

FY2021

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



May 2022

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 the actual totals.
- The targets in this report are those in the measurement indicator of policy evaluation in accordance with the basic plans for food, agriculture, and rural areas.
- 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.)

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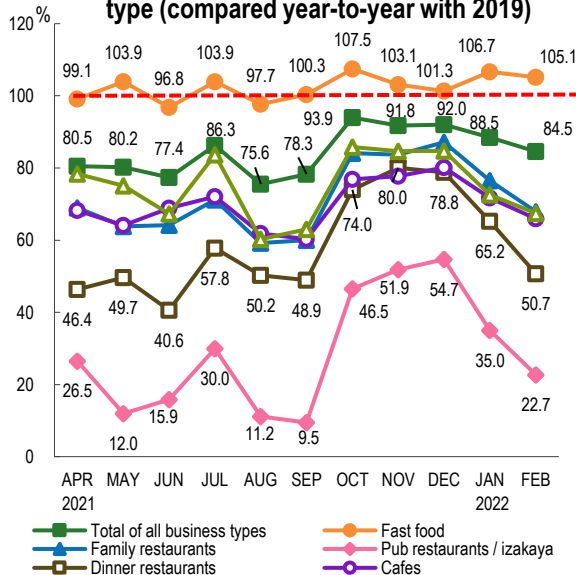
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- COVID-19 had a significant impact on Japan's economy and society in 2021 as well.
- Although sales in 2021 in the food service industry overall showed a slight recovering trend immediately after the state of emergency was lifted in October, they returned to a downward trend in January 2022 when the semi-state of emergency was declared. Pubs and izakaya (Japanese-style café bars) suffered particularly large drops in sales.
- Various items continued to be affected by the decline in commercial demand, including demand for eating out. With regard to raw milk, production was strong, but commercial demand such as for eating out and souvenirs did not recover, and the supply-and-demand situation remained relaxed. Over the New Year's period, etc., there were concerns that more raw milk would be produced than could be processed even if dairy product factories were put into full operation. However, this issue was avoided through consumer cooperation and industrywide efforts to increase consumption.

Food and beverage service industry sales by business type (compared year-to-year with 2019)

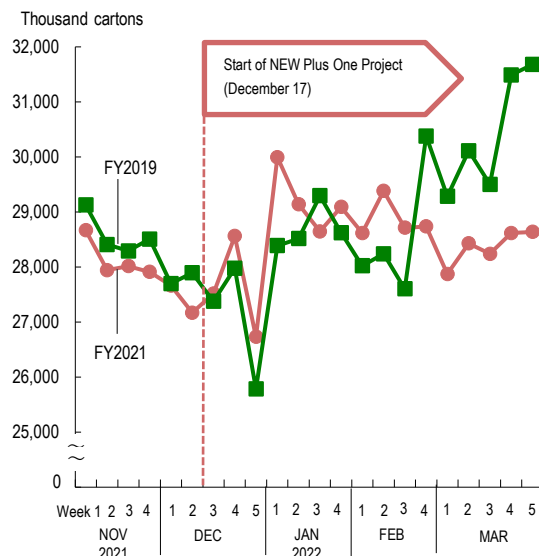


Source: Prepared by MAFF based on Japan Foodservice Association's "Survey of Market Trends in Eating and Drinking Services"

Note: 1) Survey of association member companies.

2) "Other" includes general restaurants/bars, home delivery pizzas, and school lunches.

Household milk consumption for November to March



Source: Prepared by MAFF based on Japan Dairy Association (J-milk)'s "Milk Sales Situation (J-milk)"

- Demand for Ornamental flowers and plants was on a recovering trend overall, but continued to decline for commercial uses in particular, due to the suspension and scaling-down of events, etc.
- Rice saw demand continue to decrease for home meal replacement and eating out.
- Domestic consumption of sugar was on a downward trend, due to a decline in demand for eating out and inbound travel.
- The number of foreign technical intern trainees, etc. entering Japan decreased significantly due to entry restrictions on foreign visitors, and the total number of foreign human resources remained virtually the same as the previous year, due to factors such as extension of period of stay by technical intern trainees already in the country.

<Case Study> Supporting farmers by providing tourist farms' strawberries for school lunches (Gunma Prefecture)

- In Minakami Town, Gunma Prefecture, COVID-19 significantly reduced visitors to strawberry-growing tourist farms, so in 2021, their strawberries were provided for school lunches at the town's elementary and junior high schools.
- Shokuiku (food and nutrition education) lectures were held and PR brochures distributed to raise the region's profile as a strawberry producer. Purchases by parents, etc. also increased.



