

FY2020

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



May 2021

MAFF

Ministry of Agriculture,
Forestry and Fisheries

SUSTAINABLE DEVELOPMENT GOALS



- The figures in the tables and charts are rounded off and may not exactly reflect actual totals.
- The maps in this report do not necessarily indicate Japan's territories comprehensively.
- Icons used to indicate goals that are particularly relevant to food, agriculture, and rural areas are attached to show the relationship between them and the SDGs. (Not all of the relevant goals are indicated.)

Contents

FY2020 Trends in Food, Agriculture, and Rural areas

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Topics | |
| 1 | New strategies for exporting agricultural, forestry and fisheries products and foods 1 |
| 2 | Strategy for Sustainable Food System -Measures for achievement of Decarbonization And Resilience with Innovation (MeaDRI) 1 |
| 3 | FY2019 Smart Agriculture Demonstration Projects 2 |
| 4 | Promotion of Digital Transformation in Agriculture and Food-Related Industries 2 |
| 5 | Response to avian influenza and CSF(Classical Swine Fever) 3 |
| 6 | Countermeasures against outflow of seedling of new plant varieties 3 |
| 7 | Current status of Food Tech 3 |
| Special Topic Impact of and response to the novel coronavirus pandemic 4 | |
| Chapter 1 Securing Stable Food Supplies | |
| 1 | Food self-sufficiency ratio and food self-sufficiency potential indicator 11 |
| 2 | Food consumption trends 11 |
| 3 | Exploration of demand through the creation of new values 12 |
| 4 | Strategic exploration of global market 13 |
| 5 | Deepening of the connection between consumers, food and agriculture 15 |
| 6 | Promotion of shokuiku (food and nutrition education) 15 |
| 7 | Ensuring food safety and consumer confidence taking international activities into consideration 16 |
| 8 | Strengthen measures for animal and plant quarantine 16 |
| 9 | Establishing comprehensive food security in anticipation of food supply risks 18 |
| 10 | Status of international negotiations 18 |
| Chapter 2 Sustainable Development of Agriculture | |
| 1 | Trends of agricultural output, agricultural production income, etc. 19 |
| 2 | Development and securing of business farmers for realizing a strong and sustainable agricultural structure 19 |
| 3 | Active participation of diverse human resources and entities that support agricultural sites 21 |
| 4 | Integration and consolidation of farmland and securing business farmers 21 |
| 5 | Promotion of initiatives towards stabilization of agricultural management 22 |
| 6 | Development of an agricultural production base that contributes to the transformation of agriculture into a growth industry and strengthening national resilience 23 |
| 7 | Strengthening of the production bases compatible with changes in the demand structure, etc., and streamlining of distribution/processing structures 23 |
| 8 | Promotion of innovations at agricultural production/distribution sites by utilizing information and communication technologies, etc. 27 |
| 9 | Promotion of environmental policy such as responses to climate change 27 |
| 10 | Agriculture-related organizations supporting agriculture 28 |
| Chapter 3 Promotion of Rural Areas | |
| 1 | Trends in the return to rural living 29 |
| 2 | Promotion of various types of agricultural management such as multi-management to take advantage of local characteristics 30 |
| 3 | Promotion of innovations from rural areas such as country stays, agriculture-welfare collaborations, and renewable energy 30 |
| 4 | Improvement of conditions necessary for people to continue to live in rural areas including hilly and mountainous areas 32 |
| 5 | Wildlife damage countermeasures and utilization of gibier 33 |
| 6 | Creation of new movements and vitality to support rural areas 34 |
| Chapter 4 Restoration/Reconstruction from Natural Disasters, Disaster Prevention/Reduction and Strengthening National Resilience | |
| 1 | Restoration/Reconstruction from Great East Japan Earthquake 36 |
| 2 | Restoration from large-scale natural disasters 36 |
| 3 | Status of restoration from FY2020 disasters 37 |
| 4 | Disaster prevention, disaster reduction, strengthening national resilience and preparedness for large-scale natural disasters 37 |
| FY2021 Measures for Food, Agriculture and Rural Areas 38 | |

- In December 2020, "The Strategy to Realize Export Expansion of Agricultural, Forestry, Fishery and Food Products" was decided at the Headquarters on Creating Dynamism through Agriculture, Forestry, and Fisheries and Local Communities.
- Establishment of a market-in system to continuously produce and sell products of the quantity, price, quality, and standards demanded by overseas markets.
- Planning and implementation of policies based on the following three basic concepts in the strategy.

【1st Strategy】

Establishing specific targets by product category in order to make the most of Japan's strengths.

- ① Establish priority export items (27 items) and targets.
- ② Clarify target countries/regions, export targets and means.
- ③ Organize product groups and improve the government's support system overseas.

【2nd Strategy】

Encouraging agriculture, forestry, and fisheries businesses to take on the challenge of exporting with a market-in mindset

- ① Encourage the supply of funds to businesses that are engaged in export.
- ② Develop a list of export production areas and provide focused support for the formation of export production areas.
- ③ Utilize ports and airports, and develop export logistics centers, etc., in order to establish large-lot, high-quality, and efficient export logistics.

【3rd Strategy】

Overcoming obstacles to exports by transcending ministry boundaries and working together as one government

- ① Engage in government-wide efforts to ease or eliminate regulations under the Export Headquarters.
- ② Accelerate the development and certification of HACCP facilities, etc. that meet the needs and adhere to export destination regulations.
- ③ Enhance measures to prevent the outflow of intellectual property in order to protect Japan's advantages, etc.

Establish an "Export and International Affairs Bureau" (tentative name) in the Ministry of Agriculture, Forestry and Fisheries.

Strategy for Sustainable Food System

-Measures for achievement of Decarbonization And Resilience with Innovation (MeaDRI)



- In order to achieve the SDGs and carbon neutrality, it is urgent to transform food systems into more sustainable ones.
- In March 2021, MAFF published an interim report (to be formulated by May 2021) of MeaDRI, a national strategy which will both strengthen the potential productivity and ensure sustainability.
- Followings are addressed in the strategy,
 - Developing innovative technologies and implementing them enable achievement of zero CO₂ emissions from agriculture, forestry and fisheries sectors.
 - Promoting behavior change and actions among stakeholders in the food systems, including farmers, consumers and business people.
 - Sharing the ideas of sustainable food systems with countries in Asian monsoon region and communicating on them in international fora (e.g., UN Food Systems Summit (September 2021))

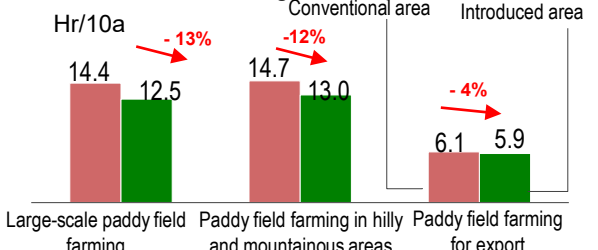
Goals by 2050

- **Zero CO₂ emission** from the agriculture, forestry and fisheries sectors.
- **50% reduction in risk-weighted use of chemical pesticides** by dissemination of the Integrated Pest Management and newly-developed alternatives.
- **30% reduction in chemical fertilizer use.**
- **Increase in organic farming to 1 Mha.** (equivalent to 25% of farmland.)
- **At least 30% enhancement in productivity of food manufacturers**(by 2030).
- **Sustainable sourcing for import materials**(by 2030).
- **90% and more superior varieties and F1 plus trees** in forestry seedling.
- **100% of artificial seedling rates** in aquaculture of Japanese eel, Pacific bluefin tuna, etc.



- The Smart Agriculture Demonstration Project was implemented in FY2019. The project aims to introduce smart agriculture using advanced technologies, such as robotics, AI and IoT at production sites, verify its management effects and disseminate the information.
- The interim report on the demonstration conducted in paddy field farming revealed the result of reducing work hours by the use of robot tractors, drones, etc.
- The “Smart Agriculture Promotion Comprehensive Package” was formulated in October 2020 in consideration of the issues identified through the project, defining the policy direction over the next five years (revised in February 2021).
- Various measures to reduce initial investment using agricultural support services (i.e., sharing services) will be promoted and information dissemination on the effects of introducing smart agriculture technologies will be enhanced.

Case study of results of the paddy farming demonstration (Comparison of work hours per 10a with conventional farming methods)



Source: Prepared by MAFF
Note: Demonstration cases launched in FY2019

Main Example of Smart agricultural technologies

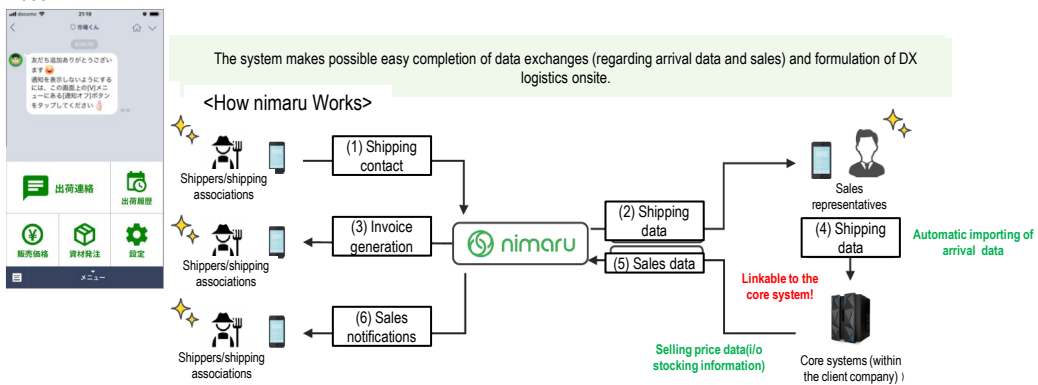


Collaborative work between an unmanned robot tractor and a manned tractor Pesticide spraying by drone



- In agriculture and food-related industries, efforts to transform their environment through the use of digital technologies are underway.
- Fewer than 20% of agricultural management entities utilize data-based agriculture at the moment.
- In rural areas, efforts to use digital technology for wildlife damage control countermeasures, agricultural infrastructure development, etc. are still in progress.
- In distribution and consumption sectors, utilizing digital technology is required to enable data sharing between upstream and downstream.
- In the food manufacturing and food service industries, various advanced technologies are expected to be utilized in various scenarios, such as automation by AI and robot technologies, in order to cope with labor shortages.
- In order to promote DX(*) in agriculture and food-related industries, a new policy blueprint for the use of digital technologies in the agricultural sector named the Conception and Projects for DX of Agriculture was set up. In March 2021, the "Agricultural DX Concept" was put together to promote DX in agriculture and food-related industries.

* DX=Digital Transformation



Seamless and smooth exchange of data on agricultural production and sales between farmers and distributors through an SNS-based application
Source: kikitō Co., Ltd.

- In November 2020, an outbreak of highly pathogenic avian influenza occurred in Kagawa Prefecture (for the first time in three years) and as of the end of March 2021, 52 cases have been confirmed on farms in 18 prefectures. Approximately 9.87 million birds have been culled so far.
- Following the outbreak of avian influenza, the government notified prefectures across the country to (1) conduct simultaneous appropriate biosecurity management, (2) conduct simultaneous emergency disinfection nationwide, and (3) conduct emergency quarantine exercises.
- In FY2020, five cases of Classical Swine Fever (CSF) occurred on farms in five prefectures.
- Measures against Classical Swine Fever (CSF) include: (1) Ensure thorough biosecurity management, including the installation of protective fences on farms and raising the heating standards for eco-feed; (2) Take measures against ingresses of wild boars by strengthening trapping efforts and spraying oral vaccines, and (3) Proactively vaccinate domestic pigs.



Thorough disinfection of vehicles entering farms

- New plant varieties bred in Japan represent important intellectual properties that will enhance further development of Japan's agriculture. These varieties are highly valued in the foreign export market.
- In order to protect Japan's brand abroad, the amended Plant Variety Protection and Seed Act took into effect, enabling holders of plant breeder's right to restrict the export of their registered varieties outside Japan. It is expected that outflow of Japan's excellent varieties will be controlled, and that the export strategy of Japan's agricultural products by Japan's new varieties will be promoted in the future.



- There has been a growing interest worldwide in "Food Tech," a new technology and business model that utilizes new technologies in the food sector in order to connect production, distribution, processing, food service, and consumption. Global investment in FoodTech is estimated to be over 2 trillion yen per year and has been rapidly increasing in recent years.
- In Japan, start-up and other companies carry out business development and R&D activities in fields such as meat alternatives, health and nutrition-oriented food products, cooking robots (as a response to labor shortages as well as individual preferences) and the production of foods, feeds, and fertilizers, using insects, that contribute to the reduction of environmental impact.
- In October 2020, the FoodTech Public-Private Council was assembled. Through its activities, etc., they will promote the creation of new FoodTech markets that take advantage of Japan's unique strengths in such areas as healthy, nutritious food, and insect-based feed and fertilizer production.



Balance, nutritionally completed bread
Source: Base Food Co.



Dishwashing robots respond to labor shortages
Source: Connected Robotics, Inc.

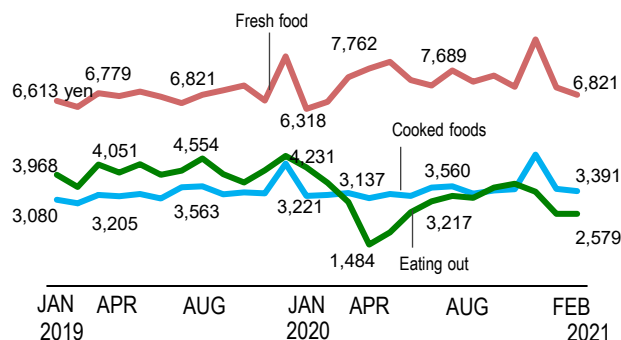
Impact of and new movements in food consumption

Impact on food consumption

<Impact on eating out>

- Since February 2020, school closures, consumer trepidation, and a decrease in inbound demand have had a significant impact on eating/drinking businesses and other related industries.
- Since March 2020, spending on food and beverage services has declined significantly from the previous year.
- Supplies of rice, pasta, and frozen foods were temporarily unavailable or in short supply at supermarkets; however, due to continued production by food manufacturers and holiday deliveries by distributors, a steady food supply was maintained.
- In 2020, the overall market for food and beverage services declined by 15% from the previous year – the largest drop since the survey began in 1994.
- Fast food, supported by demand for take-out and delivery, remained at a 3.7% decrease. On the other hand, with a 50% decline, pubs and izakaya (Japanese-style café bars) took a big hit.
- The state of emergency was reinstated in January 2021. As of the end of March 2021, the number of bankruptcies nationwide relating to the pandemic was highest for restaurants with 205 cases, and fifth highest for food wholesalers with 62 cases.

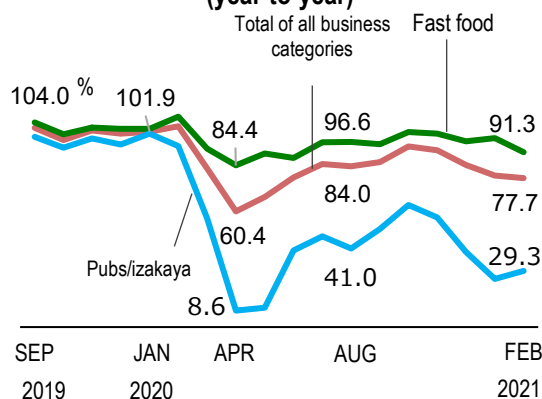
Monthly food expenditures per person



Source: Prepared by MAFF based on the Ministry of Internal Affairs and Communications (MIC) "Family Income and Expenditure Survey" (nationwide usage categories for two-or-more-person households)

Note: Figures are based on the Consumer Price Index (Food: 2015 base) and exclude the effects of price fluctuations

Food and beverage service industry sales by business type (year-to-year)



Source: Prepared by MAFF based on Japan Foodservice Association's "Survey of Market Trends in Eating and Drinking Services"

Number of bankruptcies related to COVID-19 (Top numbers by business type)

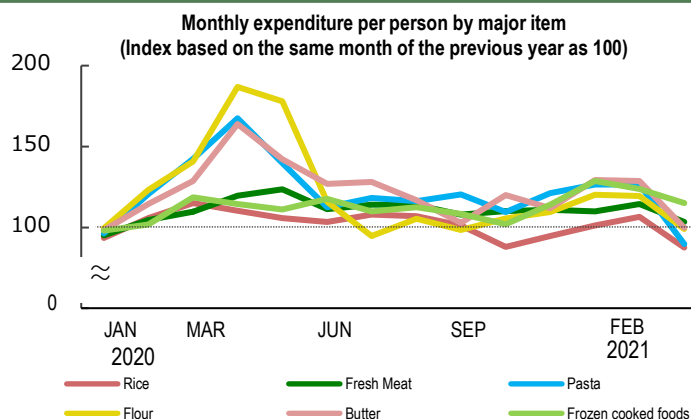
| | Business type | No. of cases |
|---|--------------------------|--------------|
| 1 | Restaurants/bars | 205 |
| 2 | Construction/engineering | 110 |
| 3 | Hotels/inns | 86 |
| 4 | Retail apparel | 67 |
| 5 | Food wholesalers | 62 |
| | Total | 1,237 |

Source: Prepared by MAFF based on "Survey of Trends in New Coronavirus-Related Bankruptcies" published by Teikoku Databank, Inc. on March 31, 2021

Note: Figures as of March 31, 2021

<Increase in household consumption>

- Since March 2020, spending on products such as rice, pasta, flour, butter, and frozen cooked foods that can be stored for long periods, as well as perishable products such as fresh meat, have increased.
- According to a survey published in July 2020, the number of those who responded that "opportunities to eat at home have increased" and "opportunities to cook have increased" was around 50%, each.

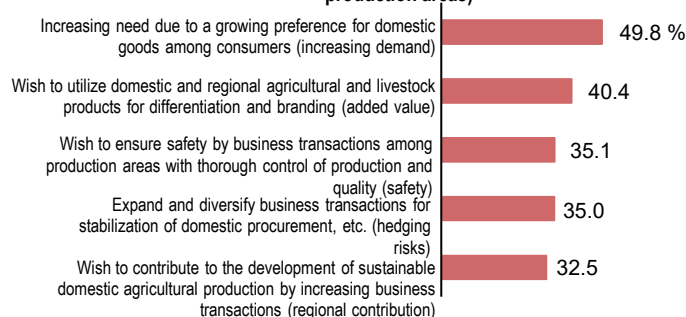


Source: Prepared by MAFF based on the MIC's "Family Income and Expenditure Survey"
 Note: 1) Figures are based on the Consumer Price Index (Food: 2015 base) and exclude the effects of price fluctuations
 2) Calculation method: Current month amount / Same month last year's amount x 100

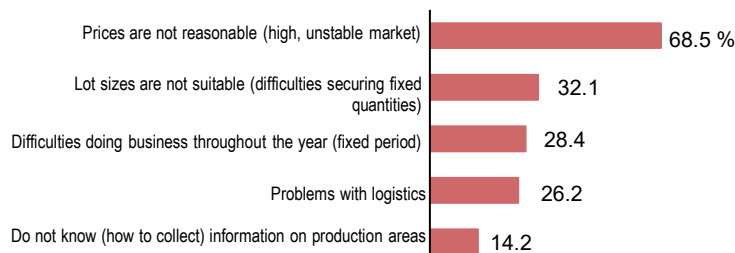
New movements toward the demand for agricultural products

- Due to increases in consumer usage, food and beverage providers have increased their business through take-out and delivery services.
- 10% of consumers said they would support domestic producers (who have lost sales channels) through "ethical consumption".
- 30% of respondents in the food industry want to increase business through the use of domestic production areas. The reason given by 50% of respondents was that their customers are becoming more domestic product oriented. The reason cited by 70% of the respondents was price.
- Unused food meant for consumers was provided to "Children's Cafeterias" through food banks.
- 19 countries, including Russia and other grain exporting countries, have imposed export restrictions due to the spread of COVID-19.
- In January 2021, the WTO informal ministerial meeting and other international meetings were held in which international cooperation was promoted for the purpose of avoiding impacts on food security to include proposals to suppress export restrictive measures and clarify disciplines of export restriction.
- Most countries that once implemented export controls have since lifted them. We will continue monitoring developments in each country to prevent the implementation of unfair export controls.

