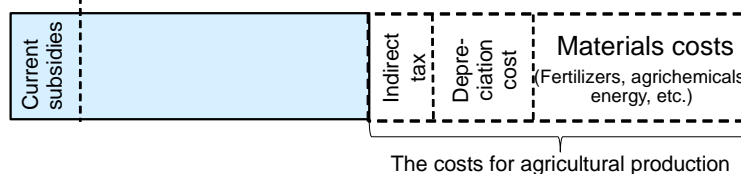
Statistical data <source>

- 9.1 trillion yen (2018)**
<Statistics of Agricultural Income Produced>
- 3.5 trillion yen (2018)**
<Statistics of Agricultural Income Produced>
- 5.7 trillion yen (2018)**
<National accounts>

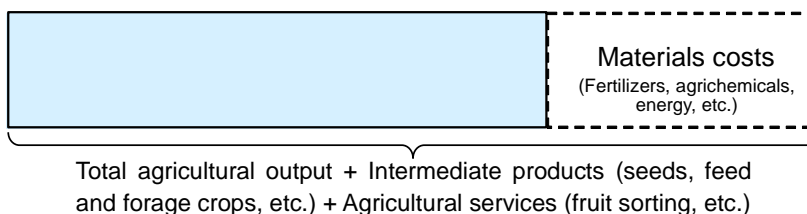
• Total agricultural output:
9.1 trillion yen



• Agricultural production income: 3.5 trillion yen



• Gross agricultural production: 5.7 trillion yen



Agriculture management entities

Purpose

To know the number of entities engaged in agricultural production or agricultural work under contract

To know the number of households engaged in agriculture

To know the number of households producing mainly agricultural products for sales out of farm households

To know the number of agriculture business companies, community-based farm cooperatives, etc.

Term

- Agriculture management entities^{*1}
- Family management entities^{*1}
- Commercial farm households^{*2}
- Organized management entities^{*1}

Statistical data <source>

- 1.19 million entities (2019)**
<Survey on Movement of Agricultural Structure>
- 1.15 million entities (2019)**
<Survey on Movement of Agricultural Structure>
- 1.13 million households (2019)**
<Survey on Movement of Agricultural Structure>
- 40,000 entities (2019)**
<Survey on Movement of Agricultural Structure>

*1: See Definitions 2 (1)

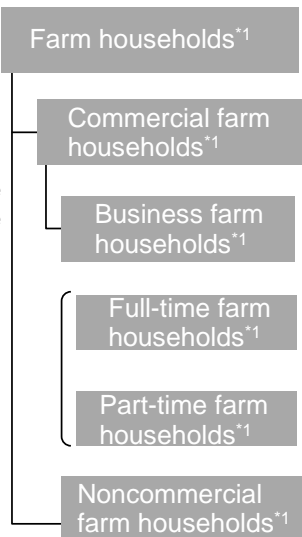
*2: See Definitions 2 (2)

Farm households

Purpose

- To know the number of all farm households including those producing agricultural products for their own consumption
- To know the number of households producing agricultural products mainly for sales
- To know the number of households whose head is younger than 65 years old and whose main income is from agriculture
- To know the number of farm households having no non-agricultural job holders (without any age limit)
- To know the number of farm households including non-agricultural job holders (without any age limit)
- To know the number of farm households producing agricultural products mainly for their own consumption

Term



Statistical data <source>

- 2.16 million households (2015)**
<Census of Agriculture and Forestry 2015>
- 1.13 million households (2019)**
<Survey on Movement of Agricultural Structure>
- 0.24 million households (2019)**
<Survey on Movement of Agricultural Structure>
- 0.37 million households (2019)**
<Survey on Movement of Agricultural Structure>
- 0.76 million households (2019)**
<Survey on Movement of Agricultural Structure>
- 0.83 million households (2015)**
<Census of Agriculture and Forestry 2015>

Members of commercial farm households

Purpose

- To know the number of farm household members who worked as self-employed farmers for one day or more per year
- To know the number of farm household members who worked mainly as self-employed farmers (including housewives engaged mainly in housework and childcare, students, etc.)
- To know the number of farm household members who usually worked mainly as self-employed farmers (excluding housewives engaged mainly in housework and childcare, students, etc.)

Term



Statistical data <source>

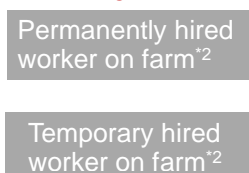
- 2.76 million persons (2019)**
<Survey on Movement of Agricultural Structure>
- 1.68 million persons (2019)**
<Survey on Movement of Agricultural Structure>
- 1.40 million persons (2019)**
<Survey on Movement of Agricultural Structure>

Employed farmers

Purpose

- To know the number of persons employed as farmers for a long term (seven months or more)
- To know the number of persons employed as farmers for a short term (temporarily)

Term



Statistical data <source>

- 0.24 million persons (2019)**
<Survey on Movement of Agricultural Structure>
- 2.35 million persons (2019)**
<Survey on Movement of Agricultural Structure>

*1: See Definitions 2 (2)

*2: See Definitions 2 (4)