Willingness to do business with domestic production areas during the COVID pandemic (multiple responses) (Reasons for wanting to increase business transactions with domestic production areas)



(Issues with business transactions with domestic producers)

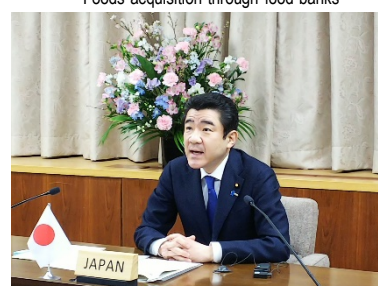


Source: Prepared by MAFF based on the "Food Industry Trend Survey" by the Japan Finance Corporation (released in September 2020)

Note: The question on reasons for wanting to increase business transactions with domestic production areas is directed at those who responded that is what they wanted



Foods acquisition through food banks



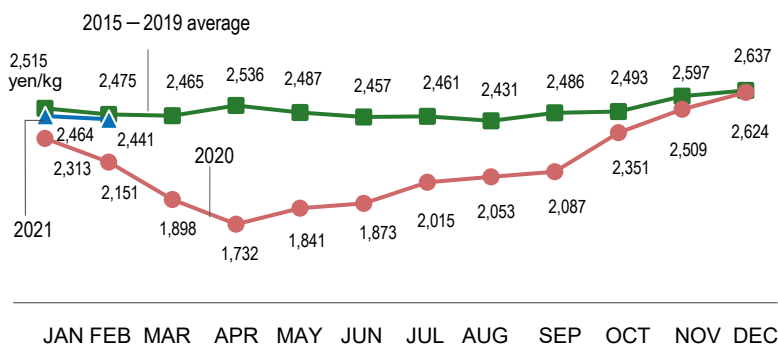
Minister of Agriculture, Forestry and Fisheries speaking at an online WTO informal ministerial meeting

Impact of and new movements in agricultural production and sales

Impacts on market prices and sales channels

- The expansion in COVID-19 affected wholesale prices, etc., mainly for wagyu beef, seafood and flowering plants.
- Wholesale prices for wagyu beef sharply fell in April 2020. Prices have been on a recovery trend since May.
- Due to a decline in demand for dairy products for school lunches and commercial use, the volume of raw milk processed into butter and powdered skimmed milk (products that are storable for longer periods of time) increased.
- Wholesale market prices of cut flowers decreased from March to May 2020. These prices recovered after June due to increased household demand and other factors, but declined again after the state of emergency was issued in January.
- The volume of rice sold has decreased since April 2020, mainly due to home meal replacement (HMR)/eating out.

Wholesale price of beef carcasses (castrated wagyu "A4")

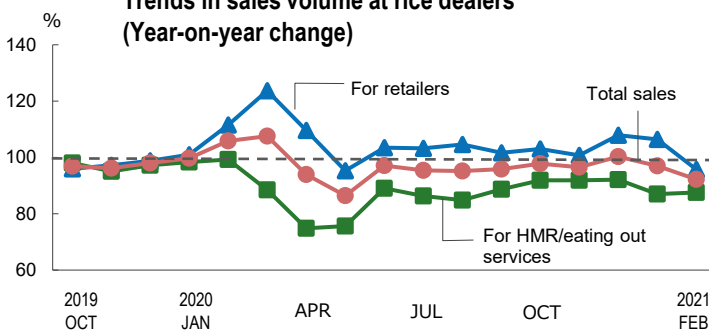


Source: Prepared by MAFF based on the "Statistics Livestock"

Notes: 1) Total of 10 central wholesale markets (CWMs)

2) 2015-2019 figures are simple averages for the relevant months of each year

Trends in sales volume at rice dealers (Year-on-year change)

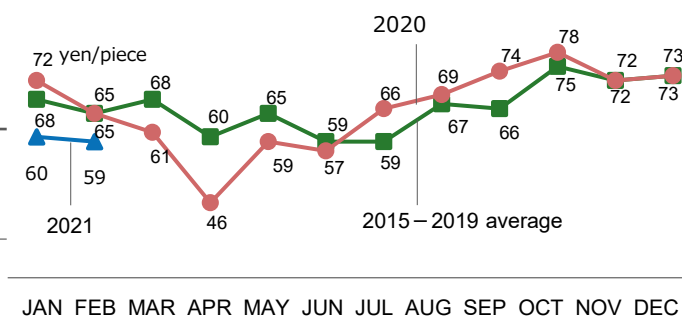


Source: Prepared based on the "Report on Rice Transactions" by MAFF

Notes: 1) The survey targets sellers who supply 50,000 tons or more of brown rice per year

2) Figures are indexed sales volumes of those surveyed

Wholesale market prices of cut flowers

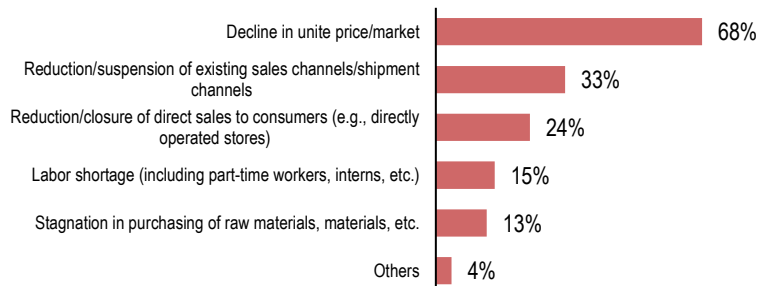


Source: Prepared by MAFF based on the "Market Statistics (Monthly Report)" by the Tokyo Metropolitan Central Wholesale Market

Note: 2015-2019 figures are simple averages for the relevant months of each year

- In the July 2020 survey, half of farmers said their sales were negatively affected (the figure rose to over 60% in the January 2021 survey). The most common reason was a decline in per unit and market prices, followed by shrinking existing sales channels and closures of directly managed facilities, etc.

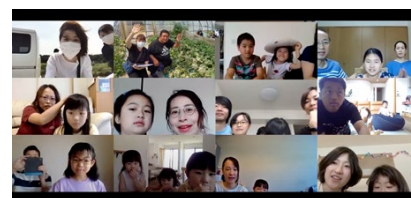
Specific negative impacts on farmers due to the spread of COVID-19 infection



Source: Prepared by MAFF based on Japan Finance Corporation's "Survey of Agricultural Business Conditions" (released in September 2020)

Movements to maintain and expand sales channels

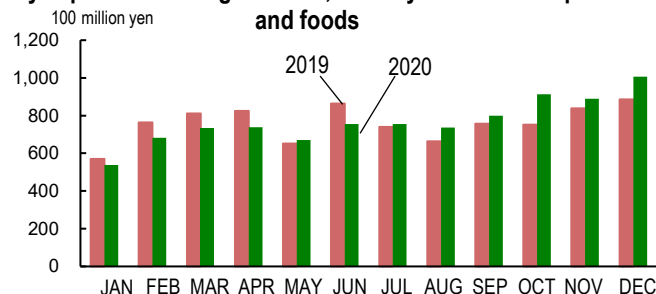
- Producers and tourist farms have maintained and expanded their sales channels by using online to sell directly to consumers and changing their sales channels from eating out service to retail and processing.
- Agricultural, forestry and fisheries products and foods export value trended downward until June 2020, but have increased year-to-year since July. Eggs and grapes, mainly for home consumption, have increased.



Online melon picking

Source: Ibaraki Prefecture

Monthly export value of agricultural, forestry and fisheries products and foods

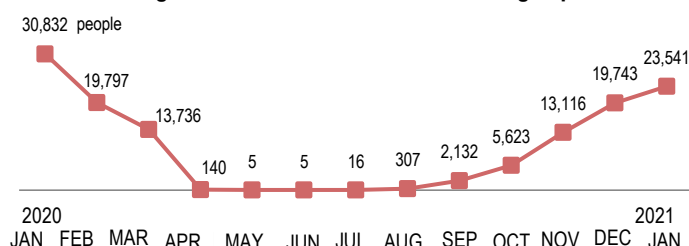


Source: Prepared by MAFF based on "Trade Statistics" (Ministry of Finance)

Impact due to entry restrictions

- Restrictions on the entry of foreign nationals have significantly reduced the number of foreigners who planned to come to Japan from April 2020.
- Despite concerns about the impact of human resource shortages on the agricultural sector, the government responded by securing alternative human resources from other industries.

Number of foreign technical intern trainees entering Japan in all fields



Source: Prepared by MAFF based on "Monthly Statistics on Immigration Control" (Immigration Services Agency of Japan)

Movements to secure labor force

- Efforts have been implemented including securing labor through matching with other industries such as accommodation, addressing labor shortages through agriculture-welfare collaboration and the introduction of smart agricultural machinery.



Co-selection of carnations through agriculture-welfare collaboration



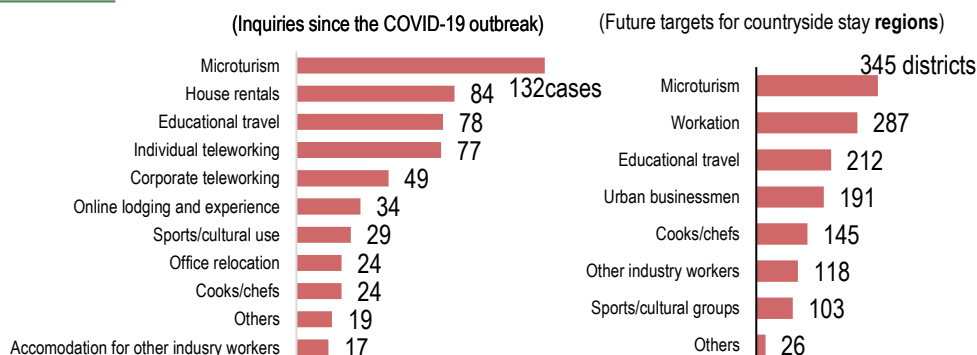
Introduction of smart agricultural equipment (automatic broccoli harvester)

New movements of interest in rural areas, ways of working, and interaction

Growing interest in rural areas

- Interest in rural areas has increased as telework and other location-independent work styles have developed during the pandemic.
- The number of inquiry about workation has increased in countryside stay regions nationwide.

Survey of "workation" requirements in countryside stay regions



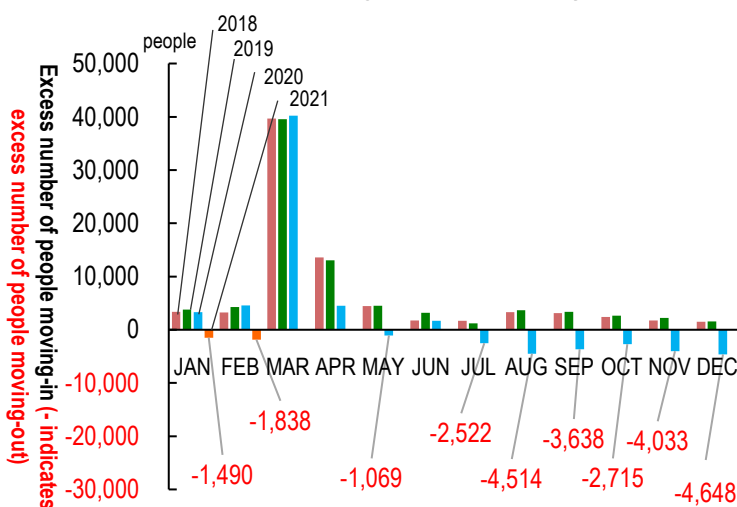
Prepared by MAFF

Note: Inquiries/requests since the outbreak of COVID-19, and the results of responses to questions about targets that should be considered in the future (multiple choice)

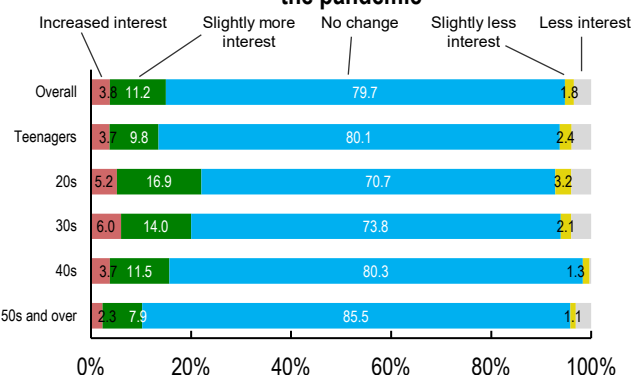
Movements regarding migration

- In May 2020, Tokyo experienced an excess of out-migration for the first time since the start of the survey, and this trend has continued since July.
- Urban residents living in the three major metropolitan areas have increased intents to move to rural areas – particularly among those in their 20s.
- Some municipalities held online immigration counseling events.

Moving-in and -out in Tokyo



Changes in interest in rural migration under the influence of the pandemic



Source: Cabinet Office, "Survey on Changes in Attitudes and Behaviors in Daily Life under the Influence of COVID-19" (released in June 2020)

Note: 1) In May-June 2020, an online survey was conducted among domestic residents (10,128 valid responses). Residents of the three major metropolitan areas were targeted in a questionnaire

2) Responses to questions regarding changes in interest in rural migration due to the COVID-19 pandemic

3) The three largest metropolitan areas are the Tokyo metropolitan area (Saitama, Chiba, Tokyo, and Kanagawa prefectures), the Nagoya metropolitan area (Gifu, Aichi, and Mie prefectures), and the Osaka metropolitan area (Kyoto, Osaka, Hyogo, and Nara prefectures)

Source: Prepared by MAFF based on the "Population Movement Report from the Basic Resident Register" (Ministry of Internal Affairs and Communications)

Increasing interest in agriculture and rural areas and movement of half-farmer, half-X

- Visitors to counseling sessions for those wishing to start farming in FY2020 have increased since September. This suggests growing interest in agriculture.
- Some municipalities have implemented efforts to expand "half-farmer, half-X" (working in other jobs while farming, i.e., farming and accommodation, farming and sake brewing, etc.) in the production field.

Visitors to the New Agriculturist Fair

| | Agriculture EXPO (Jul.) | Agriculture Job Fair LIVE (Aug.) | Agriculture EXPO (Sep.) | Agriculture Job Fair LIVE (Oct.) | Agriculture EXPO (Nov.) | Agriculture Job Fair LIVE (Dec.) | Agriculture EXPO (Jan.) | Agriculture Job Fair LIVE (Feb.) |
|---------------------|-------------------------|----------------------------------|-------------------------|----------------------------------|-------------------------|----------------------------------|-------------------------|----------------------------------|
| No. of visitors | 740 | 210 | 1,209 | 311 | 560 | 219 | 856 | 305 |
| Year-on-year change | 98% | 93% | 199% | 136% | 178% | 166% | 102% | 132% |

Source: Prepared by MAFF

Note: Number of visitors to the events held in Tokyo and Osaka. Year-on-year figures are based on FY2019 as 100



Practitioners of half-farmer, half-X
(farming and working at a sake brewery)
Source: Shimane Prefecture



Practitioners of half-farmer, half-X
(half-farmer, half-guesthouse keeper)
Source: Farm (mandarin oranges)-style guesthouse "aotokuru"
(Tokushima Prefecture)

Response in the agriculture, forestry, fisheries, and food industries

The MAFF has implemented various measures in its emergency economic efforts, etc., from the perspective of ensuring a stable supply of food to the public in response to the pandemic.

Implementation of emergency economic measures, etc.

➤ Support for the continuation of management of agricultural, forestry, and fishery businesses.

- Support livestock farmers to improve their management in order to cope with the decline in carcass prices and the increase in powdered skimmed milk and butter stocks.
- Provide financial support to farmers who are actively engaged in the cultivation of highly profitable crops.
- Support the business continuity and cash flow of agriculture, forestry, fishery and food-related businesses.
- Support the switch from imported agricultural and livestock products to domestic products, and the development of systems for the continuous and stable supply of domestic agricultural and livestock products.



Plus One Project poster

➤ Support agricultural, forestry, and fisheries businesses, etc. by promoting sales and increasing consumption of domestic agricultural, forestry, and fisheries products.

- Call for increased consumption of milk and dairy products (Plus One Project).
- Support and promote efforts to expand the use of flowers (Hana Ippai Project).
- Promote efforts to sell and diversify sales channels for domestic agricultural, forestry, and fisheries products (including processed products such as sake and shochu).
- Support efforts to maintain and promote the export of agricultural, forestry, fisheries, and food products.
- Support efforts to provide unused food to Children's Cafeteria, etc. through food banks.
- Support efforts to stimulate demand from restaurants and bars.
- Support efforts to restore and expand demand for sake brewing rice (the raw material for sake).



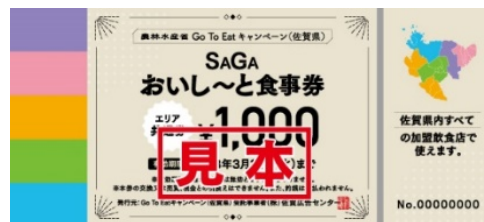
Flowers in front of the main entrance of the MAFF building



School meals served with support from wagyu beef sales promotion

Go To EAT Campaign

- In October 2020, the government launched the "Go To Eat Campaign" to support restaurants operating as well as agriculture, forestry, and fisheries businesses that supply food, while taking measures to prevent infection.
- (1) Premium meal coupons that can be used at registered restaurants and bars are issued, (2) Points that can be used at restaurants and bars in the future will be given to consumers who make reservations and visit them during the period via online restaurant reservation sites.



Premium meal coupon for the Go To Eat Campaign

- Support for securing a labor force for agricultural, forestry and fisheries workers, etc.
- Support for securing a labor force to alleviate shortages due to immigration restrictions, etc.



Automatic asparagus harvesting robot

Prevention of the spread of infection and response to stable food supply

- Disseminate information to the public through websites, MAFF applications, SNS, etc.
- Request smooth distribution to food-related businesses in case of temporary shortages of food items.
- Support competent organizations to develop industry-specific guidelines for infection prevention, etc.

Future actions to be taken

- Risks affecting food supply, such as the spread of COVID-19, have become more diverse.
- Expectations for improving food self-sufficiency and strengthening food security have been increasing. The government will continue to work on reducing the impact of diseases, closely monitor the statuses of outbreaks and take necessary measures.

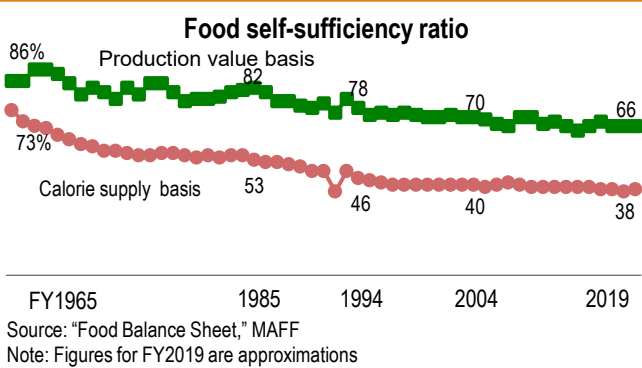


Poster calling for efforts to reduce the risk of infection during dinner

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

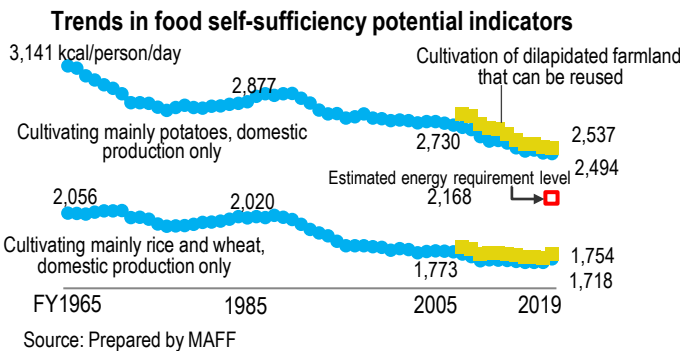


- In FY2019, the food self-sufficiency ratio on a calorie supply basis increased by 1 percentage point from the previous year to 38%, mainly due to higher wheat yields. On a production value basis, the ratio remained the same as the previous year at 66%.
- To improve the food self-sufficiency ratio/potential, it is necessary to strengthen domestic production bases by fostering and securing business farmers, consolidating and intensifying farmland, increase consumption of domestic agricultural products and strengthen links between agriculture and the food industry, etc.
- To improve the food self-sufficiency ratio, which reflects the feed self-sufficiency ratio, it is necessary to improve both the food domestic production ratio (which reflects the activities of the livestock industry regardless of whether feed is produced domestically or imported) and the feed self-sufficiency ratio.
- With diversifying risk factors, such as the spread of COVID-19, there are growing expectations for increases in food self-sufficiency ratio and stronger food security.
- Food self-sufficiency potential indicators which show potential production are higher than the estimated energy requirement levels when the indicators are based on potato-based cultivation and lower when the indicators are based on rice and wheat-based cultivation.



| Food domestic production ratio (Unit: %) | | |
|------------------------------------------------------|----------------------|------------------------|
| | Calorie supply basis | Production value basis |
| Food domestic production ratio | 47(38) | 69(66) |
| Food domestic production ratio of livestock products | 62(15) | 68(56) |
| Beef | 42(11) | 64(56) |
| Pork | 49(6) | 57(45) |
| Chicken eggs | 96(12) | 98(67) |
| Feed self-sufficiency ratio | 25 | |

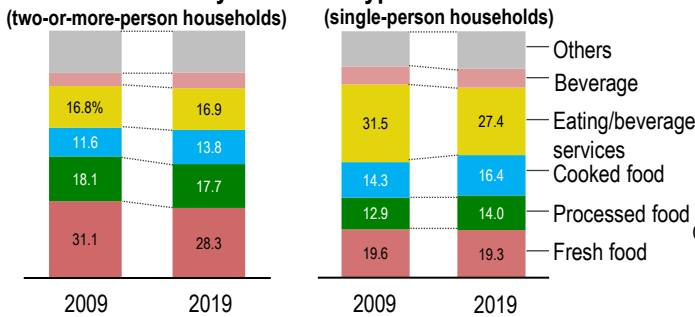
Source: Prepared by MAFF
Notes: 1) Figures for FY2019
2) Figures in parentheses represent the comprehensive food self-sufficiency ratio, which reflects the feed self-sufficiency ratio.