2. Basic statistical terminology

(1) Classification of agriculture management entities (definitions used since the Census of Agriculture and Forestry 2005)

Terminology	Definition
Agriculture management entities	An establishment that performs agricultural production either directly or on contract and fulfills one of the following conditions: (1) manages 30 ares or more cultivated land, (2) possesses a planted area or cultivated area or a number of livestock being raised or delivered that is equal to or greater than a predetermined standard (e.g., 15 ares for outdoor grown vegetables, 350 square meters for vegetables grown in facilities, one cow), (3) accepts farm work on contract. (Censuses from 1990, 1995 and 2000 regard agriculture management entities as the combination of commercial farm households, agricultural holdings other than a farm household, and agricultural service enterprises.)
Family management entities	Individual management entities (farm household) or a single-household corporation (a farm household that is incorporated).
Organized management entities	Agriculture management entities that do not fall under family management entities.
Single farming entities	Entities whose main agricultural product sales account for 80% or more of income from all agriculture product sales.
Semi-multiple farming entities	Entities whose main agricultural product sales account for 60% to less than 80% of income from all agriculture product sales.
Multiple farming entities	Entities whose main agricultural product sales account for less than 60% of income from all agriculture product sales (excluding the management entities without any sales).

(2) Classification of farm households (definitions used since the 1990 World Census of Agriculture and Forestry)

Terminology	Definition
Farm household	Household engaged in farming and managing cultivated land of 10 ares or more, or earning 150,000 yen or more per year from sales of agricultural products.
Commercial farm household	Farm household managing cultivated land of 30 ares or more, or earning 500,000 yen or more per year from sales of agricultural products.
Business farm household	Farm household whose main source of income (50% or more) is farming, and which possesses at least one family member under the age of 65 who is engaged in self-employed farming for 60 days or more a year.
Semi-business farm household	Farm household whose main income (50% or more) is from sources other than agriculture and which possess at least one family member under the age of 65 who is engaged in self-employed farming for 60 days or more a year.
Side-business farm household	Farm household without any members under the age of 65 engaged in self-employed farming for 60 days or more a year (farm households other than business and semi-business farm households).
Full-time farm household	A farm household without family members who are part-time farmers.
Part-time farm household	A farm household with one or more members who are part-time farmers.
Farm household earning main income from farming	A part-time farm household earning more income from farming than from others
Farm household earning main income from other jobs	A part-time farm household earning more income from non-farming jobs than from farming
Noncommercial farm household	A farm household managing cultivated land of less than 30 ares, and earning less than 500,000 yen per year from sales of agricultural products.
Agricultural holding other than farm household	A holding other than farm household managing cultivated land of 10 ares or more, or earning 150,000 yen or more per year from sales of agricultural products.
Agricultural services enterprise	An enterprise conducting farm work on contract (including enterprise other than agricultural holding, specializing in production and sale of seedlings).
Land tenure non-farm household	A household other than a farm household possessing 5 ares or more in cultivated land and abandoned cultivated land

(3) Farm household economics

Terminology	Definition
Total income	Agricultural income + Income of business related to agricultural production + Non-agricultural income + Income from pensions, etc.
Agricultural income	Agricultural gross income (total income from farming) – Agricultural expenditures (all expenses necessary for farming)
Income of business related to agricultural production	Gross income of business related to agricultural production (gross income from businesses such as agricultural processing, farm-inns, restaurants and tourist farms, which are related to agriculture and managed by individuals engaged in farming) – Expenditures of business related to agricultural production (expenditures such as labor and material costs required for the aforementioned businesses)
Non-agricultural income	Non-agricultural gross income (e.g., gross income from independent part-time nonagricultural businesses, salaries and wages) – Non-agricultural expenditures (e.g., expenditures for independent part-time non-agricultural businesses, transportation expenditures for commuting)
Production cost	The production cost is the total cost (combining material and labor costs) for production of farm products minus by-product values.
Material cost	Liquid goods costs expended for producing agricultural products (seeding, fertilizers, agricultural chemicals, heating, lighting, power and other materials costs) + Depreciation costs for fixed goods (depreciable assets including buildings, automobiles, agricultural machines and production management equipment)
Family labor cost	The family labor cost is calculated by multiplying family working hours by an average hourly wage as computed based on wage data for business establishments with five to 29 workers in the construction, manufacturing and transportation/postal industries in the Monthly Labor Survey Report (by the Ministry of Health, Labour and Welfare).
Equity capital interest	The equity capital interest is calculated by multiplying equity capital – gross capital minus debt capital – by an annual interest rate of 4%.
Rent for owned land	The rent for owned land is based on a rent for similar farmlands (having capabilities similar to the farmland for a crop subject to the survey) within the same region.