2. Food consumption trends

- The ratio of pre-cooked food spending to total food spending increased for both two-or-more-person households and single-person households in 2019.
- More consumers answered "delicious" as the reason for purchasing frozen foods. This was a factor in the increase in expenditures on pre-cooked foods.

Changes in the breakdown of food consumption expenditure by household type



Source: Prepared by MAFF based on MICs' "Family Income and Expenditure Survey"

Appeal of frozen foods (multiple answers)



Source: Prepared by MAFF based on Survey on Actual Use of Frozen Food Products by the Japan Frozen Food Association

Note: Total calculated based on percentages of men and women, as only data of men and women were published in 2014.

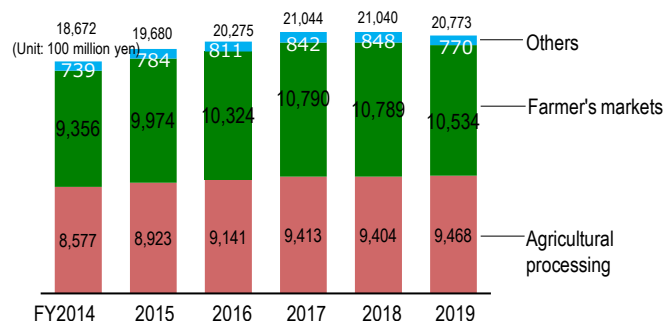
3. Exploration of demand through the creation of new values



Creation of new value chains to meet demand

- Total annual sales of agricultural production-related businesses (the processing and direct sales efforts by farmers, etc.) totaled 2,077.3 billion yen in FY2019, down 26.8 billion yen from the previous year.
- To address the issues faced by agriculture, forestry, and fisheries businesses engaged in AFFrinnovation, the government has set up support centers for AFFrinnovation at the national and prefectural levels to provide advice and support for management improvement efforts.

Total sales from agricultural production-related businesses



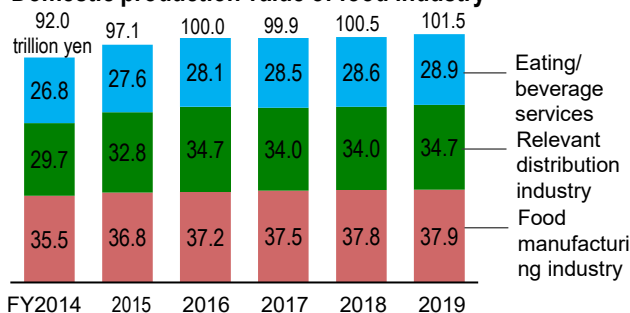
Source: Prepared by Source: Prepared by MAFF, "Comprehensive Survey on AFFrinnovation"

Enhancement of competitiveness in the food industries

- The domestic food industry production value in 2019 was 101.5 trillion yen, up 1.0 trillion yen from the previous year.
- Compared to the previous year, increases included factory-shipped appetizers, sushi, boxed lunches, breads, etc. in the food manufacturing industry, margin value in the retail industry* in relevant distribution industries, and the sales at restaurants and bars in the eating and beverage services industry.

*Margin value = Sales value - Cost of sales

Domestic production value of food industry



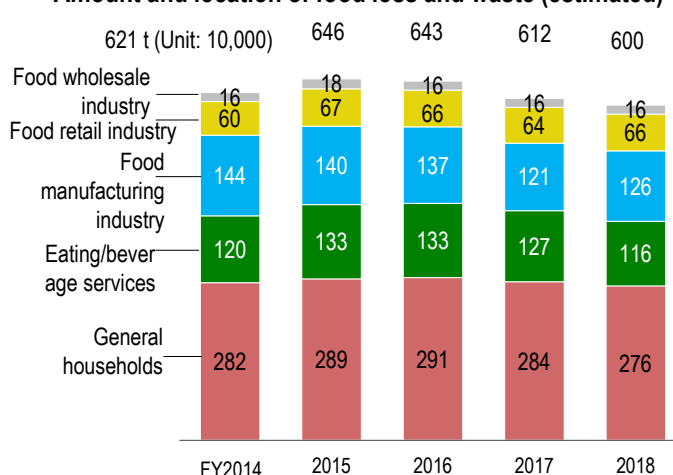
Source: Prepared by MAFF, "Economic relation tables on agriculture and food industries"

Note: Figures for 2019 are approximations

Addressing environmental issues such as food loss and waste

- Japan's food loss and waste has been on a downward trend in recent years, and in FY2018, it was estimated to be 6 million tons per year, down 120,000 tons from the previous year.
- The Government of Japan has promoted the relaxation of delivery deadlines for food retailers and the easing of expiry date labeling (year/month format, and date batch format) for food manufacturers.
- The government has conducted a survey of food-related businesses regarding the amount of food loss and waste generated in general households due to the spread of COVID-19 after March 2020. As a result, about 60% of the food industry as a whole responded that there was no change, while by industry, about 70% of the eating and beverage services industry reported a decrease.

Amount and location of food loss and waste (estimated)



Source: Prepared by MAFF



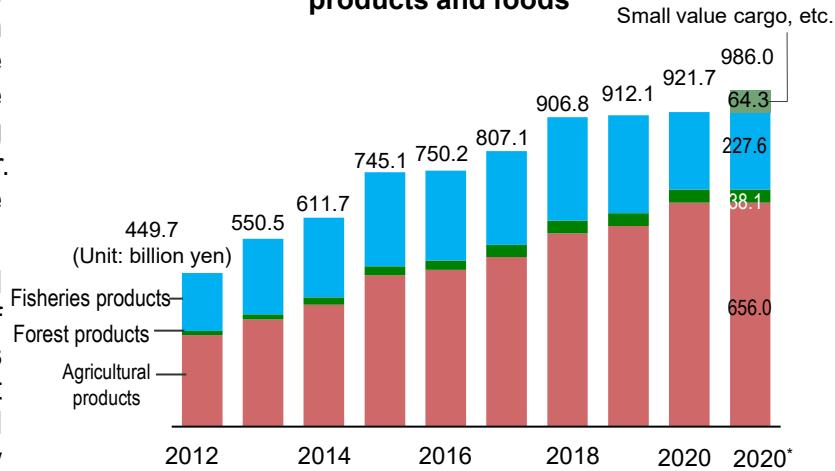
4. Strategic exploration of global market

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

- Due to the global spread of COVID-19, the export value of agricultural, forestry and fisheries products and foods decreased in the first half of 2020, compared to the same period in the previous year. However, the annual value was 921.7 billion yen, reaching a record high for the eighth consecutive year. The value of exports, including small value cargo, etc., was 986.0 billion yen.
- In April 2020, the government established the Headquarters for the Export of Agricultural, Forestry and Fishery Products and Food as a command tower for export promotion and formulated a basic policy and action plan to strategically and efficiently promote exports.
- Due to progress made in animal and plant quarantine consultations, the ban on exports or the quarantine requirements had been lifted for seven products from seven countries/regions in FY2020. This includes the abolition of the 30-month age limit on beef destined for Macao, making it possible to export top-quality, long-term fattened beef.
- Of the 54 countries/regions that introduced import restrictions and/or measures in the wake of the TEPCO Fukushima Daiichi nuclear power station accident, 39 countries/regions have removed their measures.
- As of the end of FY2020, there were 4,572 registrants for GFP*, which aims to support producers, etc. who are willing to engage in export and to promote cooperation among them. Also, 63 GFP global production areas that meet overseas needs and regulations were adopted.

*Abbreviation for Global Farmers / Fishermen / Foresters / Food Manufacturers Project.

Export value of agricultural, forestry and fisheries products and foods



Source: Prepared by MAFF based on Trade Statistics by MOF
Note: * indicates figures for 2020, plus small value cargo, etc.

Countries/regions and products for which the ban on exports is lifted or quarantine requirements are relaxed in FY2020

| Month | Destination country/region | Product | Contents |
|-------|----------------------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| APR | USA | Pear | Expansion of production areas and removal of restrictions on certain varieties |
| | Macao | Chicken meat | Lifting of export ban |
| MAY | Thailand | Citrus fruits | Elimination of joint export inspections in some production areas and field inspection of citrus disease (SOS) |
| JUN | Macao | Beef | Removal of the 30-month age limit |
| | Saudi Arabia | Beef | Lifting of export ban |
| AUG | Australia | Strawberries | Lifting of export ban |
| OCT | EU | Black pine bonsai (including Nishiki-matsu bonsai) | Lifting of export ban |
| | Singapore | Meat products | Lifting of export ban on the use of raw materials imported from third countries |

Source: Prepared by MAFF

Promotion of Japanese food and ingredients

- At the end of FY2019, a total of 6,069 stores had been recognized as Japanese Food and Ingredient Supporter Stores Overseas that proactively use food products made in Japan. A total of 1,719 foreign chefs had obtained their Certification of Cooking Skills for Japanese Cuisine in Foreign Countries and a total of 145 persons had been recognized as Japanese Cuisine Goodwill Ambassadors, who effectively disseminate the appeal of Japanese food and dietary culture in Japan and abroad.

Certification of Japanese food ingredients and Japanese food

(Unit: stores, people)

| | Stores that support Japanese food products | Persons certified in cooking skills for Japanese cuisine | Goodwill Ambassadors for Japanese Cuisine |
|---------------------------|--------------------------------------------|----------------------------------------------------------|-------------------------------------------|
| Europe | 700 | 173 | 31 |
| Africa | 0 | 6 | 1 |
| Asia | 4,236 | 1,337 | 22 |
| Middle East | 69 | 7 | 5 |
| Oceania | 138 | 13 | 6 |
| North America | 603 | 137 | 12 |
| Central and South America | 323 | 46 | 10 |
| Japan | - | - | 58 |
| Total | 6,069 | 1,719 | 145 |

Source: Prepared by MAFF

Note: As of the end of 2020

Intellectual property protection

- Under the Geographical Indications (GI) Protection System, which protects the names of distinctive regional products as intellectual property, 12 new products were registered in FY2020, totaling 106 products.

Product samples registered under the GI protection system in FY2020



Monobe Yuzu
(Kami City, Kochi Prefecture)



Fukuyama Kuwai (Fukuyama City, Hiroshima Prefecture)

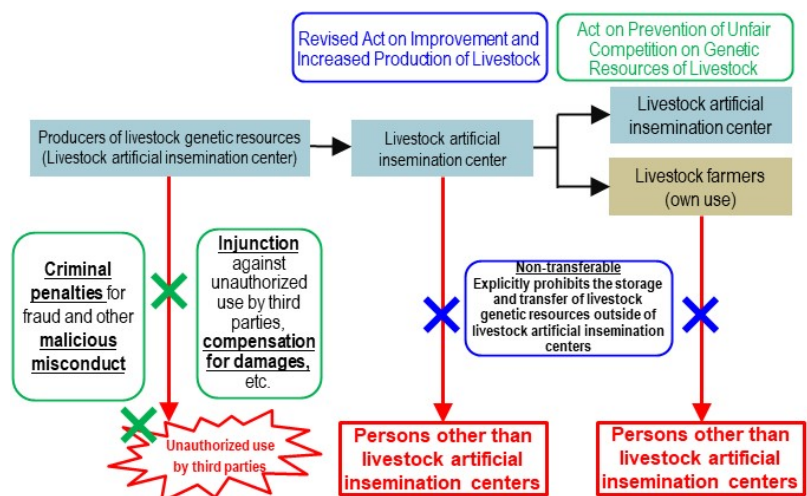


Toyama Hoshigaki
(Nanto City, Toyama Prefecture)

Source: Prepared by MAFF

- In October 2020, the Revised Act on Improvement and Increased Production of Livestock, which prevents improper distribution of livestock genetic resources, and the Act on Prevention of Unfair Competition on Genetic Resources of Livestock, which protects the value of wagyu genetic resources, came into effect.

Outline of the Revised Act on Improvement and Increased Production of Livestock and the Act on Prevention of Unfair Competition on Genetic Resources of Livestock

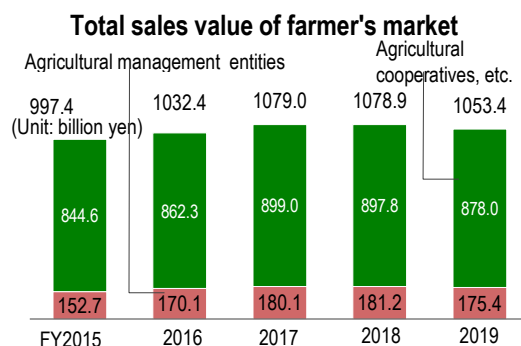


Source: Prepared by MAFF

5. Deepening of the connection between consumers, food and agriculture

Efforts for local production for local consumption

- The total sales value of farmer's markets in FY2019 was 1,053.4 billion yen, down 2.4% from the previous year. The annual sales value of farmer's markets, operated by agricultural cooperatives, was 878 billion yen, accounting for 80% of the total.



Source: Prepared by MAFF, "Comprehensive Survey on AFFrinnovation"

Note: "Agricultural cooperatives, etc." refers to agricultural cooperatives, local governments, the third sector, producer groups, etc.

Protection/transmission of Japanese food culture

- Information on 17 prefectures was added to the database "Our Regional Cuisines - Beloved tastes and flavors we want to pass on to the next generation" which contains information on the histories, origins, and recipes of regional cuisines selected by each region, thus providing information on 27 prefectures.

<Case Study> Let's learn about "food" through hands-on experience (Miyazaki Prefecture)

- Kobayashi City, Miyazaki Prefecture, creates opportunities for learning about local cuisine and healthy cooking through cooking classes, etc.
- In particular, the activities targeting elementary and junior high school students and their parents are designed to convey the origin of the names of local dishes. In addition, the program provides opportunities to pass on food culture and rediscover local attractions



Participants in the summer vacation parent-child challenge course

6. Promotion of *shokuiku* (food and nutrition education)

- In March 2021, the Fourth Basic Plan for the Promotion of *shokuiku* was established in light of the situation surrounding *shokuiku*, such as the health of the citizens, changes in the environment with regard to food and nutrition, and the digitization of society. This plan covers approximately five years, from FY2021 to FY2025.
- This plan focuses on the following three areas: (1) Promotion of *shokuiku* supporting lifetime physical and mental health, (2) Promotion of *shokuiku* supporting sustainable food and nutrition, and (3) Promotion of *shokuiku* in response to the "new normal" and digitalization.
- The government added a new target for the guidance on local products by diet and nutrition teachers. Also, more assignments of more diet and nutrition teachers will be promoted.
- The "Health Japan 21(the 2nd term)" and "200 grams of Fruits Every Day!" recommend consumption of 350g of vegetables and 200g of fruits respectively. However, these recommendations have not been met (actual figures were 280.5g for vegetables and 100.2g for fruits as of 2019). In order to increase the intake, it is important to both promote and raise awareness among consumers.

Goals for *shokuiku* Promotion in the Fourth Basic Plan for the Promotion of *shokuiku*

1. Increase the number of citizens who are interested in *Shokuiku*.
2. Increase the number of "kyoshoku" occasions for breakfast or dinner with family members.
3. Increase the percentage of citizens participating in kyoshoku in communities as they hope.
4. Decrease the percentage of citizens skipping breakfast.
5. Increase efforts to use local products in school lunches, etc.
6. Increase the number of citizens who adopt dietary habits in consideration of balanced nutrition.
7. Increase the percentage of citizens who put into practice a healthy diet from day to day where they take care to maintain an appropriate weight and limit salt intake in order to prevent or treat noncommunicable diseases.
8. Increase the percentage of citizens who take time to eat and chew well.
9. Increase the number of volunteers engaging in the promotion of *shokuiku*.
10. Increase the number of citizens who have agriculture, forestry, or fishery experience.
11. Increase the number of citizens who choose agricultural, forestry, and fishery products and foods with an awareness of production areas and the producers.
12. Increase the number of citizens who choose environmentally friendly agricultural, forestry, and fishery products and foods.
13. Increase the number of citizens who take action to reduce food loss and waste.
14. Increase the percentage of citizens who have received and pass on traditional cuisines and table manners from their communities or families.
15. Increase the percentage of citizens who have basic knowledge on food safety and are able to make appropriate decisions based on it.
16. Increase the percentage of municipalities that have created and implemented the Municipal Plan for the Promotion of *Shokuiku*.

Additional and expanded goals

Source: Prepared by MAFF

7. Ensuring food safety and consumer confidence taking international activities into consideration



- Based on scientific evidence, MAFF develops and disseminates measures for preventing and reducing chemical / microbiological hazards in food at necessary stages throughout the food chain from farm to table.
- The Food Labeling Standards were revised in March 2021 to enable the labeling of unpolished or polished rice to indicate the place of production, variety, and year of production, even if the rice has not been certified by Agricultural products inspection.

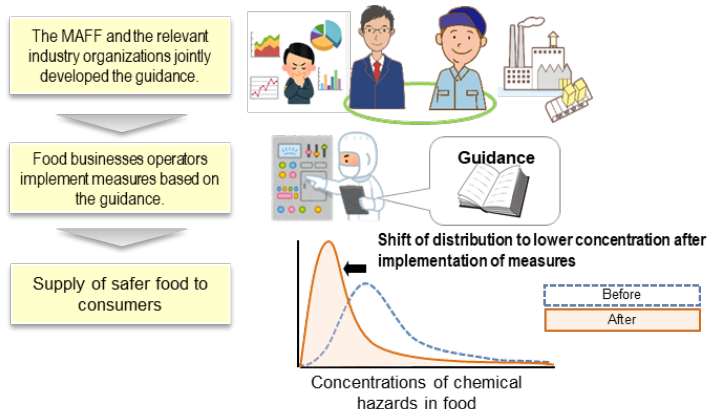
Example of food labeling for unpolished or polished rice after the revision of the Food Labeling Standards

| | Place of production | Variety | Year of production |
|---------------------|---------------------------------------------------------------------------------------------------------------------|---------|--------------------|
| Raw unpolished rice | Single source rice Niigata Prefecture Koshi Hikari Based on Agricultural product inspection certification (*) | | 2021 |
| Raw unpolished rice | Single source rice Niigata Prefecture Koshi Hikari Confirmed by XXX Rice (producer's name) (*) | | 2021 |

Source: Prepared by MAFF, based on data from the Consumer Affairs Agency

Example of measures to reduce chemical hazards in food

In October 2020, guidance for food business operators was published to improve the safety of foods containing fats and oils. This guidance outlines the principles and examples of measures to reduce 3-MCPD esters and glycidyl esters in food that occur unintentionally during the refining process of fats and oils.



Source: Prepared by MAFF

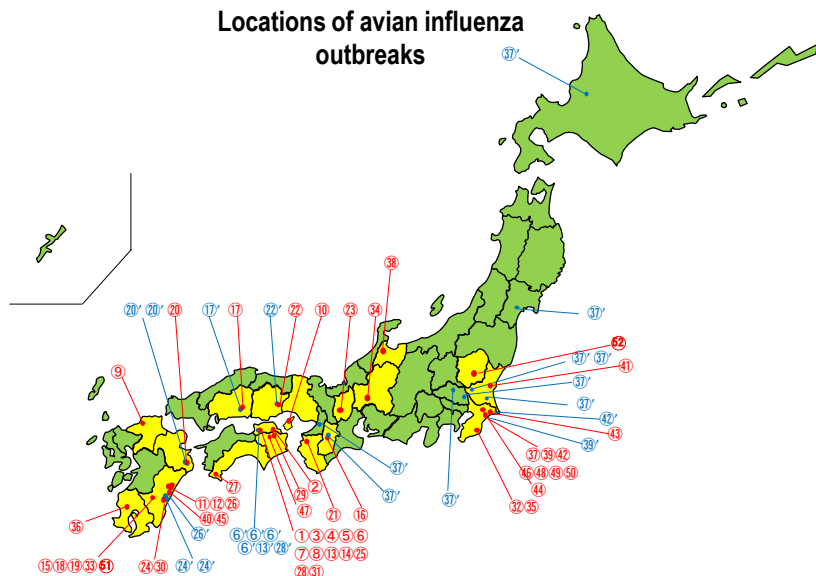
8. Strengthen measures for animal and plant quarantine



Avian influenza

- In November 2020, an outbreak of highly pathogenic avian influenza occurred in Kagawa Prefecture for the first time in about three years, and as of the end of March 2021, 52 cases had been confirmed on farms in 18 prefectures.
- SDF cooperated in the culling in affected farms in response to requests (28 times as of the end of March 2021).
- The government notified prefectures across the country to (1) conduct simultaneous checking for appropriate biosecurity management, (2) conduct simultaneous emergency disinfection nationwide, and (3) conduct emergency quarantine exercises.
- Detailed information was disseminated including leaflets with easy-to-understand explanations of the arrival statuses of wild birds and the seasonal nature of the virus.