(4) Agricultural labor by farm household members

		Involvement in farming			Household member	
		Engaged only in farming	Engaged in both farming and other			Not engaged in farming
			Mainly farming	Mainly other		
Status during regular hours	Engaged mainly in work					<p>As a rule, people who live and earn a living together</p> <p>(1) Core persons mainly engaged in farming Among household members involved in self-employed farming (population engaged mainly in farming), those who are working mainly in agriculture during regular hours.</p> <p>(2) Population mainly engaged in farming Persons engaged only in self-employed farming, or persons who are also engaged in work other than farming but spend more time engaged in farming on a yearly basis.</p> <p>(3) Household members engaged in own farming Household members 15 years old and over who are engaged in self-employed farming for one day or more per year.</p> <p>Full-time farmers Among persons engaged in mainly farming, those who are engaged in self-employed farming for 150 days or more per year</p>
	Other (housework, school, etc.)					
Permanently hired worker on farm	Refers to workers hired mainly for farm management with an employment agreement (including verbal agreement) covering a period of seven months or more (including the workers hired regardless of an employment period).					

Temporary hired worker on farm	<p>Refers to day and/or seasonal workers hired on a temporary basis for farm management (including mutual help among farm households (labor exchange) and assistants (labor accepted for free)), but not including the laborers employed under a partial farm work contract.</p> <p>It includes cases in which workers are hired mainly for non-farm management work but engaged in farm management during the busy season, as well as those who had an employment agreement for seven months or longer but quit before reaching seven months.</p>
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(5) Newcomers in agriculture (definition used in the survey on Newcomers in Agriculture)

		Type of involvement in farming			Newcomers in agriculture
		Mainly engaged in agriculture as self-employed	Employed full-time by corporations, etc.	Just entering farming	
Status before farming	Student	Entrants to farming soon after graduation from school			<p>Defined as individuals who fulfill one of the following conditions:</p> <p>(1) New self-employed farmers Members of family management entities whose living status has changed anytime within a year of the survey date from “student” or “employed in other work” to “new graduate who has become a farmer” or “a new farmer who changed occupations”.</p> <p>(2) New employed farmers Persons engaged in farming who have been hired by corporations anytime within a year of the survey date and work for their employers for 7 months or more a year.</p> <p>(3) New entries Persons responsible for farming started anytime within a year of the survey date by securing land and funds on their own, and their partners</p> <p>Entrants to farming soon after graduation from school New self-employed farmers who have changed their status from “student” to “engaged mainly in farming”, as well as new employed farmers who were recently students.</p>
	Employed in other work	New self-employed farmers (1)	New employed farmers (2)	New entries (3)	
	Engaged in housework and child rearing / Other				

(6) Classification of agriculture area

Terminology	Definition
Classification of agriculture area	Classification of present and former cities, wards, towns, and villages (hereinafter referred to as “municipalities”) based on fundamental conditions (e.g., cultivated, forest and grazing land shares, farmland gradients) that define the structure of regional agriculture
Category	Standard index (fulfills one of the following conditions)
Urban area	<ul style="list-style-type: none"> - Present and former municipalities where the DID’s share of habitable land is 5% or more with a population density of 500 persons per square kilometer or more or a DID population of 20,000 or more. - Present and former municipalities where the residential area’s share of habitable land is 60% or more with a population density of 500 persons per square kilometer or more. Regions with forest and grazing land’s share of 80% or more are excluded.
Flat farming area	<ul style="list-style-type: none"> - Present and former municipalities where cultivated land accounts for 20% or more of the total area with forest and grazing land accounting for less than 50% of the total area. However, areas where all paddy fields with gradients of 1/20 or more and all upland fields with gradients of 8° or more account for 90% or more of the total area are excluded. - Present and former municipalities where cultivated land accounts for 20% or more of the total area, with forest and grazing land accounting for 50% or more of the total area and with all paddy fields with gradients of 1/20 or more and all upland fields with gradients of 8° or more accounting for less than 10% of the total area.

Hilly farming area	<ul style="list-style-type: none"> - Present and former municipalities where cultivated land accounts for less than 20% of the total area, other than urban and mountainous farming areas. - Present and former municipalities where cultivated land accounts for 20% or more of the total area, other than urban and flat farming areas.
Mountainous farming area	<ul style="list-style-type: none"> - Present and former municipalities where forest and grazing land accounts for 80% or more of the total area, with cultivated land accounting for less than 10% of the total area.
<p>Notes: 1) Order of priority: Urban area → Mountainous farming area → Flat and hilly farming area</p> <p>2) As a rule, DID (Densely Inhabited Districts) are defined as areas where basic district units, as defined by the national census, with populations densities of 4,000 per km² or more are adjacent to each other and the total population of these conjoined districts is 5,000 or more.</p> <p>3) Gradient refers not to the gradient of cultivated land per parcel, but to the main topographical gradient as grouped land.</p> <p>4) The combination of the hilly and mountainous farming area categories is referred to as hilly and mountainous area.</p> <p>5) Former municipalities are those that were classified as municipalities as of February 1, 1950.</p>	