Locations of avian influenza outbreaks



Source: Prepared by MAFF

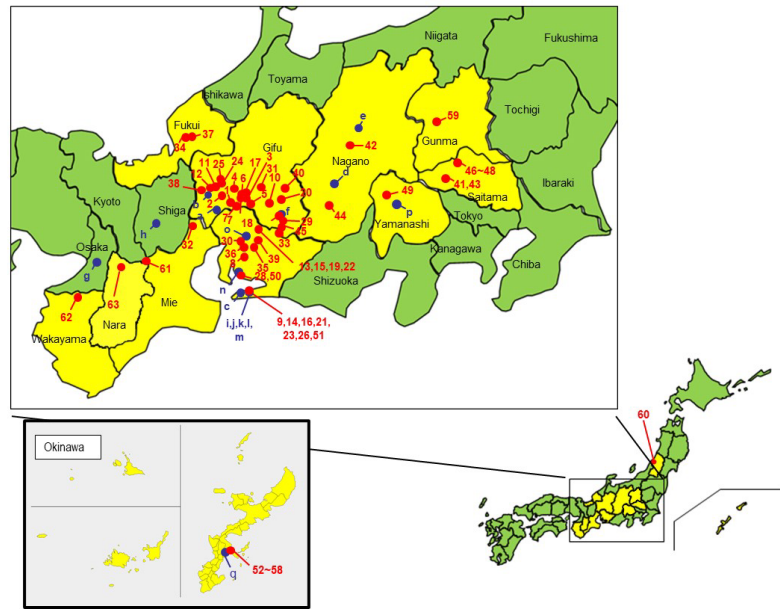
Notes: 1) As of the end of March 2021

2) Numbers indicate the order of occurrence. Numbers in red indicate farms where outbreaks occurred. The numbers in blue, which are the same as the numbers in red, mean farms where some poultry were culled, identified as "animals suspected to be affected" since epidemiological linkage with affected farms were confirmed, such as movement of poultry, etc.

CSF (classical swine fever)

- The first outbreak of CSF in Japan in 26 years occurred in September 2018, with 63 cases reported in farms in 12 prefectures as of the end of March 2021.
- Based on the Specific Domestic Animal Infectious Disease Quarantine Guidelines for Classical Swine Fever (CSF), the government has designated 30 prefectures as recommended vaccination areas as of the end of March 2021.
- A revision of the Biosecurity Standards has been implemented, including mandatory measures to establish a manual of biosecurity management at each farm, to prevent wildlife from entering, and stricter heating standards for eco-feed.

Locations of CSF outbreaks



Source: Prepared by MAFF

Notes: 1) As of the end of March 2021

2) Numbers indicate the order of occurrence. Numbers indicate farms where outbreaks occurred in rearing swine. Alphabetical marks indicate where some pigs were culled, identified as "animals suspected to be affected" since epidemiological linkage with affected farms were confirmed, such as movement of pigs, etc.

- In March 2020, the Act on Domestic Animal Infectious Diseases Control was partially revised for the purpose of preventing the introduction of transboundary animal diseases such as foot-and-mouth disease (FMD) and highly pathogenic avian influenza (HPAI) from overseas, both of which have enormous impacts on the livestock industry. The quarantine system was strengthened by increasing the number of animal quarantine officers and quarantine detector dogs.
- To prevent the entry/spread of plant diseases and pests in Japan, quarantine inspections on imported plants, surveys around points of entry, and emergency control of the entered pests have been implemented.
- Since June 2020, a number of detections of Oriental fruit flies (a serious threat to citrus fruit) have been reported in Kagoshima prefecture, etc. In response, MAFF, in cooperation with the prefectures, implemented control measures such as installations of plates that attract and kill male adults.



A detector dog for animal and plant quarantine



Plate for attracting and killing adult male Oriental fruit flies

9. Establishing comprehensive food security in anticipation of food supply risks



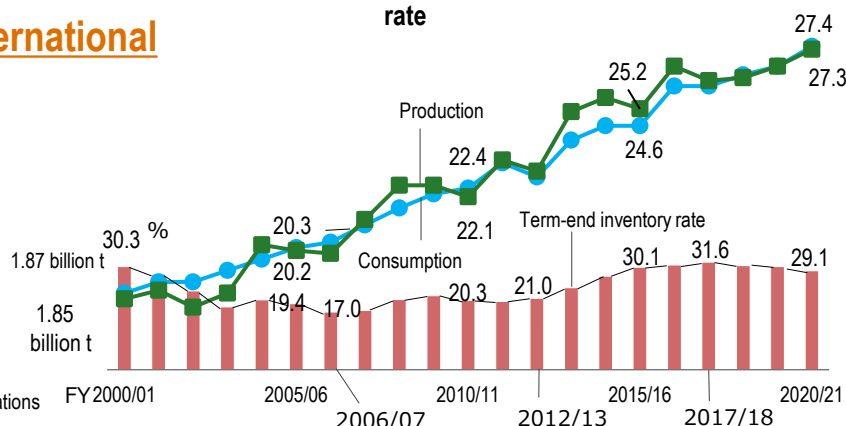
Efforts to prepare for unexpected events in normal times

- In FY2020, the government conducted risk analyses and assessments of food security for three risk categories: large-scale natural disasters, extreme weather events, infectious diseases in livestock, and new infectious diseases such as COVID-19.
- In January 2021, "contagious disease epidemics" was added to the "Food Security Guideline in case of Emergency" as a risk affecting food supply.

Understanding and analyzing international food supply and demand

- The world grain production increased for the third consecutive year, mainly due to growth in crop yields. Consumption increased due to population growth, higher income levels, etc.
- The world's population is projected to grow from 7.8 billion in 2020 to 9.74 billion* by 2050 *Source: World Population Prospects 2019, United Nations
- It is necessary to take all possible measures to ensure food security based on the trends of international supply and demand due to the instability of global food supply and demand.

Global grain production, consumption, term-end inventory rate



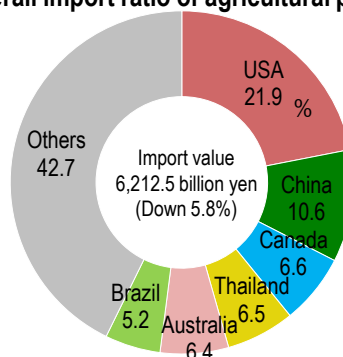
Source: Prepared by MAFF based on "PS&D" and "World Agricultural Supply and Demand Estimates" by USDA (as of March 2021)

Note: 1) Grains are the sum of wheat, coarse grains (corn, barley, etc.), and rice (milled rice)
2) Term-end inventory rate = Term-end inventory quantity / Consumption quantity x 100

Securing a stable supply of imported grain and food

- Japan's agricultural imports in 2020 were 6,212.5 billion yen, year on year decrease of 5.8%.
- The government has maintained and strengthened good relations with import partner countries and collected relevant information in order to ensure the stable supply of the imported major agricultural products upon which Japan depends.

Japan's overall import ratio of agricultural products by country



Source: Based on Trade Statistics by MOF

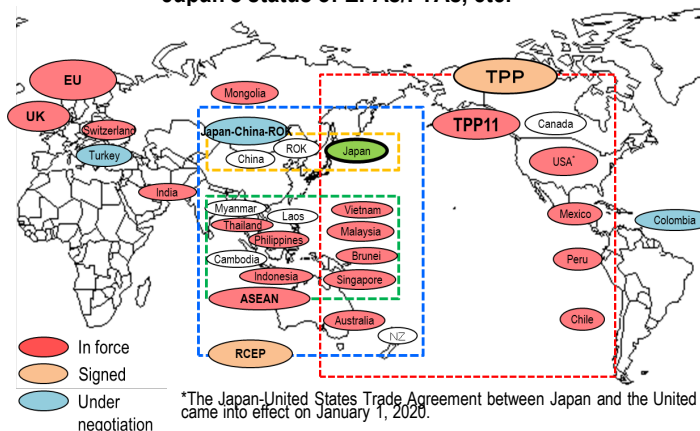
Notes: 1) Final results for CY2020

2) Figures in parentheses are year-on-year basis.

10. Status of international negotiations

- As of the end of FY2020, 21 EPAs/FTAs, etc. have been put into force or signed.
- In November 2020, the RCEP Agreement was signed, and in January 2021, the UK-Japan EPA came into effect.

Japan's status of EPAs/FTAs, etc.



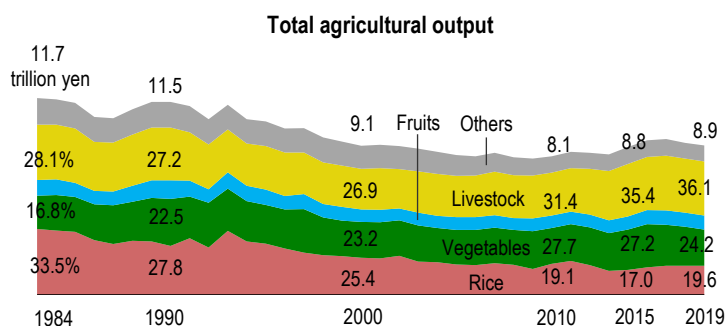
*The Japan-United States Trade Agreement between Japan and the United States came into effect on January 1, 2020.

Source: Prepared by MAFF
Note: As of the end of MAR 2021

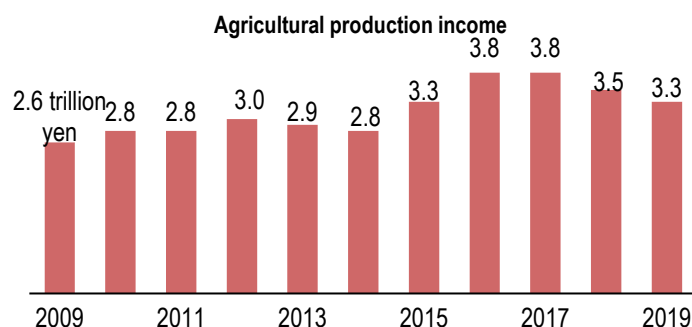
Chapter 2 Sustainable Development of Agriculture

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

- The total agricultural output decreased by 1.8% to 8.9 trillion yen in 2019 from the previous year, mainly due to lower prices for vegetables and hen eggs as production volume increased.
- Agricultural production income in 2019 decreased by 4.8% to 3.3 trillion yen from the previous year, mainly due to the decrease in total output.
- Agricultural gross income per entity remained flat since 2017, and increased by 0.9% in 2019 from the previous year. Agricultural income decreased by 1.7% to 1,941,000 yen due to an increase in agricultural expenditures.



Source: MAFF, "Statistics of Agricultural Income Produced"



Source: MAFF, "Statistics of Agricultural Income Produced"

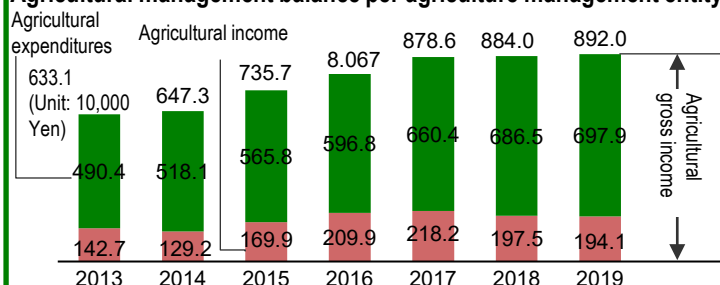
<Case Study> Efforts to improve quality have resulted in higher sales per area (Shizuoka Prefecture)

- Challenged by declining membership and farm area, the Enshu-Yumesaki Japan Agricultural Cooperative's Strawberry Committee still succeeded in increasing sales per area by 53% from 2008 to 2019 through quality improvement efforts.



Strawberry cultivation on elevated benches
Source: Enshu-Yumesaki Japan Agricultural Cooperative

Agricultural management balance per agriculture management entity



Source: MAFF, "Report of Statistical Survey on Farm Management: Management Income and Expenditure of Agriculture Management Entities in 2019"(Estimated) (Released in February 2021)

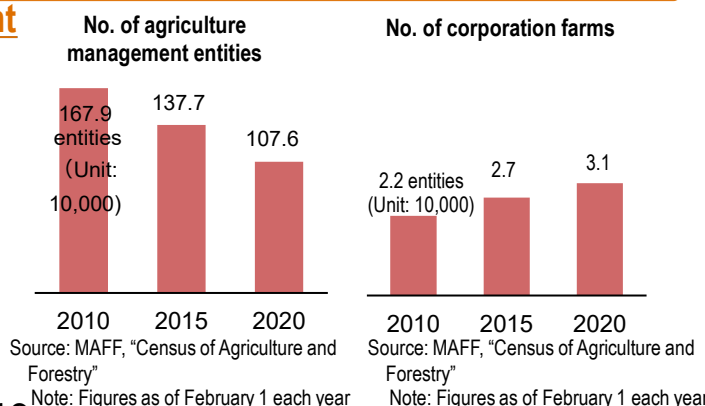
Notes: 1) The figures for 2013-2018 are estimated from the aggregated results of the Report of Statistical Survey on Farm Management, the Statistics on Management by Type of Management (individual management) and Report of Statistical Survey on Farm Management, the Statistics on Management by Type of Management (management of corporate organization). 2) Figures for 2019 are based on data from the Statistic on Management by Farming Type (all types of farms) and are estimated using the same criteria as in 1) (former criteria).

2. Development and securing of business farmers for realizing a strong and sustainable agricultural structure



Encouragement of management development through the certified farmers system, incorporation, etc.

- The number of agriculture management entities in 2020 decreased by 22% to 1.076 million from five years ago.
- Of the total number of agriculture management entities, the number of corporation entities increased by 13% to 31,000 compared to five years ago. There has been a steady increase in the number of corporation entities.



Source: MAFF, "Census of Agriculture and Forestry"

Note: Figures as of February 1 each year

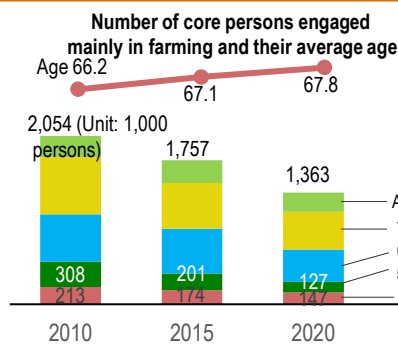
Source: MAFF, "Census of Agriculture and Forestry"

Note: Figures as of February 1 each year

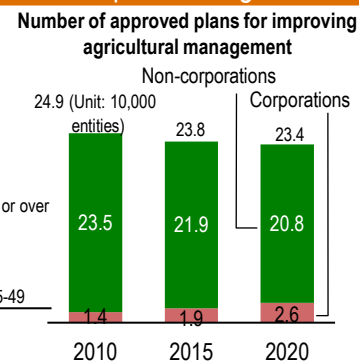
➤ In 2020, the average age of core persons engaged mainly in farming was 67.8 and the number of persons engaged was 1,360,000. This showed an age increase of about 2 years from 66.2 years 10 years ago and a 34% decrease in the number of core persons.

➤ Compared to 10 years ago, the number of those aged 49 and under has decreased by 31%, whereas the number aged 59 and under decreased by 47%.

➤ The number of certified plans for improving agricultural management in 2020 was 230,000 farms. Of these, the number of corporation farms has been consistently increasing. There were also cases that were approved across prefectural boundaries.



Source: MAFF, "Census of Agriculture and Forestry 2020," "Census of Agriculture and Forestry 2015" (reclassified), and "Census of Agriculture and Forestry 2010" (reclassified).
Note: Figures as of February 1 each year



Source: MAFF, "Status of Approval of Plans for Improving Agricultural Management"
Note: Figures as of the end of March each year

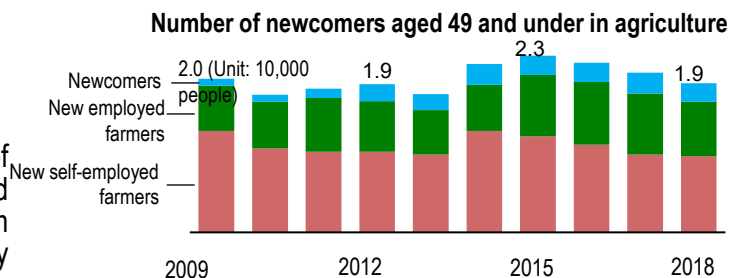
Taking over farm management, recruiting newcomers; training and securing human resources, etc.

➤ Due to the aging of and decreasing number of farmers, the Ministry of Agriculture, Forestry and Fisheries promoted the steady succession of farm management and the smooth transfer of assets by business farmers through consultation with experts and special tax incentives.

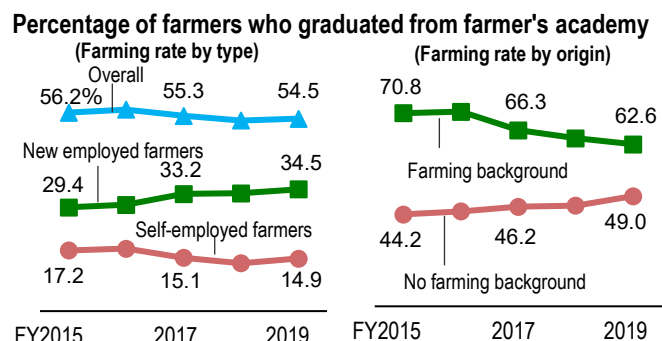
➤ The number of newcomers aged 49 and under has remained at around 20,000 in recent years, with 19,000 reported in 2018.

➤ Ninety-five percent of newcomers continued to engage in farming at the end of the following year (those eligible for the preparatory type of next generation agricultural human resources investment business.)

➤ Out of the farmer's academy graduates in 2019, 55% became employed farmers. The percentage of new employed farmers is on the rise. The rate of farming among students without a farming background was also increasing.



Source: MAFF, "Survey Result of Newcomers in Agriculture"
Note: As of February 1 each year



Source: Prepared by MAFF based on data by the National Council of Farmer's Academy
Note: "Farmers" does not include those who started farming after working at other jobs.

<Case Study> High School of Agriculture & Forestry supports GAP certification efforts (Gifu Prefecture)

➤ Gifu Senior High School Of Agriculture & Forestry has obtained GLOBALG.A.P. and JGAP certification. The school shares know-how and supports local farmers in obtaining GAP certification.

➤ These efforts were highly evaluated and awarded the Grand Prix of "Discover Rural Treasures" in 2020

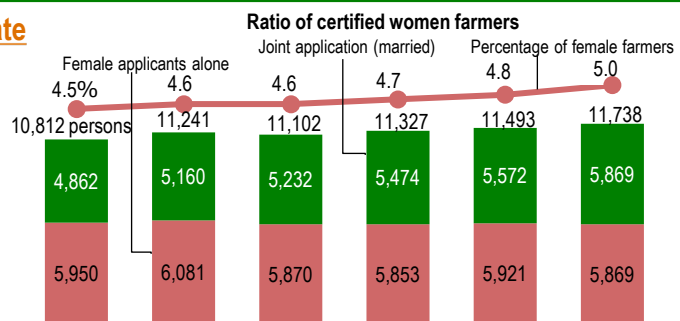


Students of Distribution Science,
Gifu Senior High School Of Agriculture & Forestry

Creating an environment in which women can demonstrate their abilities

➤ The number of certified female farmers in 2020 increased by 8.6% to 11,738 from five years ago, and the ratio of women to the total number of certified farmers increased by 0.5 percentage points to 5.0%.

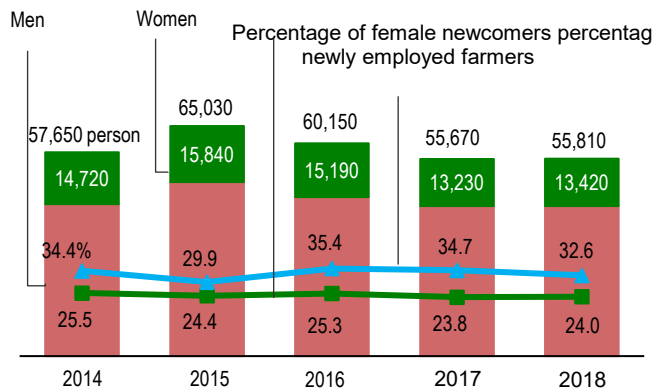
➤ Female newcomers numbered 13,420 in 2018, accounting for 24% of all newcomers. Female new employed farmers numbered 33% of the total, accounting for a high percentage of new employed farmers



Source: Prepared by MAFF, based on "Approval Status of Plan for Improving Agricultural Management by Agriculture Type"
Note: Figures as of the end of March each year

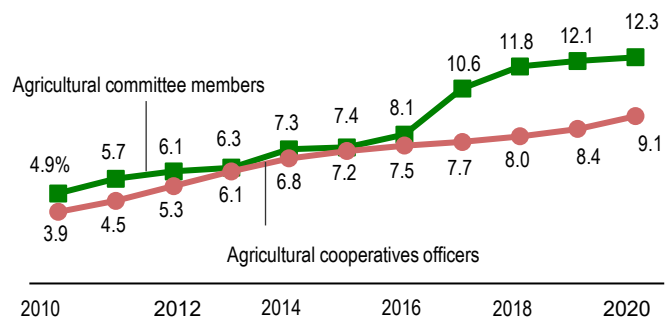
- Women accounted for 12.3 % and 9.1 % of agricultural committee members and agricultural cooperative directors, respectively, in 2020. Compared to 10 years ago, women's share increased by 7.4 points among agricultural committee members and by 5.2 points among agricultural cooperative directors.
- The "Study Group for the Promotion of Women's Active Participation in Agriculture" was held. The Ministry of Agriculture, Forestry and Fisheries in December 2020 summarized recommendations on the need for awareness-raising in rural areas and concrete measures such as women's participation in the formulation of local agricultural policies.

Number of female newcomers and percentage of female farmers



Source: Prepared by MAFF based on "Survey Result of Newcomers in Agriculture"

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



Source: Prepared by MAFF based on "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

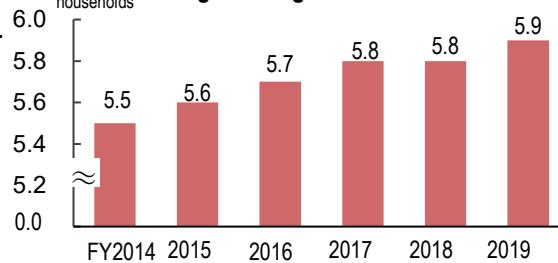
3) The figures for FY2020 are based on data from the Central Union of Agricultural Cooperatives (Zenchu).

3. Active participation of diverse human resources and entities that support agricultural sites



- It is important to promote the activities of diverse human resources and players, such as SMEs and family businesses, in order to secure local agricultural production and make it sustainable.
- Individual farmers (households) account for the majority of farmers in Japan. One of the tools for realizing a work-life balance is a family management agreement that stipulates the division of work and household chores. 59,000 farmers have signed the agreement, accounting for 26% of main business operators.
- "Support for the establishment of new ways of working in agriculture" is provided to local production areas working to reform agricultural work styles and reduce labor shortages.

Number of farms signing family management agreements



Source: MAFF, "Survey on Family Management Agreements"

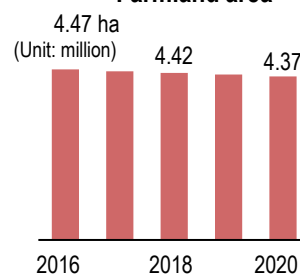
Note: Figures as of the end of each fiscal year

4. Integration and consolidation of farmland and securing business farmers



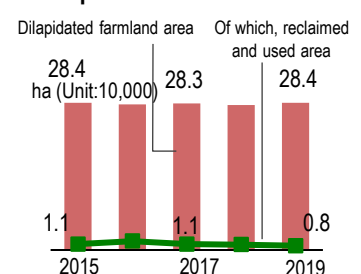
- The area of farmland in 2020 is 4.37 million ha, down 25,000 ha from the previous year. The area of dilapidated farmland in 2019 was 284,000 ha, the same level as the previous year, of which 8,000 ha was reclaimed and used.

Farmland area



Source: Prepared by MAFF based on "Statistics on Cultivated Land and Planted Area"

Dilapidated farmland area

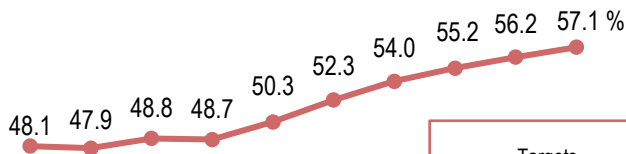


Source: Prepared by MAFF based on "Survey on the Occurrence and Resolution of Dilapidated Farmland"

- The area of cultivated land under management per agricultural management entity in 2020 was 3.1 ha, up 20% from 5 years ago.
- As a result of the Farmland Bank initiative launched in 2014, business farmers' share of total farmland rose each business farmers' share of total farmland year, reaching 57% at the end of FY2019.
- To achieve the 80% target of the business farmers' share of total farmland by the end of FY2023, "the Farmers and Farmland Plans" is promoted for realization based on the revised Farmland Banks Act.

In FY2019, the Farmers and Farmland Plans are already realized in 18,826 districts, and 48,790 districts are working on realization.

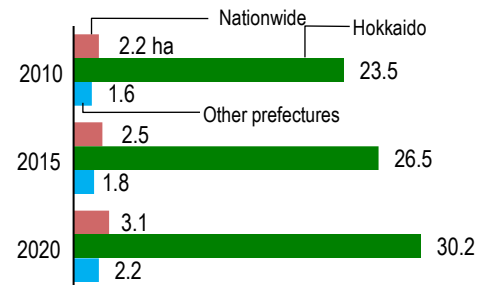
Business farmers' share of total farmland



Source: Prepared by MAFF

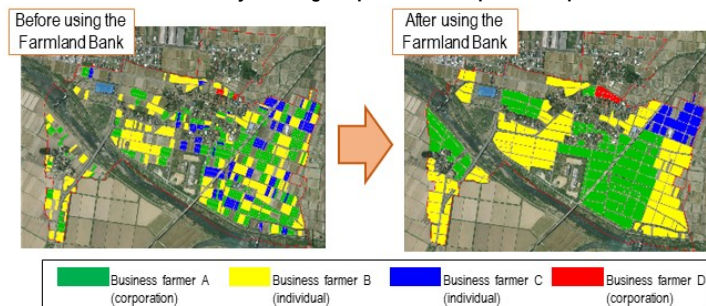
Note: This includes those by entities other than the Farmland Bank

Cultivated land under management per entity



Source: Prepared by MAFF based on "Census of Agriculture and Forestry"

Case Study: Solving the problem of dispersion of plots



Source: Prepared by MAFF

Note: Case study of the Hiroshima District, Myoko City, Niigata Prefecture

5. Promotion of initiatives towards stabilization of agricultural management

- The number of agriculture management entities that signed up for the revenue insurance system, which compensates for income loss caused by not only natural disasters but also various risks, increased by 13,000 to 36,142 in 2020. The percentage of entities filing the blue form tax returns is 10%.
- 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.
- Despite a decrease in income in 2020 due to COVID-19, the government has established a special exception that will not affect the base income for the following year.
- The number of applications for Farming Income Stabilization Measures in FY2020 decreased by 1,000 cases to 42,000 cases for direct payment for upland field crops from the previous year. Payment to mitigate the impact of reduced income for rice and upland field crops decreased by 10,000 cases to 78,000 cases from the previous year.

<Overview of the revenue insurance system>

- The insurance premium rate is about 1%, and 90% of the amount below the base income will be covered when income falls below 90% of the base
- This insurance covers all agricultural products in principle, and covers not only natural disasters but also a wide range of risks in agricultural management such as declining prices

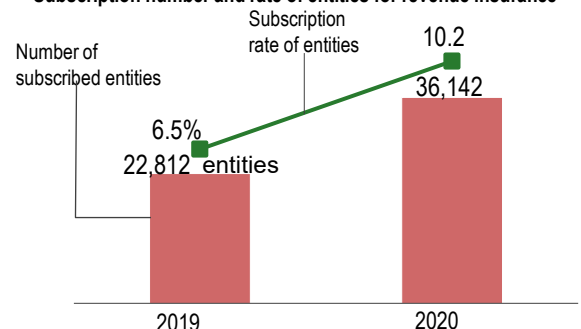
<Example risks covered by revenue insurance system>



* If 70% of the base income is selected as the lower limit of coverage, premiums are discounted by 40%.

Source: Prepared by MAFF

Subscription number and rate of entities for revenue insurance



Source: Prepared by MAFF

Note: Subscription rates are based on the percentage of farmers who file the blue form tax returns (353,000 farmers (excluding cash basis)) in the 2020 Census of Agriculture and Forestry (approximate figures)

6. Development of agricultural production infrastructure that contributes to the transformation of agriculture into a growth industry and strengthening national resilience



Formulation of a new Long-term Plan of Land Improvement

- The government formulated a new Long-Term Plan of Land Improvement for the period from FY2021 to FY2025 in March 2021.
- Policy issues include: "Towards the transformation of agriculture to a growth industry by strengthening agricultural production infrastructure," "Promotion of rural areas where diverse people can continue to live," and "Strengthening the resilience of agriculture and rural areas." In addition to these, the government has newly established the following KPIs: (1) Acceleration of smart agriculture implementation, (2) Intensive and systematic promotion of disaster prevention measures for critical reservoirs for disaster prevention, and (3) Promotion of River Basin Disaster Resilience and Sustainability by All.

Development of agricultural production infrastructure for developing agriculture industry to a growth sector

- In 2019, 11% of rice paddies had been consolidated into large partitions of about 50a or more, and 46% of paddy fields were upgraded to multipurposed paddy fields by installing culvert drainage, etc. Irrigation facilities had covered 24% of upland fields.
- Efforts to improve agricultural production infrastructure have been promoted to enable the implementation of smart agriculture, which utilizes automated agricultural machinery, ICT water management, etc.

Strategic conservation and management of agricultural irrigation facilities

- Developed agricultural irrigation facilities include core channels totaling 51,454 km and 7,632 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.

Disaster prevention and reduction measures to strengthen the resilience of agriculture and rural areas

- Based on the Fundamental Plan for National Resilience, the government promotes tangible measures, such as enhancing structural longevity of agricultural irrigation facilities, etc. and intangible measures, such as creation of hazard maps, etc.
- The Act on Special Measures for Construction of Reservoirs came into effect in October 2020. The purpose of this Act is to provide necessary financial measures and enhanced local financial measures for the promotion of disaster prevention on critical reservoirs for disaster prevention by the national government in response to the promotion plans of prefectures.
- Efforts for River Basin Disaster Resilience and Sustainability by All are promoted through "releasing water in advance" of agricultural dams, "rice paddy dams" using rice paddies, and utilization of reservoirs and agricultural drainage facilities in order to properly exercise the flood control functions of farmland and agricultural irrigation facilities.

Repairs of core channels



Inspection and diagnosis



Repaired channel

Source: Prepared by MAFF

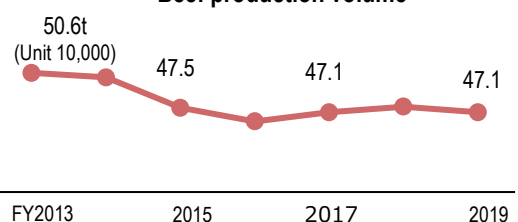
7. Strengthening of the production bases compatible with changes in the demand structure, etc., and streamlining of distribution/processing structures



Livestock products

- While the number of households raising livestock decreased for each livestock category, the number of animals raised per household increased.
- Beef production volume for FY2019 decreased by 1.1% from the previous year due to castration of dairy cattle and a decrease in crossbreds.

Beef production volume



Source: MAFF, "Food Balance Sheet"
Note: FY2019 figures are estimates

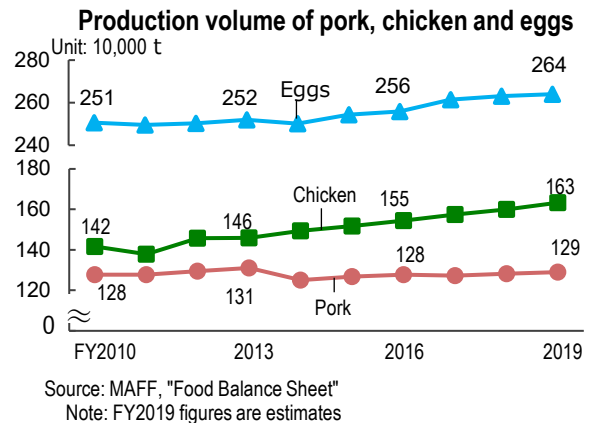
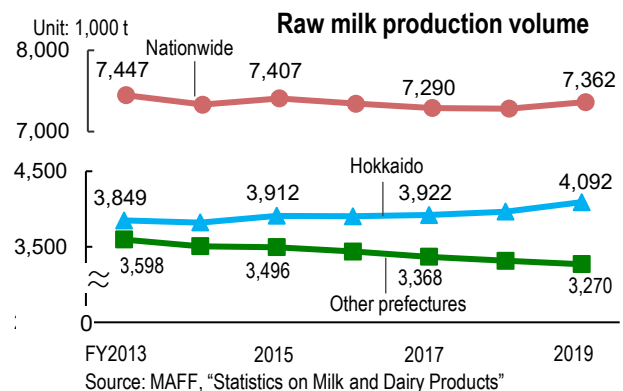
- Raw milk production volume continued to decrease in prefectures, while Hokkaido continued to increase, resulting in the first nationwide increase in four years.
- To respond to the growing domestic demand for dairy products and beef and expand exports, various measures are promoted, such as strengthening the production base by awarding financial incentives to cattle farmers for increasing their stock of dairy and beef cows.
- Pork production volume increased by 0.6% to 1.29 million tons in FY2019 from the previous year. Poultry meat production volume increased by 2.1% to 1.63 million tons. Hen eggs increased by 0.4% to 2.64 million tons from the previous year.

Vegetables

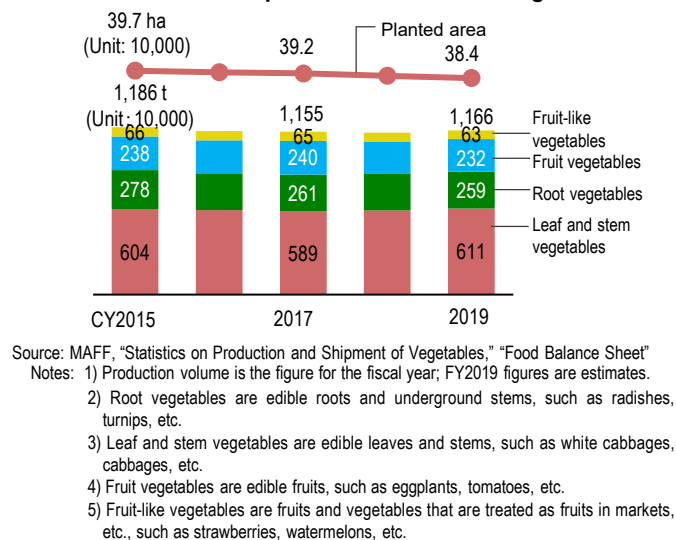
- Compared to the previous year (CY), which had poor growth due to adverse weather conditions, the production volume of vegetables in 2019 (CY) increased by 1.7%.
- Demand for processing and commercial uses accounted for 60% of the total. Domestic distribution volume of frozen vegetables is increasing, with more than 90% imported.
- To further 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, and the introduction of an integrated mechanization system to increase productivity.

Fruits

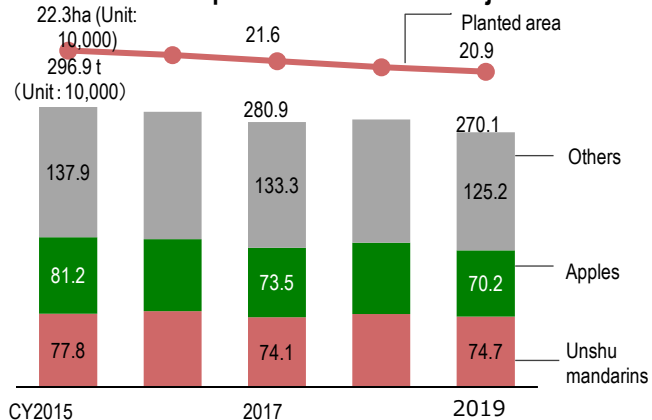
- Fruit production in CY2019 decreased by 4.9% from the previous year, which was affected by adverse weather conditions.
- Amid the weakening production base, efforts for drastic improvement of labor productivity, development and diffusion of new technologies and varieties, etc. are promoted in order to restore the declining supply and strengthen the production base.
- Expansion of the supply of high value-added fruits and processed fruits that meet the variety and sophistication of consumer needs, expansion of exports, and a shift to more efficient, labor-saving fruit distribution, etc. are promoted.



Planted area and production volume of vegetables



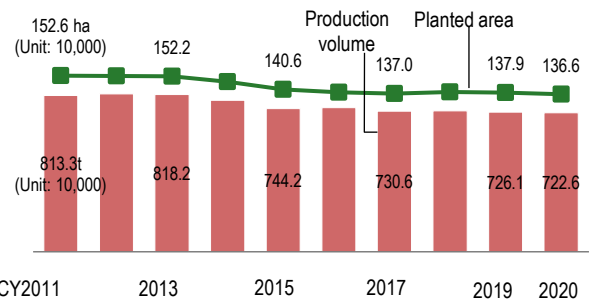
Planted area and production volume of major fruit trees



Rice

- Given the year by year decline in table rice consumption, the government abolished administrative allocation of production volume targets from CY2018, switched to a policy of leading production areas and producers to produce and sell rice in line with demand
- On the other hand, the production volume for CY2020 crop decreased by 0.5% to 7.23 million tons from the previous year crop due to the limited progress of reducing planted areas to meet decreased demand. In addition, the impact of COVID-19 has further reduced demand, resulting in high inventory levels
- To ensure the stability of supply, demand and price of rice, 67,000 hectares of planted area of table rice needs to be converted for CY2021 crop, the largest scale ever in Japan. All stakeholders have worked together to develop new markets including exports, and have promoted production and sales in response to demand by converting to highly profitable crops such as wheat, barley, soybeans, vegetables for processing and business use, rice for processing, rice for rice flour, rice for feed.
- Exports quantity of rice for commercial use has increased about 2.6 times over the last five years. Development of overseas demand by exporters and linking between exporters and production areas, etc. will continue to be promoted
- The demand for rice for rice flour increased by 16% in FY2019 due to the operation of the third party certification system for non-gluten rice flour products, etc.
- Planted area of rice for feed in CY2019 decreased by 7,000 ha to 73,000 ha from the previous CY. Production volume decreased by 8.9% to 390,000 tons.

Planted area and production volume of staple food rice

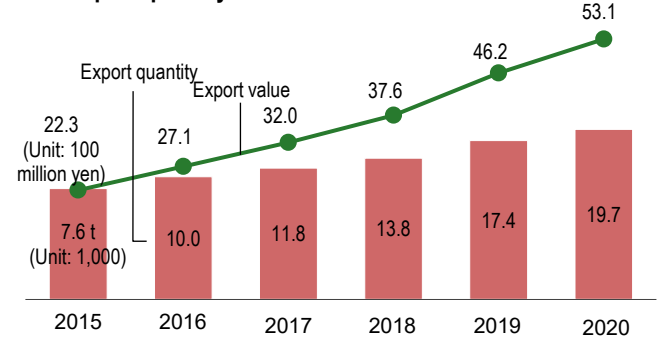


Source: MAFF, "Statistics on Crops," "Statistics on Cultivated Land and Planted Area"

Note: 1) Production volume is the yield in "Statistics on Crops"

2) CY is crop year.

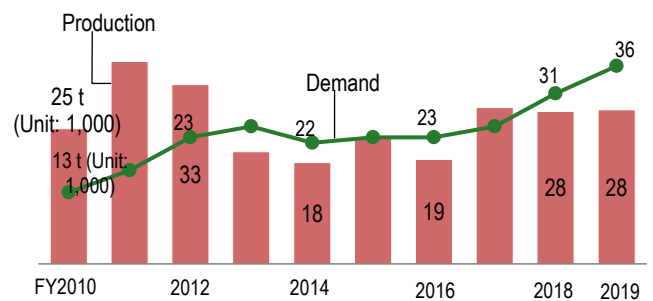
Export quantity and value of rice for commercial use



Source: Prepared by MAFF based on Trade Statistics by MOF

Note: The government's rice food aid is excluded.

Production and demand of rice for rice flour

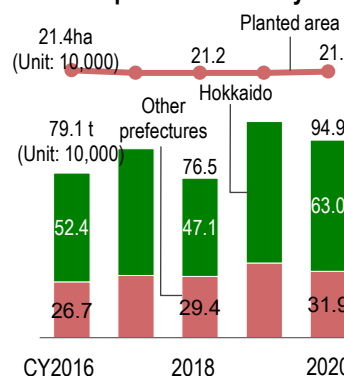


Source: Prepared by MAFF

Wheat/Soybeans

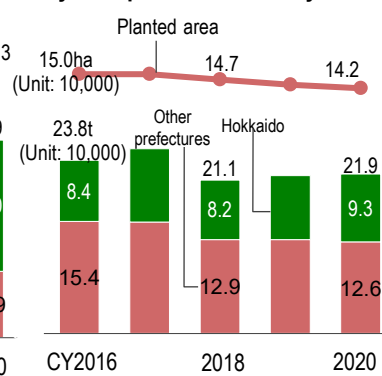
- The yield of wheat produced in CY2020 was above average, due to favorable weather conditions, good growth and good crop maturity. However, it was still below the previous CY, which had a particularly good crop.
- The yield of soybeans in CY2020 increased by 1% from the previous CY.
- To further increase the demand for domestic wheat and soybeans, it is necessary to achieve the quantity, quality and price stability demanded by consumers. By introducing farming technologies such as continuous cover and integrated cultivation and drainage measures, the government is promoting improvements in productivity and stability in production areas, as well as development of storage systems in these areas to cope with fluctuations in crop yields.