(7) Agricultural regions nationwide

Agricultural region	Prefecture	Agricultural region	Prefecture
Hokkaido	Hokkaido	Kinki	Shiga, Kyoto, Osaka, Hyogo, Nara, Wakayama
Tohoku	Aomori, Iwate, Miyagi, Akita, Yamagata, Fukushima	Chugoku Sanin Sanyo	Tottori, Shimane Okayama, Hiroshima, Yamaguchi
Hokuriku	Niigata, Toyama, Ishikawa, Fukui	Shikoku	Tokushima, Kagawa, Ehime, Kochi
Kanto/Tosan Northern Kanto Southern Kanto Tosan	Ibaraki, Tochigi, Gunma Saitama, Chiba, Tokyo, Kanagawa Yamanashi, Nagano	Kyushu Northern Kyushu Southern Kyushu	Fukuoka, Saga, Nagasaki, Kumamoto, Oita Miyazaki, Kagoshima
Tokai	Gifu, Shizuoka, Aichi, Mie	Okinawa	Okinawa

3. Basic terminology

A	
AFFrinnovation	AFFrinnovation which means initiatives for agriculture, forestry and fisheries operators to voluntarily cooperate with others to comprehensively and integrally promote agriculture, forestry and fisheries as the primary industry, manufacturing as the secondary industry and retailing as the tertiary industry to utilize regional resources for producing new added value.
African swine fever	African swine fever is an infectious disease caused by African swine fever (ASF) virus for swine and wild boars. It is a highly fatal disease featuring fever and whole-body hemorrhagic lesions. There is no effective vaccine or therapy for this disease. It is seen chronically in Africa and has been identified in Russia and its vicinity. In August 2018, China became the first Asian country to identify an African swine fever epidemic. Since then, the disease spread in Asia. Japan has remained free from the disease, having identified no epidemic. ASF virus does not infect humans.
Agricultural irrigation facilities	These facilities are roughly divided into two types: irrigation facilities for providing irrigation water for farmlands and sewerage facilities for discharging surplus surface and soil water in farmlands. Irrigation facilities include dams and other water storage facilities, water intake facilities such as weirs, drains, pumping facilities, circular tank diversion works, farm ponds and other water supply and distribution facilities. Sewerage facilities include drainage canals and drainage pump stations. In addition, there are water control facilities to monitor, control and operate irrigation and sewerage facilities.
AI	AI stands for artificial intelligence, referring to computer systems that have human intelligence functions including learning, inference and judgment.
ASEAN	ASEAN stands for the Association of Southeast Asian Nations. ASEAN was established in the Thai capital of Bangkok in 1967 for cooperation in addressing the

	promotion of economic growth, and social and cultural development, the achievement of political and economic stability and other challenges in Southeast Asia. Upon its establishment, it consisted of five countries – Indonesia, Malaysia, the Philippines, Singapore and Thailand. Brunei acceded to ASEAN in 1984, Vietnam in 1995, Laos and Myanmar in 1997 and Cambodia in 1999. ASEAN now thus comprises 10 countries. Prompted by the 1997 Asian currency crisis, Japan, China, South Korea and ASEAN have formed the ASEAN+3 framework for cooperation in East Asia.
ASF	ASF stands for African swine fever. For details, refer to African swine fever.
ASIAGAP	Refer to JGAP/ASIAGAP.
B	
BCP	BCP stands for business continuity plan, meaning a plan to secure the continuation of key operations even in the event of risks such as disasters. It is also a peacetime plan to strategically prepare for restoring key operations within a target time and minimizing risks even if business operations are suspended.
Big data	Big data represent a massive, structurally complex data group that has the potential to produce new values through analysis of relationships between data.
Biomass	Biomass means organic resources of flora and fauna origin, excluding fossil resources. Biomass is made by organisms that create organic matter from inorganic water and CO ₂ through photosynthesis using solar energy falling on the earth. These types of resources are renewable throughout its life cycle as long as there are organisms and solar energy.
Business plan approved under the AFFrinnovation act	These business plans are for agriculture, forestry and fishery business operators to integrate the production of agriculture, forestry and fisheries products and by-products (including biomass) with their processing or sales to improve their operations under the Act on Promotion of the "Sixth Industry" to Create New Value Added Using Agricultural Products in Rural Areas (AFFrinnovation Act).
C	
Calorie supply (Calorie intake)	Calorie supply refers to the total amount of calories from food that is supplied to the public, and calorie intake refers to the total amount of calories actually consumed by the public. As a rule, the value for calorie supply is taken from the Food Balance Sheet issued by the Ministry of Agriculture, Forestry and Fisheries, while the value for calorie intake is taken from the National Health and Nutrition Examination Survey issued by the Ministry of Health, Labour and Welfare. It is necessary to keep in mind that calculations for both values are entirely different, since the calorie supply value includes food residue emerging inevitably in food industry processes, home food leftovers, etc.
Certified farmer (system)	The certified farmer system certifies plans for improving agricultural management drafted by farmers to attain targets for efficient and stable farm management in basic plans prepared by municipal governments to meet their respective conditions under the Agricultural Management Framework Reinforcement Act. For certified farmers, or those whose plans have been certified, various measures are primarily implemented, including low interest financing from the Super L loan system and other programs, measures to facilitate farmland consolidation and infrastructure improvement efforts to support business farmers.
Classical swine fever	Classical swine fever is an infectious disease caused by classical swine fever (CSF) virus for swine and wild boars. It develops symptoms such as fever, anorexia and prostration, featuring strong propagation and high fatality. The disease is still seen throughout the world including Asia. Japan eliminated the disease in 2007 before encountering its first epidemic in 26 years in September 2018. The disease infects swine and wild boars but not humans.
Codex Alimentarius Commission	The Codex Alimentarius Commission is an international intergovernmental organization created by the United Nations Food and Agriculture Organization (FAO) and the World Health Organization (WHO) in 1963 to secure the protection of consumer health and fair food trade. It develops the Codex Alimentarius. Japan joined the commission in 1966.
Community-based farm cooperatives	Farm cooperatives consist of farming households in certain regions that have developed relations through local communities or other geographical bases. Cooperative member households conduct joint agricultural production. These cooperatives' forms and operations vary depending on regional conditions. Their operations range from the aggregation of diverted paddy fields and the communal use of communally purchased machines to joint production and sales in which farming leaders play a central role.

Crop condition index	The index indicates rice crop conditions, taking the form of a percentage ratio of a (forecast) yield per 10 ares to a standard yield per 10 ares. The standard yield per 10 ares is a yield per 10 ares anticipated before annual planting, based on average-year meteorological conditions and disaster incidence, the recent advancement of cultivation technologies and the recent actual yield trend.
CSF	CSF stands for classical swine fever. For details, refer to classical swine fever.
D	
Dilapidated farmland	A dilapidated farmland is a farmland that has been left uncultivated and dilapidated due to the abandonment of cultivation and is viewed objectively as unable to be used for growing crops with conventional farming methods.
Direct seeding (paddy rice)	Direct seeding, where rice seeds are directly scattered into paddies, can skip seedling-raising and transplanting steps required for the conventional practices including transplanting. There are various direct seeding methods, which are roughly divided into two groups – flooded direct seeding where seeds are scattered into flooded paddies after plowing and soil puddling, and dry direct seeding where seeds are scattered into non-flooded paddies.
E	
Ecofeed	Ecofeed is feed that makes effective use of food residual, etc., representing a combination of ecological or economical and feed.
EPA/FTA	EPA stands for Economic Partnership Agreement and FTA for Free Trade Agreement. An FTA is a treaty between particular countries or regions created for the purpose of reducing and repealing tariffs on goods and services trade barriers. An EPA is a treaty that adds rules on investment and protection of intellectual property to the basic contents of an FTA in order to enhance a wider range of economic relations. Under the General Agreement on Tariffs and Trade (GATT), member countries are allowed to liberalize trade with EPA or FTA partners as an exception to most-favored nation status on the following conditions: (1) “abolishment of tariffs and other restrictive trade regulations” for “essentially all trade”, (2) abolishing such practices within a reasonable time frame (as a rule, within 10 years), and (3) refraining from enhancing tariffs and other trade barriers for nations other than EPA or FTA partners (under Article 24 and other sections of GATT).
Externalization of diet	Against the backdrop of increasing double-income and single-member households, population aging and diversified lifestyles, people have tended to depend on non-home cooking and meals. Amid this tendency, the food industry has provided home-meal replacements such as prepared food, ready-made dishes and boxed lunches and explored their markets. This trend is called the externalization of diet. → See “home meal replacement.”
F	
Family business agreement	A family business agreement is a written arrangement that clarifies business plans, each family member’s role, working conditions, etc., for a farming family based on talks between family members. This agreement clarifies the roles of farming family members including women and successors, allowing a farming family to become subject to the preferential treatment of farmer annuity insurance premiums and file joint applications for the certified farmer system.
Farmland concentration and intensification	Farmland concentration means owning or leasing farmland to expand farmland for utilization. Farmland intensification means exchanging farmland use rights to eliminate farmland dispersion and allow farming to be conducted continuously without difficulty.
FGAP	FGAP (Fukushima GAP) is a system developed by Fukushima Prefecture in conformity with MAFF’s guideline on a common GAP (Good Agricultural Practices) base, providing details of radioactive material measures as the prefecture’s original standard.
Food domestic production ratio	Food domestic production ratio is the percentage share of domestic production in food provided in the country. It is an index used for evaluating the situations of domestic production, reflecting the activities of the domestic livestock industry regardless of the origin of the feed, whether the feed is produced domestically or imported from overseas. The ratio is calculated including the portions domestically produced using imported feed in domestic production.
Food security	As for food security in Japan, the Food, Agriculture and Rural Areas Basic Act states, “Even in the case that domestic supply is insufficient to meet demand or is likely to be for a certain period, due to unexpected situations such as a bad harvest or interrupted imports, the minimum food supply required for the people shall be secured in order not to be a