Wheat planted area and yield



Source: MAFF, "Statistics on Crops"

Soybean planted area and yield

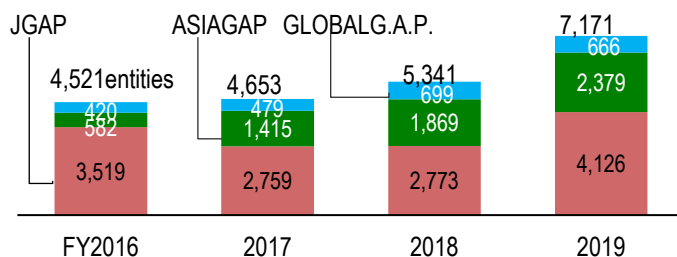


Source: MAFF, "Statistics on Crops"

Promotion of Good Agricultural Practices (GAP)

- Implementing GAP contribute to ensuring sustainability, improving farm management, and ensuring trust by consumers.
- As of the end of FY2019, 7,171 entities obtained GLOBALG.A.P., ASIAGAP, or JGAP certification for agricultural products. For livestock products, 217 entities were certified as of March 2021.

Number of GAP-certified entities (agricultural products)



Source: Prepared by MAFF based on data published by GAP Extension Organization Inc. and Japan GAP Foundation

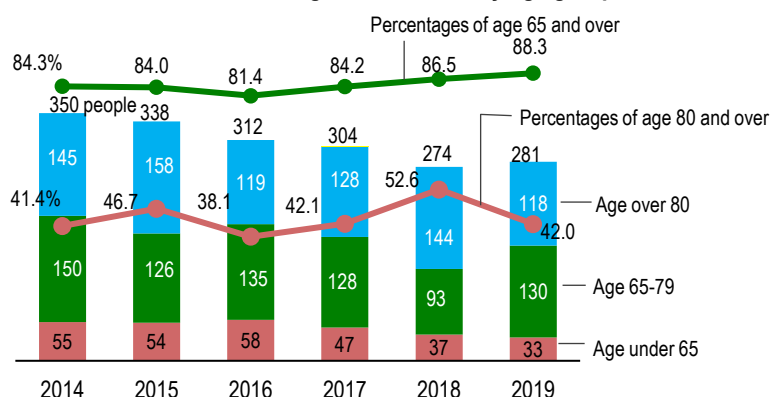
Notes: 1) Figures as of the end of each fiscal year (However, figures for GLOBALG.A.P. FY2016 are as of April 2017, and figures FY2017 are as of December 2017)

2) The total figure for each fiscal year is the sum of the figures for JGAP, ASIAGAP, and GLOBALG.A.P.

Promoting farming safety measures

- In 2019, 281 people were killed in accidents during agricultural work, up 7 from the previous year. Of the total, 88% were age 65 and over, and 42% were age 80 and over, indicating a high percentage of elderly people.
- Efforts are promoted with the aim of halving the number of fatal accidents related to agricultural machinery work, which is the main cause of farming accidents, from the 2017 level (211 people) by 2022.

Number of deaths in agricultural work by age group



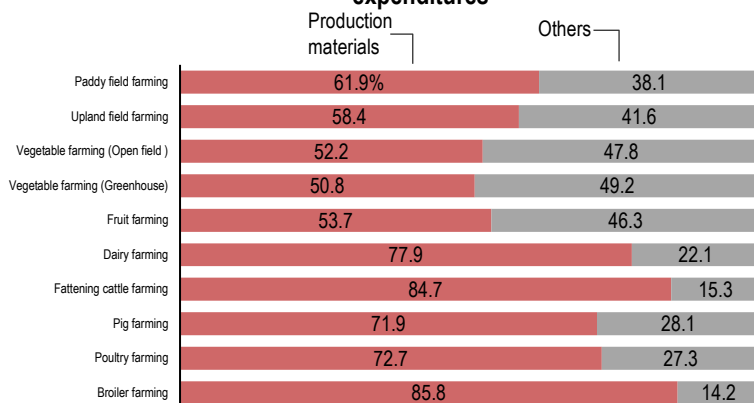
Source: MAFF, "Survey of fatal accidents in agricultural work"

Note: 2017 data includes one death of unknown age

Supply of high-quality and low-cost agricultural materials

- Agricultural material costs account for a certain share of agricultural expenditures which need to be reduced to improve agricultural income.
- For this purpose, supplies of high quality, low cost agricultural materials are promoted through business restructuring and business entry of agricultural material companies under the Act on the Support for Strengthening Agricultural Competitiveness. Also, to reduce the cost of agricultural materials, new agricultural support services are fostered and disseminated, enabling individual farmers to receive the provision of advanced work without having to own agricultural machinery.

Percentages of production materials in agricultural expenditures



Source: MAFF, "Report of Statistical Survey on Farm Management: Management Income and Expenditure of Agriculture Management Entities in 2019 (Estimated) (released in February 2021)"

Note: Production materials include seed and seedling cost, feeder livestock cost, fertilizers and manures cost, feed cost, pesticide and sanitation cost, various materials cost, power and utility cost, agricultural implements cost, working clothes cost, repair cost, and depreciation cost.

8. Promotion of innovations at agricultural production/distribution sites by utilizing information and communication technologies, etc.

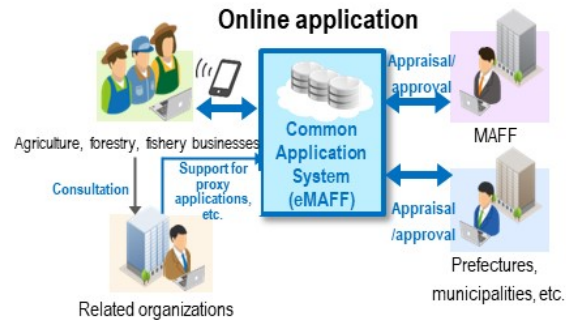


Promotion of smart agriculture

- Demonstration of smart agriculture is undertaken. Also, programs such as disease image judgment are implemented to improve the functions of the Agricultural Data Collaboration Platform (WAGRI), enabling various agriculture-related data to be linked and utilized.
- In February 2021, the government developed guidelines for the development of a system (open API) to facilitate the use of data such as work records obtained from agricultural machinery by farmers.

Promotion of digital technologies in the development of agricultural policies

- The "Common Application System of MAFF (eMAFF)" has been established to allow online application for administrative procedures under the jurisdiction of MAFF. In April 2020, the government started receiving applications for some administrative procedures such as the certified farmers system. The goal is to have all administrative procedures online by FY2022.
- Report on the "Agriculture DX Concept" in March 2021.



Source: Prepared by MAFF

Creation of innovation and promotion of technological development

- Aiming to develop the agriculture, forestry, fisheries, and food industries into a growth sector, "Field for Knowledge Integration and Innovation" was established in 2016 as an initiative to create innovation by utilizing knowledge, technology, and ideas from various fields.
- As of the end of March 2021, 3,918 companies, universities, research institutes, etc. have participated in the initiative, sharing issues for productization and commercialization, drafting research strategies/business plans, and conducting research activities in the research consortium.

Achievements resulting from "Field for Knowledge Integration and Innovation"

Wellnas Co., Ltd., a Shinshu University venture company, has developed a dietary supplement containing eggplant-derived choline ester as a functional substance



Source: Presented by Wellnas Co., Ltd.

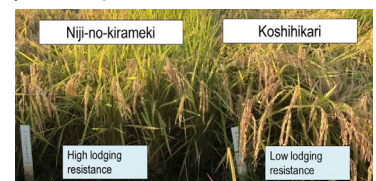
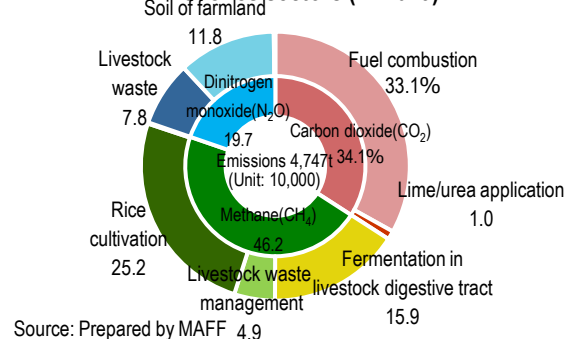
9. Promotion of environmental policy such as responses to climate change



Promotion of mitigative and adaptive measures against climate change

- Japan's agriculture, forestry, and fisheries sectors produced 47.47 million tons (carbon dioxide equivalent) of greenhouse gases in FY2019, accounting for 3.9% of total emissions.
- To achieve carbon neutrality by 2050, revisions of related strategies and plans were discussed, together with the strengthening of cooperation between related ministries and local governments.
- To adapt to emerging climate changes, efforts were made to develop and disseminate alternatives and technologies to prevent or reduce the impacts on agriculture. The planted area for high temperature resistant varieties, which are less vulnerable to quality deterioration at high temperatures, has increased.

Greenhouse gas emissions in the agriculture, forestry, and fisheries sectors (FY2019)



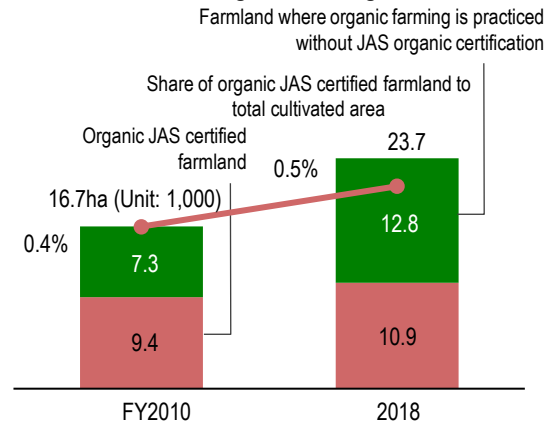
Niji-no-Kirameki, a high temperature resistant variety of rice

Source: National Agriculture and Food Research Organization (NARO)

Further Promotion of Organic Farming

- In 2018, the total area used for organic farming in Japan was 24,000 ha, or 0.5% of the total cultivated land area.
- In June 2020, MAFF launched the "SCAFF2030 project," a consortium of stakeholders engaged in actions to achieve the sustainable food production and consumption. In September, the "Japanese Organic Supporters" were established to stimulate demand for Japanese organic food.

Domestic organic farming areas



Source: Prepared by MAFF

Note: Organic JAS certified farmland area is the area certified as of April 1 of the following year.

10. Agriculture-related organizations supporting agriculture

- Local agricultural cooperatives are working on initiatives to raise the income of farmers through self-innovation. Also, during the COVID-19 pandemic, efforts have been made to support increased marketing of agricultural produce and processed products, and to match farmers with other industries to secure human resources.
- The Agricultural Committee Members for promotion of optimized farmland usage, which was established separately from the agricultural committee members, promoted efforts to optimize the use of farmland.
- Agricultural mutual relief associations, etc. have been established in 41 prefectures as of 2020 to improve the efficiency of operations.
- Efforts were made to strengthen the operational foundations of land improvement districts, including preparations for the obligatory compilation and publication of balance sheets from FY2022.

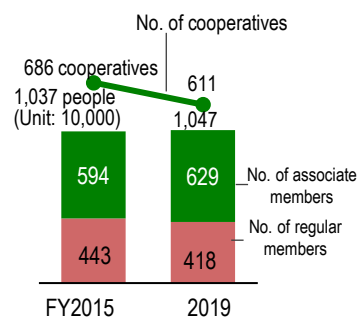
<Column> Kouseiren Hospital working to respond to COVID-19

- Kouseiren Hospital, operated by the Welfare Federation of Agricultural Cooperatives, has accepted COVID-19 infected patients since the beginning of the outbreak in January 2020. By December of the same year, 67 hospitals had accepted the COVID-19 patients, for a total of 3,049 patients.
- The Japan Racing Association donated 500 million yen, the Zen-noh (National Federation of Agricultural Cooperative Associations) donated food support, and the National Mutual Insurance Federation of Agricultural Cooperatives donated masks to the Kouseiren (Welfare Federation of Agricultural Cooperatives).



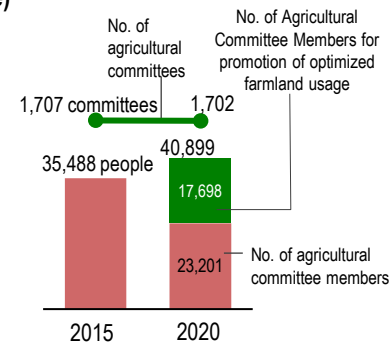
Medical professionals working at Kouseiren Hospital
Source: National Welfare Federation of Agricultural Cooperatives

Agricultural cooperatives (general agricultural cooperative)



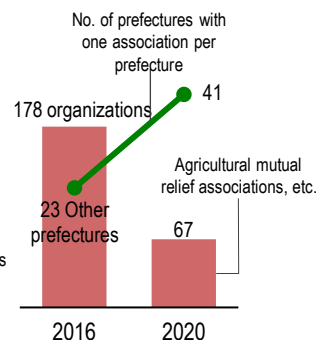
Source: MAFF, "Statistics on Agricultural Cooperatives"

Agricultural committees



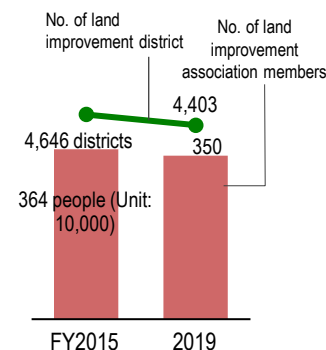
Source: Prepared by MAFF
Note: Agricultural Committee Member for promotion of optimized farmland usage was newly established in 2016

Agricultural Mutual Aid Association (AMA)



Source: Prepared by MAFF

Land improvement districts

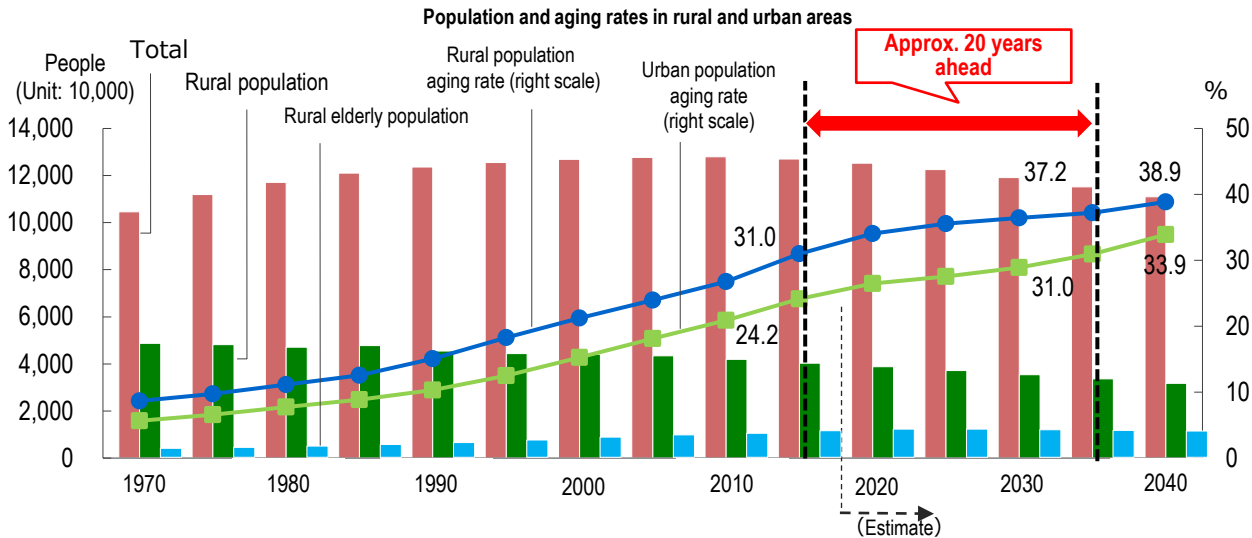


Source: Prepared by MAFF

Chapter 3 Promotion of Rural Areas

1. Trends in the return to rural living

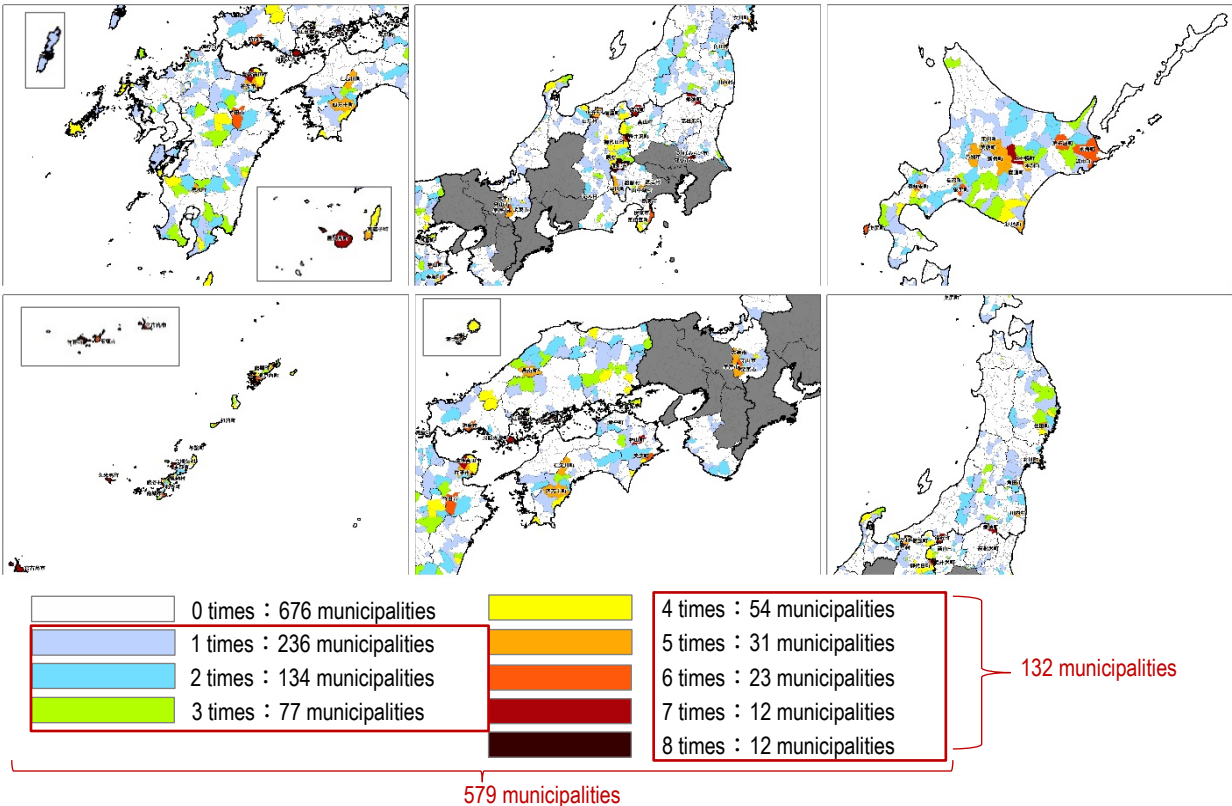
➤ Declining birthrate, aging society, and shrinking populations in rural areas ahead of urban areas



Source: Prepared by MAFF based on Ministry of Internal Affairs and Communications, "National Census," National Institute of Population and Social Security Research, "Regional Population Projections for Japan 2018"

Notes: 1) Areas with high population concentrations in the census are defined as urban areas, while others as rural areas.
2) The aging rate refers to the ratio of elderly people aged 65 and over to the total population.
3) Data for 1970-2015 are based on the National Census, and 2020-2040 on the Regional Population Projections for Japan (2018).

➤ The movement to return to rural areas has expanded nationwide. During the 8-year period from 2012 to 2019, 579 municipalities reported one or more times of excess in-migration from the three major metropolitan areas, and 132 municipalities reported four or more.



Source: Prepared by MLIT based on MIC, "Report on Internal Migration in Japan derived from the Basic Resident Registration"

Notes: 1) The color-coding is based on the number of times that the in-migrants from the three major metropolitan areas exceeded the out-migrants to the three major metropolitan areas in 2012-2018.

2) The three major metropolitan areas are the Tokyo metropolitan area (Saitama, Chiba, Tokyo, and Kanagawa prefectures), the Nagoya metropolitan area (Gifu, Aichi, and Mie prefectures), and the Osaka metropolitan area (Kyoto, Osaka, Hyogo, and Nara prefectures).

3) Data for which no figures are available due to the lack of a survey are counted as zero.

2. Promotion of various types of agricultural management such as multi-management to take advantage of local characteristics

Promoting agriculture in hilly and mountainous areas

- Hilly and mountainous areas account for about 40% of its total farming area and output, playing a key role in performing multiple functions including food production.
- The agricultural income per agricultural management entity in hilly and mountainous areas was 1.34 million yen in 2019, which is about 80% of the national average.
- Promoting the nationwide development of complex management to take advantage of the characteristics of hilly and mountainous areas.

Key indicators for hilly and mountainous areas

(Unit: 1,000 households, villages, 1,000 ha, 100 million yen)

| | Nationwide | Hilly and mountainous areas | Percentage |
|---------------------------------|------------|-----------------------------|------------|
| Total number of farm households | 2,155 | 953 | 44.2% |
| Number of rural communities | 138,256 | 73,759 | 53.3% |
| Farmland area | 4,496 | 1,841 | 40.9% |
| Agricultural output value | 88,631 | 36,138 | 40.8% |

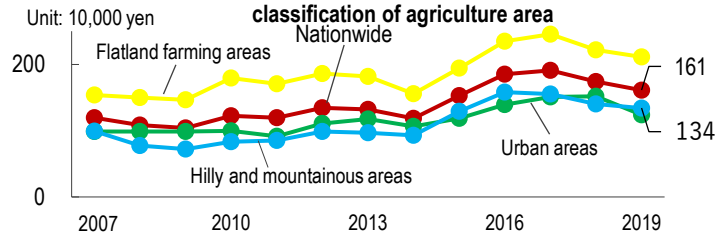
Source: Prepared by MAFF, "Census of Agriculture and Forestry 2015," "Statistics on Cultivated Land and Planted Area 2015," "Statistics of Agricultural Income Produced 2015"

Notes: 1) Classification of agriculture area is based on the revision in December 2017.
2) Farmland area and agricultural output in hilly and mountainous areas are estimated by MAFF

Promotion of urban agriculture

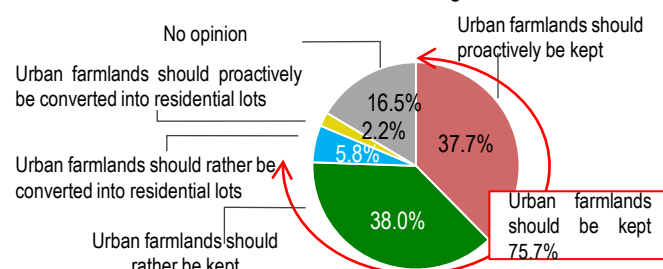
- 76% of respondents answered that they should keep urban agriculture and farmlands, up 4.7 percentage points from the previous year.
- With an urban farmland leasing act put into force in September 2018, leasing farmlands in productive green zones can now be done with security and 306,000 m² of farmland has been certified/approved at the end of FY2019.

Agricultural income per agriculture management entity by classification of agriculture area



Source: Prepared by MAFF based on "Statistics on Type of Management (individual management)"

Urban residents' views on conservation of urban agriculture and farmlands



Source: MAFF, Poll on Urban Agriculture

Notes: Online questionnaire conducted for residents of specified cities in three major metropolitan areas in May 2020
Questionnaire completed by 2,000 people

3. Promotion of innovation from rural areas such as countryside stay, agriculture-welfare collaboration, and renewable energy

Promoting the added value of local resources, including innovation from rural areas

- To ensure income and employment opportunities, new business opportunities are promoted through "innovation from rural areas," which is an initiative to discover and refine local resources in rural areas, and then combine them with other fields.

<Case Study> Development and sales of cosmetics using purple gromwells (a native flower of Shiga Prefecture)

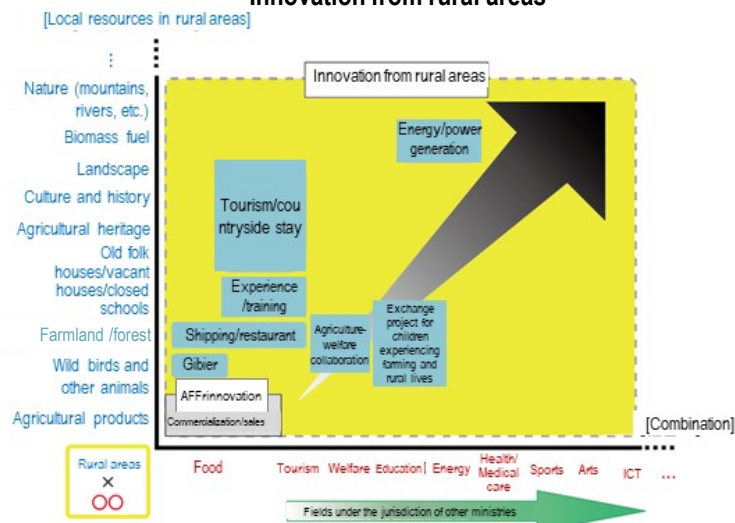
- In Oku-Eigenji District of Higashiomi City, Shiga Prefecture, an endangered variety of purple gromwell (the city's official flower) is cultivated and commercialized to develop natural cosmetics.

- After successful agreements with buyers at a business expo in Feb. 2019, as of September 2020, the volume of product shipments exceeded 20,000 bottles. Sales value also increased approximately tenfold from before the business meeting.



Natural cosmetics
"MURASAKI no ORGANIC"

Innovation from rural areas



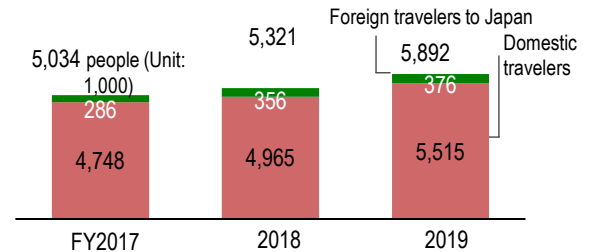
Promotion of countryside stay

- In FY2019, a total of 5.89 million guests visited the countryside stay regions, up 11% from the previous year. Of these, foreign visitors to Japan increased by 6% to 380,000.

Promotion of agriculture-welfare collaboration

- The farmland area of businesses engaged in agriculture-welfare collaboration increased by 25% over the three-year period from 2015 to 2018.
- In March 2021, 16 organizations were awarded with the "Nofuku Award" as best practices in agriculture-welfare collaboration
- Training programs were provided to educate persons with disabilities on farm work methods to support their establishment in the agricultural sector.

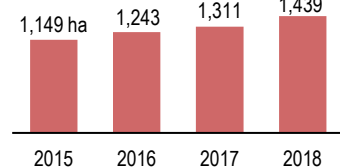
Total number of countryside stay guests



Source: Prepared by MAFF

Note: Including 515 regions for countryside stay adopted by FY2019

Farmland area of businesses that have engaged in agriculture-welfare collaboration



Source: Prepared by MAFF based on Japan Fund, Survey Results on the Effects and Challenges of Agriculture-Welfare Collaborations in FY2008

Notes: 1) A total of 350 farmers employ persons with disabilities or outsource farm work to welfare offices, etc.
2) A total of 113 businesses responded.

<Case Study> Revitalizing the community through agriculture and welfare (Hokkaido)

- Persons with disabilities at Yukinoseiboen Social Welfare Corporation in Tsukigata-cho, Hokkaido, engage in the production and sale of potatoes, mini-tomatoes, etc.
- Average monthly sales of agricultural products increased from 170,000 yen in 2013 to 250,000 yen in 2020.
- Through production as well as sales, the motivation of persons with disabilities to engage in farm work has increased.



Farm work

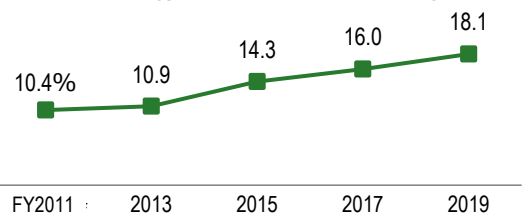


Preparing for shipment

Utilizing of renewable energy

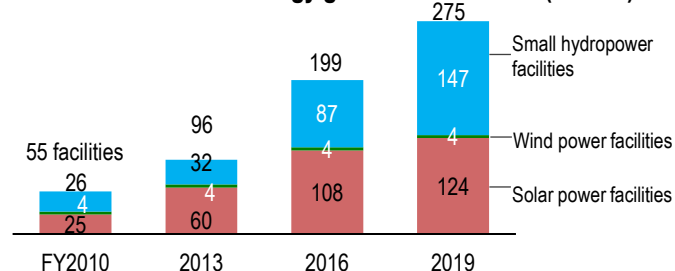
- The Long-term Energy Supply and Demand Outlook indicates a target of boosting renewable energy's share of total power generation to 22-24% by FY2030. The share in FY2019 rose by 1.2 percentage points from the previous year to 18%.
- By FY2019, 68 municipalities developed basic plans under the Act on Promoting the Generation of Electricity from Renewable Energy Sources Harmonized with Sound Development of Agriculture, Forestry and Fisheries, up 7 municipalities from the previous year.
- Utilizing agricultural irrigation facilities, etc., the government has developed 124 solar power facilities, 4 wind power facilities, and 147 small hydropower facilities as of the end of FY2019.
- Promoting the utilization of biomass fuels, i.e., rice straw, etc.

Renewable energy's share of total power generation



Source: Prepared by MAFF based on the Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry "General Energy Statistics"

Number of renewable energy generation facilities (in total)



Source: Prepared by MAFF

Note: Number of facilities developed under agricultural village development programs, etc.

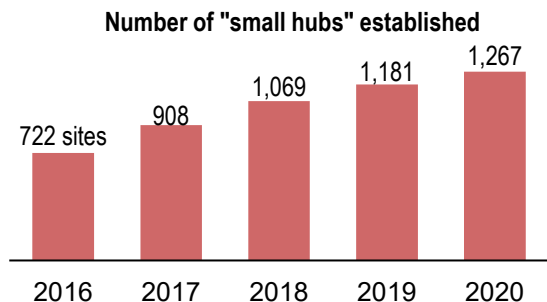


4. Improvement of conditions necessary for people to continue to live in rural areas including hilly and mountainous areas

Maintaining or strengthening local community functions

- To promote the formation of local communities and the creation of places for exchange, the government supports the creation of "local vision".
- As of the end of May 2020, 1,267 "small hubs"* were established nationwide. Besides facilities for processing and sales of agricultural products and inter-regional exchange, infrastructure improvements, such as farm roads to connect surrounding villages were developed.

* Areas that consolidate administrative facilities, schools, post offices, and other lifestyle support functions.



Source: Prepared by MAFF based on Secretariat for Regional Revitalization, Cabinet Office, "Survey on the Formation of Small Hubs"

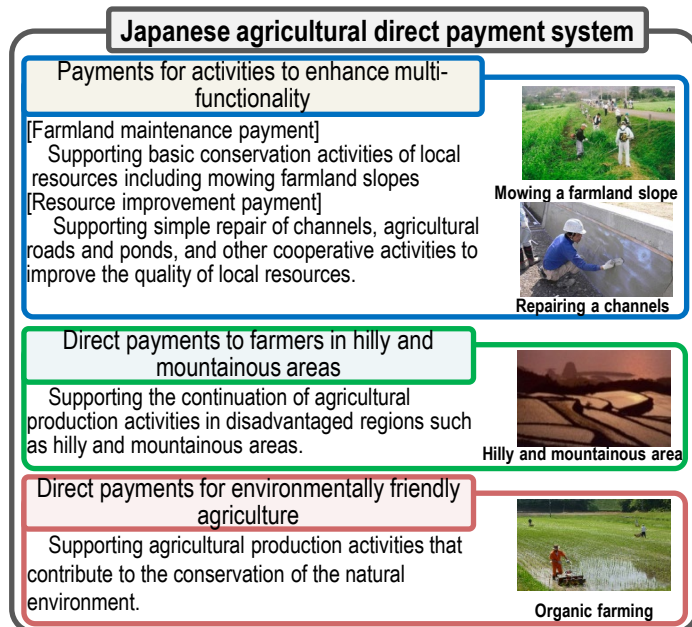
Notes: 1) As of the end of May each year

2) Number of small hubs identified in municipal comprehensive strategies

Promoting the exercise of multifunctional roles

- The payments for activities to enhance multifunctionality was revised so that grants can be adjusted among target organizations in the event of a major natural disaster. Also, development of emergency response system in the event of a disaster was added to the scope of the resource improvement payment to strengthen disaster prevention and mitigation.
- The 5th phase of the direct payments to farmers in hilly and mountainous areas has begun. The government is stepping up its support for forward-looking initiatives, such as developing rural communities' strategies to clarify the future of agricultural land and communities, strengthening local management functions in rural communities and supporting activities to conserve rice terraces and promote local development.
- The 2nd phase of the direct payments for environmentally friendly agriculture has started. Additional 5 initiatives such as living mulch methods and long mid-summer drainage were added as common initiatives nationwide, and the operation of regional special recognition initiatives, etc. was reviewed.

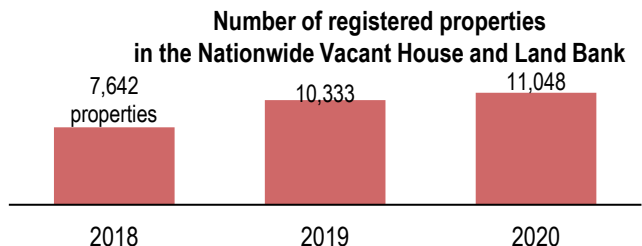
Outline of Japanese agricultural direct payment system



Source: Prepared by MAFF

Securing infrastructure, etc. for daily life

- Information websites on vacant houses and other properties are provided by some local governments. An umbrella website for these was established in 2018 and is operated as the "Nationwide Vacant House and Land Bank." As of the end of October 2020, the number of registered properties was 11,048, of which 495 were vacant houses with farmland.



Source: Prepared by MAFF based on MLIT data

Notes: 1) Number of properties currently listed as of the end of October each year.

2) Total number of properties listed on websites operated by LIFULL Co. and at home Co.

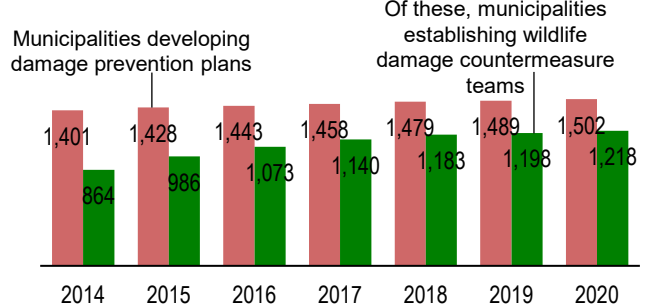


5. Wildlife damage countermeasures and utilization of gibier

Promotion of wildlife damage countermeasures, etc.

- Wildlife damage for FY2019 was 15.8 billion yen. 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, 1,502 municipal governments have developed damage prevention plans as of the end of April 2020. Of these, 1,218 municipalities have set up wildlife damage countermeasure teams, and each municipality is implementing a variety of measures.
- Comparing the amount of crop damage by wildlife by prefecture in FY2010 and FY2019, the amount of damage decreased to less than 1.0 occurrences in many areas due to damage prevention measures (i.e., installation of infestation-prevention fences), promotion of trapping activities, and environmental management of rural communities. In some prefectures in the Tohoku region, the amount of damage increased due to the habitat expansion of deer and wild boar from environmental changes caused by global warming and others.
- An "intensive hunting campaign," etc. during the hunting season from autumn onward was promoted to set a target number of animals to be captured in each prefecture.
- Drone patrol system on capture traps and automated baiting system were developed to promote the spread of efficient and smart capture technology using ICT and drones

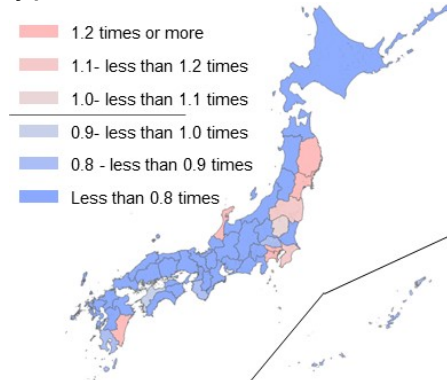
Number of damage prevention plans developed and number of wildlife damage countermeasure teams established



Source: Prepared by MAFF

Note: As of the end of April each year

Comparison of the amount of crop damage by wildlife by prefecture in FY2010 and FY2019



© 2020 MAFF. All Rights Reserved.

Source: MAFF, "Survey on Crop Damage by wildlife by prefecture"

Note: The ratio of the amount of crop damage in FY2019 to the amount of crop damage FY2010

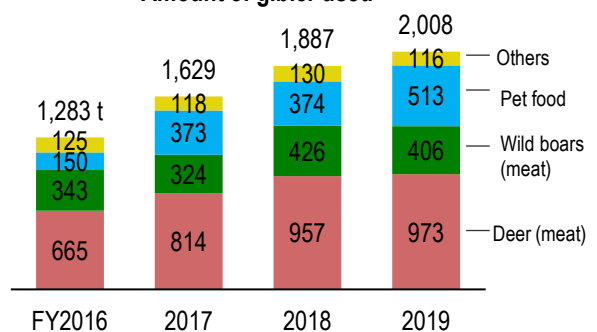


Awareness-raising poster for intensive trapping campaign

Increasing the use of gibier

- In FY2019, the amount of gibier used was 2,008 tons, up 6.4% from the previous year. The percentage of wildlife used for gibier was 9% overall; by category, 14% for deer and 5% for wild boars.
- Efforts were made to ensure consumer confidence through the domestic gibier certification system, to encourage gibier promotion, and to increase demand by using gibier in pet food.

Amount of gibier used

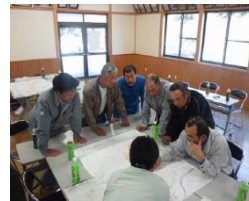


Source: MAFF, "Fact-finding Survey on Wildlife Resources Utilization"

Note: "Others" indicate wildlife meat other than deer and wild boars, meat for household consumption, etc.

<Case Study> Promotion of community-based wildlife damage countermeasures through cooperation among related organizations (Saga Prefecture)

- To cope with wildlife that migrate over wide areas, Karatsu City and Genkai Town cooperated to establish a council and comprehensively promoted damage countermeasures.
- Compared to FY2008 (before the project start), the number of wild boars caught increased 3.1 times in FY2017, while crop damage in Karatsu City and Genkai Town decreased by 65%.



Training sessions in the village

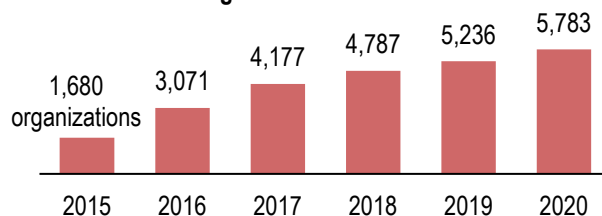
Source: Karatsu Region Council for Extensive Control of Harmful Wildlife

6. Creation of new movements and vitality to support rural areas

Creating systems and human resources to support the community

- Local management organizations engaged in the maintenance and management of public facilities and operation of local events, etc. are increasing. Through the direct payments for environmentally friendly agriculture program, etc., the government is promoting its establishment and regional development efforts.

Number of local management organizations established



Source: Prepared by MAFF based on Secretariat of the Headquarters for Overcoming Population Decline and Vitalizing Local Economy, Cabinet Secretariat, "Initiatives for the Establishment of Regional Management Organizations," MIC, "Results of Questionnaire Survey on Activities of Local Management Organizations 2019," MIC, "FY2020 Report on the Research and Study Project on the Establishment and Sustainable Operation of Local Management Organizations"

<Case Study> Comprehensive response to local issues and needs through local management organizations (Kochi Prefecture)

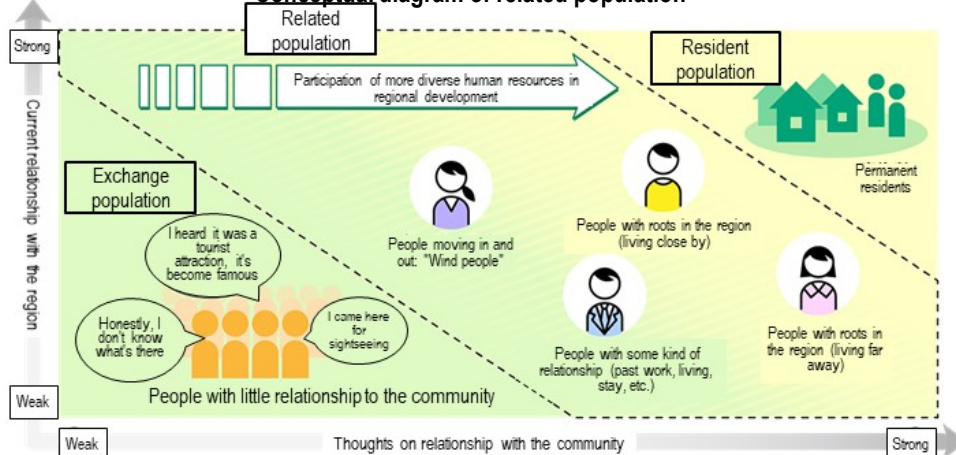
- Local residents of Mihara Village in Kochi Prefecture took the initiative in establishing a local management organization in FY2016. These included the cultivation, processing, and sale of shishito peppers and brand-name rice, as well as operating a restaurant.