	<p>hindrance to the stability of peoples' lives and smooth operation of the national economy.”</p> <p>As for global food security, meanwhile, the Food and Agriculture Organization (FAO) states, “Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.” This widely accepted definition points to the following four dimensions of food security: the availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports (food availability), the legal, political, economic and social entitlements of individuals to access foods for a nutritious diet (food access), utilization of food through adequate diet, clean water, sanitation and health care to reach a state of nutritional well-being where all physiological needs are met (utilization), and stable access to adequate food at all times for a population household or individual (stability).</p>
<p>Food self-sufficiency potential</p>	<p>This concept expresses the potential capacity of food production in the Japanese agriculture, forestry and fisheries sectors. The components of the food self-sufficiency potential for agricultural production are agricultural resources such as farmland and irrigation systems, agricultural technology, and people engaged in farming. The components of the food self-sufficiency potential for fishery production are potential production volume and people engaged in fishery.</p> <p>- Food self-sufficiency potential indicator</p> <p>This indicator shows the amount of calories supplied from food by fully utilizing the potential production capacity of Japan such as agricultural resources, people engaged in farming, and agricultural technology.</p> <p>Based on the premise that calorie efficiency is maximized, this indicator shows the amount of calories which could be supplied per person per day in the Japanese agriculture, forestry and fisheries sector. The indicator is comprised of the two patterns below. It also expresses the amount of calories which could be supplied that reflects the ratio of the total working hours of existing workforce to the working hours necessary for the production in each pattern (labor fill rate).</p> <p>(Pattern A) When rice and wheat are mainly cultivated by maximizing the calorie efficiency with consideration to nutritional balance (Pattern B) When potatoes are mainly cultivated by maximizing the calorie efficiency with consideration to nutritional balance</p>
<p>Food self-sufficiency ratio</p>	<p>This index indicates the percentage share of domestic production in the total supply of food in Japan.</p> <p>- Self-sufficiency ratio for individual items: The following formula is used to calculate the self-sufficiency ratio on a weight basis for individual items</p> <p>Food self-sufficiency ratio calculation formula</p> $\text{Self-sufficiency ratio for individual items} = \frac{\text{Domestic production volume}}{\text{Supply for domestic consumption}}$ $= \frac{\text{Domestic production volume}}{\text{Domestic production volume} + \text{Import volume} - \text{Export volume} \pm \text{Fluctuations in inventory}}$ <p>- Total food self-sufficiency ratio: This ratio is an index for the total volume of food, and is expressed in both calorie basis and production value basis. Products made from domestic livestock raised with imported feed are not included in calculations.</p> <p>- Total food self-sufficiency ratio on calorie supply basis: Calculated by dividing the value for the sum of the domestic calorie supply per person per day by the value for the calorie supply per person per day. In deriving the calorie supply, weight values for each item are converted to calories using the Standard Tables of Food Composition in Japan - 2015 - (Seventh Revised Edition), after which the calories of all items are totaled.</p>

	<p>- Total food self-sufficiency ratio on production value basis: Calculated by dividing the sum of the domestic production value of food by the total food supply value for domestic consumption. In deriving the monetary values, weight values are converted to production values using farm gate prices and import prices from domestic agricultural price and trade statistics, after which all production values are totaled.</p> <p>- Feed self-sufficiency rate: This index indicates the percentage share of domestic feed (excluding feed produced with imported materials used) in feed supplied to livestock, calculated in terms of total digestible nutrients (TDN) based on the Standard Tables of Feed Composition in Japan (2009).</p>
G	
GAP	Good Agricultural Practices (GAP) are management activities in the agricultural production process to ensure various components of sustainability including food safety, environmental conservation and worker safety.
Genetic resources	Genetic resources are materials from all living things including plants, animals, and microorganisms that have actual or potential value. For example, they include crops used as materials for breeding (including not only the latest varieties but also old varieties and those that are not clearly useful but considered potentially useful.)
Genome editing	A technique to efficiently modify the genes of a living form by, for example, cutting the target section of a genome using an enzyme that serves as a pair of “scissors”.
GFSI	GFSI stands for Global Food Safety Initiative, referring to an organization of globally operating food companies for implementing various initiatives to improve food safety and enhance consumer confidence in food products. It was established in May 2000 as a subsidiary of the Consumer Goods Forum (CGF), an international organization of about 400 manufacturers, retailers and service providers from 70 countries.
GLOBALG.A.P.	GLOBALG.A.P. is a GAP certification program with third-party audit established by Germany’s FoodPLUS GmbH. Its fruit and vegetables standard and aquaculture standard are GFSI-recognized. This program has been diffused mainly in Europe.
GNSS/GPS	GNSS stands for Global Navigation Satellite System, referring to a positioning system that uses satellites to accurately locate any position in the world. GPS stands for Global Positioning System as one of the GNSS systems.
Greenhouse gas (GHG)	Greenhouse gases heat the earth’s surface by absorbing and radiating a portion of infrared radiation reflected from the ground. The Kyoto Protocol designates carbon dioxide (CO ₂), methane (CH ₄ , generated from rice paddies and final waste disposal sites), dinitrogen monoxide (N ₂ O, generated during the process of manufacturing some raw ingredients for chemical products and from livestock waste), hydrofluorocarbons (HFCs, used as coolants for air conditioning devices), perfluorocarbons (PFCs, used in the production of semiconductors), sulfur hexafluoride (SF ₆ , used in the production of semiconductors) and nitrogen trifluoride (NF ₃ , used in the production of semiconductors; added in the second commitment period) as greenhouse gases that should be reduced.
H	
HACCP	HACCP (Hazard Analysis and Critical Control Point) is a process management system in which food safety for each process is addressed through the analysis and control of biological, chemical and physical hazards by continually monitoring and recording to guarantee the CCPs in control.
Highly Pathogenic Avian Influenza (HPAI)	Highly Pathogenic Avian Influenza (HPAI) is a kind of Avian Influenza that is highly fatal to poultry. When poultry are infected with HPAI, they show general symptoms such as neurological, respiratory and digestive ones, and many of them die. In Japan, there has not been any case reported where humans were infected with HPAI through eating chicken eggs or meat.
Home meal replacement	Home meal replacements are between eating out at restaurants and preparing meals at home. They include commercially sold lunch boxes, ready-to-eat dishes and foods cooked and processed outside home that are consumed at home, school, workplace, etc., without cooking. These meals are perishable.
I	
ICT	ICT stands for Information and Communication Technology, which is a collective term for technologies related to information and communication.
Idle farmland	An idled farmland meets either of the two items in Article 32, paragraph 1 of the Agricultural Land Act. The first item cites a farmland that is unused for cultivation and is

	expected to remain unused for the purpose. The second cites a farmland that is used far less than other farmlands in the vicinity.
IoT	IoT stands for Internet of Things, meaning that various things in the world are connected through the Internet to exchange information for automatic recognition, automatic control, remote control, etc.
J	
JFS	The JFS standards are food safety management standards with third-party audit developed by the Japan Food Safety Management Association (JFSM). JFS was recognized by GFSI in October 2018.
JGAP/ASIAGAP	Both JGAP and ASIAGAP are GAP certification programs established by the Japan GAP Foundation with third-party audit. JGAP covers fruit and vegetables, grains, tea, and livestock, while ASIAGAP covers fruit and vegetables, grains and tea. ASIAGAP was recognized by GFSI in October 2018.
L	
Local consumption of local products	This is an initiative for agriculture, forestry or fishery products (limited to food products) produced in domestic regions to be consumed in those regions. The initiative contributes to improving the food self-sufficiency ratio and to promoting AFFrinnovation through farmers' markets and processing operations.
N	
NPO	NPO stands for non-profit organization. These organizations perform various activities to contribute to society and do not distribute profits to their members. NPOs are expected to play an important role in responding to diversified needs of society in various areas (including welfare, education, culture, community building, ecology and international cooperation). Organizations that have been incorporated through the Act to Promote Specified Nonprofit Activities are called corporations engaging in specified non-profit activities and are allowed to open bank accounts and lease office spaces under their respective organization titles.
O	
OIE	OIE stands for Office International des Epizooties in French, which is currently called the World Organisation for Animal Health. It is an intergovernmental organization founded in 1924 to improve animal health. As of the end of May 2019, the number of OIE member countries and regions stands at 182. Japan acceded to the OIE in 1930. OIE's activities include provision of technical support for animal health-related issues (e.g., prevention of animal diseases such as ASF, measures against drug resistance) and establishment of international standards on animal/livestock products trading and animal welfare.
R	
Replotted land	Replotted land is land deemed as land before readjustment or development (traditional land) under the allocation of replotted land for a project to readjust land or develop farmland to change farmland boundaries and shapes. The allocation of replotted land is an administrative action to fix new land after readjustment or development (replotted land) replacing land before readjustment or development (traditional land) and take some legal procedures to deem the replotted land as land before readjustment or development (traditional land).
Rural community	The rural community is a fundamental regional unit where households are connected by local and family ties for farming or utilization of farming water in some municipal localities. These communities have close relationships for a wide range of activities including maintenance and management of irrigation facilities, use of farming equipment, and marriages and funerals. They have developed many characteristic traditions and function as autonomous or administrative units.
S	
Sustainable development goals (SDGs)	Sustainable Development Goals (SDGs) are the entire international community's development goals for 2030, adopted unanimously at a United Nations Summit in September 2015. There are 17 SDGs including those for the eradication of famine and poverty, economic growth and employment, and climate change countermeasures. The SDGs are non-binding goals urging each country to take voluntary actions commensurate with its conditions. Japan created the SDGs Promotion Headquarters under a Cabinet decision in May 2016 to implement the SDGs. The headquarters decided on the SDGs Implementation

	Guideline spelling out Japan's vision and priorities for implementing the SDGs in December 2016 and the SDGs Action Plan 2018 including the direction and major initiatives for providing Japan's SDGs models in December 2017.
V	
Value chain	A value chain is a process of adding value at each step of production, processing, distribution and sales that are organically connected to each other.
W	
“WASHOKU; traditional dietary cultures of the Japanese”	In December 2013, the United Nations Education, Scientific and Cultural Organization (UNESCO) registered “WASHOKU; traditional dietary cultures of the Japanese” as a UNESCO Intangible Cultural Heritage. “WASHOKU” is the Japanese diet practice based on the Japanese people's spirit of “respecting nature,” featuring (1) various fresh ingredients and respect for their natural flavors, (2) a nutritional balance that supports healthy diets, (3) emphasis on the beauty of nature and seasonal changes in the presentation, and (4) deep ties to New Year's and other regular annual events.
WCS rice	WCS stands for whole crop silage, meaning a feed that is made by harvesting berries, stems and leaves integrally for lactic fermentation. WCS rice is produced for WCS for livestock, contributing to the effective utilization of rice paddies and the improvement of the feed self-sufficiency ratio.
WTO	The World Trade Organization (WTO) is an international organization established in January 1995 as a result of the Uruguay Round negotiations, which has dealt with the global rules of trade. The WTO is aimed at securing that trade flows as smoothly as possible by lowering trade barriers through negotiations among member governments. The WTO is a forum for governments to negotiate trade agreements and settle trade disputes. The headquarters is located in Geneva, Switzerland.