Collaborative work by the local management organization

- The Act on the Promotion of Specific Regional Development in Areas with Rapidly Declining Population enacted in June 2020. As of March 2021, 5 municipalities nationwide were eligible to receive grants for specific community development projects.
- To increase the "related population," which is continuously involved with the community and local people in a variety of ways, the government supports initiatives for children to experience farming, mountain and fishing villages and hands-on farming.

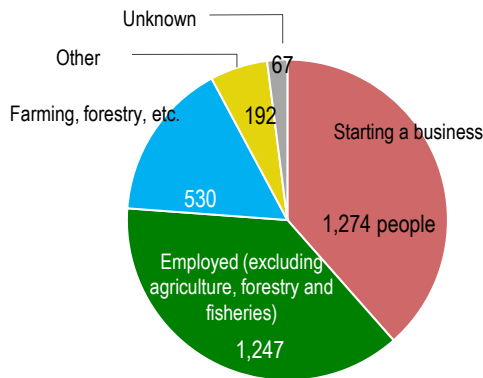
Conceptual diagram of related population



Source: Prepared by MAFF based on MIC, "Related population portal site"

➤ A total of 6,525 Community-Reactivating Cooperator Squad members have completed their terms of service as of the end of FY2019. Half of these (3,310 members) have settled in their host municipalities. They continue to play active roles in the local communities by starting businesses (i.e., old home cafés), working with community development and town planning support projects, or working for agricultural corporations.

Career paths of Community-Reactivating Cooperator Squad members who settled in host municipalities after completing their terms of service

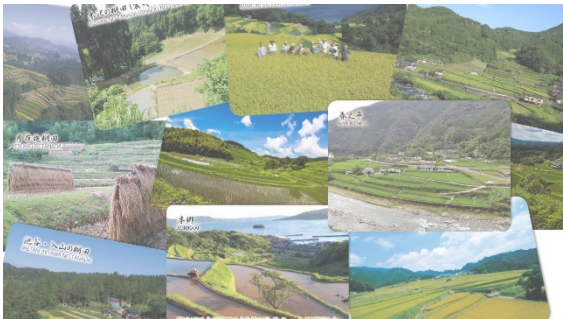


Source: Prepared by MAFF based on MIC, "Results of Survey on the Status of Settlement of Community-Reactivating Cooperator Squad Members in FY 2020"

- Notes: 1) Survey of 6,525 Community-Reactivating Cooperator Squad members who completed their terms of service by the end of FY2019
2) Results from 3,310 members who have settled in host municipalities as the place of activity
3) Out of those "Employed," those related to agriculture, forestry, and fisheries are included in "Farming, forestry, etc."

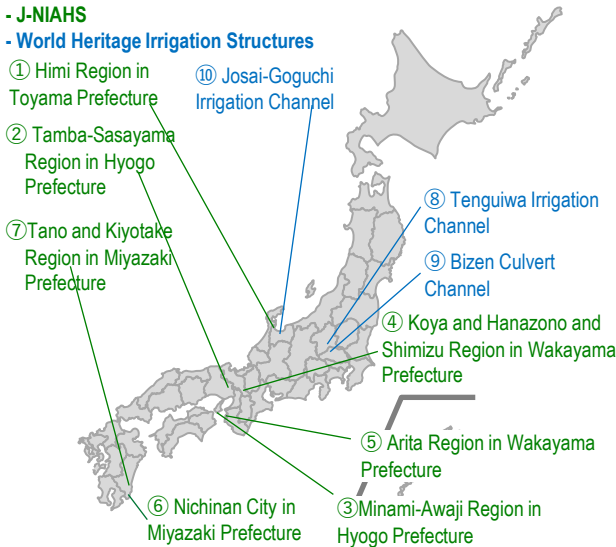
Promoting the appeal of rural areas

- In FY2020, a total of 629 areas were designated as rice terraces under the Act on Vitalization of Tanada Region, and 102 plans in total for promoting rice terraces prepared by regional councils in the designated areas were approved
- Efforts were made to promote interest in and attractiveness of rice terraces, such as the creation of rice terrace cards
- Areas that combine important and traditional agriculture, forestry, and fisheries with the culture and landscapes nurtured through these activities have been designated as Globally Important Agricultural Heritage Systems (GIAHS) and Japanese Nationally Important Agricultural Heritage Systems (J-NIAHS). In FY2020, seven regions were newly designated as J-NIAHS
- In 2020, the Discover Countryside Treasures in Japan program selected 28 areas and 4 people as excellent examples of revitalizing communities and/or rising income by drawing out the potential of the rural areas



Rice terrace cards

J-NIAHS and World Heritage Irrigation Structures newly recognized in FY2020



Source: Prepared by MAFF

Chapter 4 Restoration/Reconstruction from Natural Disasters, Disaster Prevention/Reduction and Strengthening National Resilient

1. Restoration/Reconstruction from Great East Japan Earthquake

Occurrence of the Great East Japan Earthquake

- In 2011, the Great East Japan Earthquake occurred, causing damage from the strong tremors and massive tsunami as well as the accident at the Fukushima Daiichi Nuclear Power Plant of the Tokyo Electric Power Company.

Government's policy for reconstruction efforts

- In 2011, the government formulated the "Basic Policy for Reconstruction from the Great East Japan Earthquake" and started to promote efforts for a 10-year reconstruction period.

Restoration and reconstruction from the earthquake and tsunami disasters

- Salt removal, rice paddy boundary reconstruction and other restoration operations from the earthquake and tsunami disasters have made progress in 19,690 ha of farmland subjected to restoration and farming was resumed in 94% of this farmland as of the end of January 2021.
- Farmland partitions were expanded in conjunction with the restoration efforts after earthquake and tsunami disasters.

Restoration and reconstruction after the nuclear disaster

- 32% of the suspended farmlands in 12 municipalities affected by the nuclear disaster have resumed farm operations. To accelerate the resumption of farming, the government is dispatching MAFF officials to municipalities and supporting the creation of production areas that develop high value-added production through the integration of farmland use, production and processing, etc., under the Act on Special Measures for the Reconstruction and Revitalization of Fukushima.
- 8.1% of respondents are hesitant to purchase Fukushima products due to fear of radioactive materials, showing that a certain number of people are still hesitant to purchase. For this reason, the government is disseminating information based on the "Strategy for dispelling harmful rumors and strengthening risk communication".

Restoration of farmland and agricultural facilities



Source: Prepared by MAFF
Note: As of the end of January 2021

Status of resumption of farm operations in 12 municipalities affected by the nuclear accident

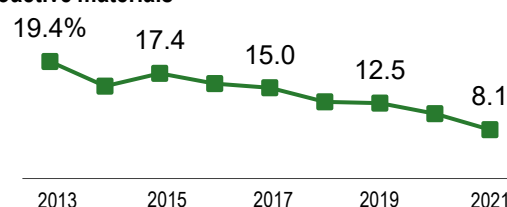
(Unit: ha)

| | Suspended farmland area | Resumed farmland area | Resumption rate (%) |
|---------------------------|-------------------------|-----------------------|---------------------|
| 12 municipalities (Total) | 17,298 | 5,568 | 32.2 |

Source: Prepared by MAFF

Note: The suspended farmland area is as of the end of December 2011, and the resumed farmland area is as of the end of FY2019.

Percentage of people hesitant to purchase products produced in Fukushima Prefecture due to fear of radioactive materials



Source: Prepared by MAFF based on Consumer Affairs Agency, "Survey on Consumer Awareness of Harmful Rumors"

2. Restoration from large-scale natural disasters

- In recent years, earthquakes, torrential rains, and other large-scale natural disasters occur frequently. In conjunction with strengthening its response to disasters, the government supports the early resumption of farm operations, and promotes efforts in farming areas to improve productivity through crop conversion and expansion of operation size.
- For the Kumamoto Earthquake (2016), infrastructure development such as the expansion of farmland partitions was carried out as part of a creative reconstruction effort.
- The Hokkaido Iburi Tobu Earthquake (2018) caused a mountainside collapse of and damage to pipelines. Subsequent, restoration efforts progressed, and by the end of March 2021, 137.3 ha of the 137.6 ha covered by the disaster recovery project had been restored.

3. Status of restoration from FY2020 disasters

- During FY2020, crops and facilities related to agriculture, forestry, and fisheries were severely damaged due to the torrential rains in July 2020. The total damage related to agriculture, forestry, and fisheries in 2020 amounted to 247.3 billion yen (as of April 12, 2021).
- In response to the severe damage caused by the torrential rains in July 2020, the government provided push-type food containers, drink and infant formula support to the affected areas immediately after the disaster. In addition, government dispatched a total of 1,362 national staff (MAFF-SAT) to support early restoration and designated it as ordinance-designated severe disaster early on, so as to reduce the burden on local governments and affected farmers.
- The government has provided comprehensive support for agriculture, forestry, and fisheries farmers affected by the July 2020 torrential rains to encourage them to rebuild their businesses as quickly as possible, so as to not lose their motivation. This support included removal of soil and sand, restoration of farmland, soil preparation, pest control and fertilizer application, and restoration of agricultural machinery and greenhouses, based on the concept of restoration in addition to restoration to the original state.
- In response to the concerns of agriculture, forestry, and fisheries farmers affected by the heavy winter snowfall of 2020-2021, the government also provided the following support to help them resume operations as soon as possible. This included the reconstruction and repair of agricultural greenhouses and livestock housing, removal, restoration and replanting of fruit trees and securing of additional seeds, seedlings, and snow-melting chemicals, etc.

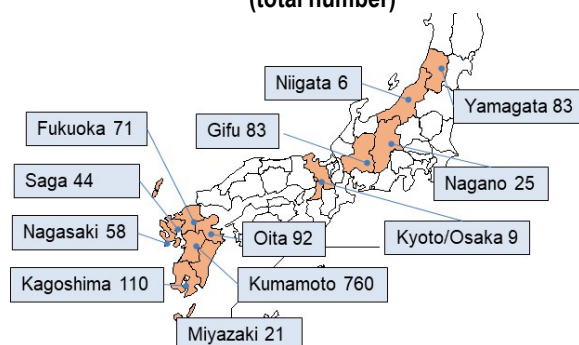


Flooded greenhouses for citrus crops (July 2020 torrential rain)



Flooded combine harvester (July 2020 torrential rain)

Number of people dispatched to MAFF-SAT by prefecture (total number)



Source: Prepared by MAFF
Note: As of April 12, 2021



MAFF Minister visiting the site (heavy winter snowfall of 2020-2021)

4 Disaster prevention, disaster reduction, strengthening national resilience and preparedness for large-scale natural disasters



Promoting measures for disaster prevention/reduction and strengthening national resilience

- Based on the "3-years emergency measures package for preventing/reducing disasters and enhancing national resilience" decided by the Cabinet in December 2018, and the "5-years acceleration measures for disaster prevention, disaster reduction and strengthening national resilience" decided by the Cabinet in December 2020, the government promoted the construction of agricultural irrigation facilities, irrigation ponds, and prevention of disasters in agricultural houses.
- (See Chapter 2, Section 6 for information on the Act on Special Measures for Construction of Reservoirs, [River Basin Disaster Resilience and Sustainability by All].).

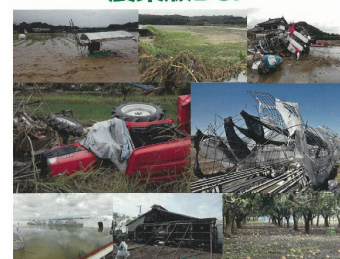
Preparing for disasters

- To prepare for disasters, farmers themselves need to make efforts, such as acquiring technical guidance for prevention of typhoon and snowfall damage, and enrollment in horticulture facility mutual aid offering a new premium discount package that covers old greenhouses up to the property value at the time of construction, and revenue insurance system.
- To encourage farmers to develop their own agricultural BCPs (Business Continuity Plans), the government prepared a checklist and a format for agricultural BCPs, and promoted their dissemination.

Brochure for agricultural BCPs

環境省

自然災害等のリスクに
備えるためのチェックリストと
農業版BCP



農林水産省

Source: Prepared by MAFF

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 international negotiations

III Measures for sustainable development of agriculture

- Development and securing of 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>

8.9 trillion yen (2019)
<Statistics of Agricultural Income Produced>

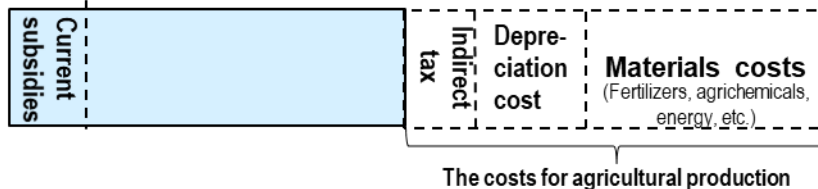
3.3 trillion yen (2019)
<Statistics of Agricultural Income Produced>

4.7 trillion yen (2019)
<National accounts>

• Total agricultural output: 8.9 trillion yen

Final products output × Prices

• Agricultural production income: 3.3 trillion yen



• Gross agricultural production: 4.7 trillion yen

Total agricultural output + Intermediate products (seeds, feed and forage crops, etc.) + Agricultural services (fruit sorting, etc.)

Materials costs (Fertilizers, agrichemicals, energy, etc.)

Agriculture management entities

Purpose

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

To know the number of individuals (households) engaged in agriculture

To know the number of households with heads of household younger than 65 years old and whose main income is from agriculture

To know the number of agriculture, community-based farm cooperatives, corporation entities, etc.

Term

Agriculture management entities^{*1}

*1 Individual management entities^{*1}

Business farm entities^{*1}

Group management entities^{*1}

Statistical data <source>

1.08 million entities (2020)
<2020 Census of Agriculture and Forestry>

1.04 million entities (2020)
<2020 Census of Agriculture and Forestry>

0.23 million entities (2020)
<2020 Census of Agriculture and Forestry>

40,000 entities (2020)
<2020 Census of Agriculture and Forestry>

Members of individual management 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 usually worked mainly as self-employed farmers (excluding housewives engaged mainly in housework and childcare, students, etc.)

Term

Household members engaged in own farming^{*2}

Core persons mainly engaged in farming^{*2}

Statistical data <source>

2.49 million persons (2020)
<2020 Census of Agriculture and Forestry>

1.36 million persons (2020)
<2020 Census of Agriculture and Forestry>

Employed farmers

Purpose

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

To know the number of persons employed as short-term farmers (temporary)

Term

Permanently hired worker on farm^{*2}

Temporary hired worker on farm^{*2}

Statistical data <source>

0.16 million persons (2020)
<2020 Census of Agriculture and Forestry>

0.95 million persons (2020)
<2020 Census of Agriculture and Forestry>

*1: See Definitions 2 (1)

*2: See Definitions 2 (5)

2. Basic statistical terminology

(1) Classification of agriculture management entities (2020 Census of Agriculture and Forestry)

| 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 acres 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 acres 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.) |
| Individual management entities | Entities that conduct business as individuals (households), not including corporate entities. |
| Business farming entities | Individual management entities whose main source of income (50% or more) is farming, and which have at least one family member under the age of 65 who is engaged in self-employed farming for 60 days or more per year. |
| Semi-business farming entities | Individual management entities whose main income (50% more than) is from sources other than agriculture, and which have at least one family member under the age of 65 who is engaged in self-employed farming for 60 days or more per year |
| Side-business farming entities | Individual management entities without members under the age of 65 engaged in self-employed farming for 60 days or more per year |
| Group management entities | Agriculture management entities that do not fall under Individual 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 agriculture management entities (Definitions from 2005 Census of Agriculture and Forestry to 2015 Census of Agriculture and Forestry)

| Terminology | Definition |
|---------------------------------|------------------------------------------------------------------------------------|
| Agriculture management entities | Same as (1). |
| Family management entities | Individual management entities or a single-household corporation entity. |
| Organized management entities | Agriculture management entities that do not fall under family management entities. |

(3) Classification of farm households

| 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 |

Note: Definitions are based on the survey system of the 1990 Census of Agriculture and Forestry and the 2000 Census of Agriculture and Forestry.

(4) Farm household economics

| Terminology | Definition |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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). |

(5) Agricultural labor by household members in individual management entities

| | | Involvement in farming | | | Household member |
|----------------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Engaged in farming | | Not engaged in farming | As a rule, people who live and earn a living together (1) Core persons mainly engaged in farming Household members 15 years old and over who are working mainly in agriculture during regular hours. (2) 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. |
| | | Mainly farming | Mainly other | | |
| Status during regular hours | Engaged mainly in work | <div><div><div>Core persons mainly engaged in farming</div><div>(1)</div></div><div><div>Household members engaged in own farming</div><div>(2)</div></div></div> | | | |
| | 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 | | 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. 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. | | | |

(6) Newcomers in agriculture (definition used in the survey on Newcomers in Agriculture)

| 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 | Defined as individuals who fulfill one of the following conditions: (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”. (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. (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 |
| Status before farming | Student | <div>Entrants to farming soon after graduation from school</div> <div>(1) New self-employed farmers</div> | <div>(2) New employed farmers</div> | <div>(3) New entries</div> | <div>Entrants to farming soon after graduation from school</div> <div>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.</div> |
| | Employed in other work | | | | |
| | Engaged in housework and child rearing / Other | | | | |

(7) 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. |

- Notes: 1) Order of priority: Urban area → Mountainous farming area → Flat and hilly farming area
- 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.
- 3) Gradient refers not to the gradient of cultivated land per parcel, but to the main topographical gradient as grouped land.
- 4) The combination of the hilly and mountainous farming area categories is referred to as hilly and mountainous area.
- 5) Former municipalities are those that were classified as municipalities as of February 1, 1950.

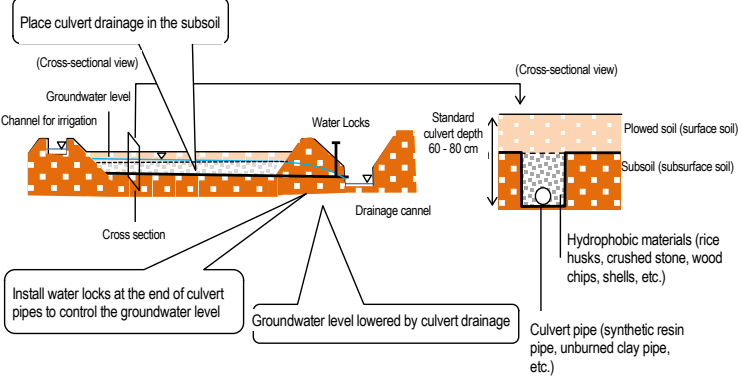
(8) Agricultural regions nationwide

| 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. This disease is endemic to swine and wild boars and is not contagious to 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. |
| 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. |

| | |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| D | |
| Developing multipurpose paddy fields | <p>To enable farming through crop rotations between rice and crops by implementing measures such as culvert drainage.</p>  |
| 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 bank | Food bank is an organization that receives donations of unused and other still edible |

| | |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | foods from food-related businesses and other entities, and provides it free of charge to those who are unable to obtain sufficient food due to poverty, disasters, etc. |
| 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 | <p>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 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> |
| Food self-sufficiency potential | <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> |
| Food self-sufficiency ratio | <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> $\text{Self-sufficiency ratio for individual items} = \frac{\text{Domestic production volume}}{\text{Supply for domestic consumption}}$ $= \frac{\text{Domestic production volume}}{\text{Domestic production volume} + \text{Import volume} - \text{Export volume} \pm \text{Fluctuations in inventory}}$ <ul style="list-style-type: none"> - 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>The food self-sufficiency ratio for FY2018 and beyond is adjusted for changes in food consumption due to inbound (outbound) consumption.</p> <ul style="list-style-type: none"> • 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. • 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>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” means materials derived from plant, animal, microbial or other sources containing functional units of heredity that possess actual or potential value. In the case of plants, “Genetic resources” include seeds, tubers, and saplings of registered varieties, landrace, and wild crop relatives. |
| Genome editing | A technique to efficiently modify the genes of a living organism by using enzymes. |
| 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. |
| 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 | Farmland that falls under either of the following ① or ②: ① The first item cites a farmland that is unused for cultivation and is expected to remain unused for the purpose. ② The second cites a farmland that is used far less than other farmlands in the vicinity. (excluding farmland listed in ①) |
| 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) | SDGs stands for Sustainable Development Goals. 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. |