4. Multifunctional roles of agriculture, forestry and fisheries

(1) Agriculture

Flood prevention by retention and storage of rainwater	Function to prevent/alleviate flood by temporarily collecting rainwater in paddy fields surrounded by ridges and cultivated field soil.
Landslide prevention	Function to prevent slope failure by detecting and repairing the failure of farmlands at an early stage through agricultural production activities in sloping farmlands, or to prevent landslides by holding down sudden rises in the groundwater level by allowing rainwater to permeate slowly underground through the cultivation of fields.
Soil erosion prevention	Function to prevent the erosion of soil caused by rainwater and wind, with the surface of water covering paddy fields or with the foliage and stems of crops in fields.
Watershed capabilities	Rainwater and agricultural water for paddy fields seep underground and over time returns to the river, and water that seeps further below cultivates underground watersheds.
Water purification	Water purification is achieved by the decomposition of organic material in paddy and dry fields, the absorption of nitrogen by crops, and the removal of nitrogen by microorganisms.
Decomposition of organic waste	Microorganisms within paddy and dry fields such as bacteria decompose livestock waste and compost made from household waste. The decomposed material is eventually reabsorbed by crops.
Climate change mitigation	Crops growing on cropland absorb heat through transpiration and paddy fields absorb heat through water evaporation, resulting in lower climate temperatures.
Conservation of biodiversity	Rice paddies and upland fields are properly and sustainably managed to form and maintain a secondary natural environment with ecosystems rich in plants, insects and animals, etc., to secure biodiversity.
Formation of a good landscape	Agricultural activities combined with farmland, old farmhouses, surrounding water sources and mountains create attractive natural landscapes.
Maintenance of cultural tradition	Japan features many annual events and festivals which trace their origins to prayers for rich harvests. Agriculture plays a role in passing on these traditions to future generations.

(2) Forestry

Conservation of biodiversity	Forests inhabited by a wide variety of plants and animals contribute to conserving the diversity of genes, species and ecosystems.
Conservation of the global environment	Forests can adjust the natural environment on a global scale through transpiration and absorption of CO ₂ which causes global warming.
Prevention of landslide disasters and conservation of soil	Brush, fallen leaves and branches suppress soil erosion, and the network of roots from forest trees prevents landslides.
Watershed capabilities	Forest soil mitigates floods and stabilizes river flow by storing rainwater and moderating the volume of water running into rivers.
Formation of comfortable environments	Forests help form comfortable environments by moderating climate through transpiration, reducing wind shear and noise, adsorbing dust through tree crowns and alleviating the heat island phenomenon.
Benefits for health and recreation	Trees release volatile substances such as phytoncides that are known to directly improve health, and forests provide areas for sports and leisure.
Culture	As a foundation for the succession of culture and traditions, forest scenery plays a vital role in the shaping of the traditional Japanese outlook on nature, and they also provide a place for forest environment education and practical learning.
Material production	The ability of forests to produce a wide variety of materials including wood, extracts and various types of fungi

(3) Fisheries

Supplementary contributions of fishery to the nitrogen and phosphorus cycle	An appropriate level of fishery can help recycle nitrogen and phosphorus absorbed by marine wildlife through the food chain to land.
Conservation of coastal environments	Bivalve shellfish such as oysters and clams filter and purify seawater by feeding on organic suspension such as plankton.
Water purification	Mudflats and seaweed beds, and plants and animals that inhabit them purify seawater by decomposing organic matter, absorbing nutrient salts and carbon dioxide gas, and supplying oxygen.
Preservation of ecosystems	Appropriate fishery operations can contribute to preserving mudflats, seaweed beds and other ecosystems that provide inhabitation environments for a wide variety of water creatures.
Transfer of cultural assets such as traditional fishing practices	Cultural assets such as traditional fishing practices are passed down to future generations through the activities of people living in fishing villages.
Rescue operations in the event of marine emergencies	Fishery workers help emergency rescue operations when ships sink, capsize, become stranded, go adrift, collide or catch fire.
Rescue operations in the event of disasters	Fishery workers conduct emergency operations such as supply transportation and oil recovery during natural catastrophes, oil tanker accidents and other disasters.
Monitoring of coastal environments	The fisheries monitor abnormalities in coastal environments. For example, fishery workers assist in early detection of red tides, blue tides and jellyfish outbreaks.
Border monitoring	Activities to monitor illegal poaching of precious marine resources also protect the national interest by preventing smuggling and illegal immigration.
Functions related to providing places for exchange	The marine industry can provide places for leisure such as marine recreation facilities and places to learn the importance of nature.