Strawberries provided for school lunches
Source: Minakami Town, Gunma Prefecture

Response to COVID-19

- Promoting sales of domestic agricultural, forestry and fishery products, and supporting expansion of consumption.
 - Call for increased consumption of milk and dairy products (NEW Plus One Project).
 - Efforts to expand the use of Ornamental flowers and plants (Hana Ippai Project 2021).

- Support for storage expenses related to long-term systematic sales efforts for staple food rice, etc.
- In particular, a special framework has been established to address the drop in rice demand due to COVID-19. Through this, and the government will cover the full long-term storage expenses incurred by the private sector, and also provide support for expenses such as those incurred to promote sales.
- Support efforts to diversify sales channels and develop new ones, for agricultural, forestry and fishery products, etc.
- Support for providing unused food to Children's Cafeterias through food banks.
- Support efforts to maintain and promote exports of agricultural, forestry and fishery products and food.
- Support toward creating demand for restaurants/bars.
- Business continuity support for agricultural, forestry, fishery and other businesses.
- Support the business continuity and cash flow of agriculture, forestry, fishery and food-related businesses.
- Support for businesses working (e.g.) to switch to other items in response to new demand, such as helping them introduce high-performance agricultural machinery by lease or acquisition, and develop facilities.
- Support for securing labor for agricultural and fishery sites
- Restrictions on entry into Japan have caused a shortage of personnel for agriculture/fishery management entities. Support them with (e.g.) the additional costs required to accept alternative human resources.
- Disseminating information on the food supply situation, etc.
- Disseminate information to the public through websites, MAFF apps, SNSs, etc.



The MAFF Minister and State Ministers publicized increased consumption of milk dairy products at regular conferences.

農林水産省



新着情報
2021.10.22 2020年アルメーラ賞受賞者発表（アグリフード2020）の表彰状について提供しています
2021.10.12 【シガヤキョウシュウ】の白おまんこ下すに花間当農産物があるを報告していただきました！
2021.09.13 国際園芸博覧会の関連情報を提供しています

MAFF website
Hana Ippai Project

Topic 2

MeaDRI, the actions based on the Strategy for Sustainable Food Systems



- The Strategy for Sustainable Food Systems - MeaDRI, Measures for Achievement of Decarbonization and Resilience with Innovation - was launched in May 2021. It aims for enhancing productivity potential and sustainability of agriculture, forestry, fisheries and food industries in Japan through innovation.
- To achieve 14 numerical targets (KPIs), it is important to promote the development of innovative technologies and production systems and their social implementation, as well as behavior changes of stakeholders, with appropriate timelines.
- At the UN Food Systems Summit in September 2021, Japan presented the concept of this strategy that it would contribute to make food systems more sustainable.
- MeaDRI talk sessions were held around the country, and public-private round table meetings have been organized to improve a wide range of stakeholders in. Also, the "MeaDRI Sustainable Food Systems Bill" was submitted to the Diet in February 2022.

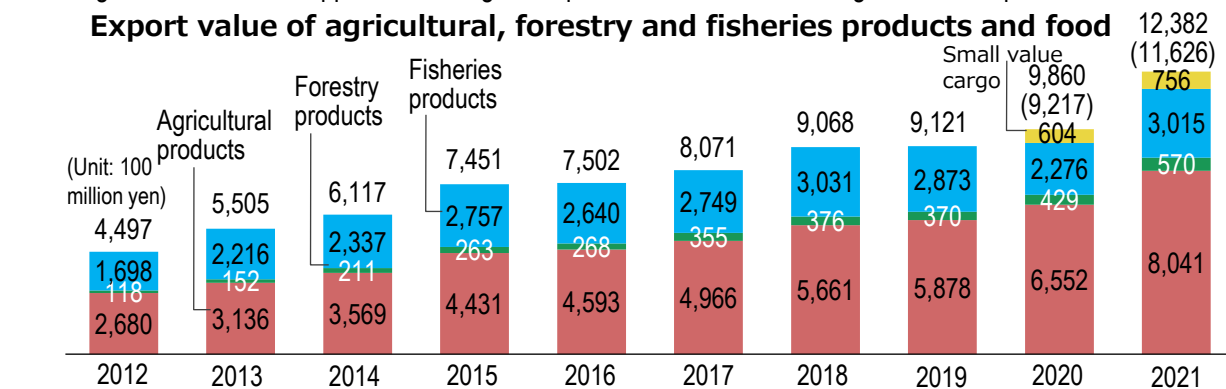
What the Strategy for Sustainable Food Systems, MeaDRI aims to achieve by 2050

Greenhouse gas reduction	1. Zero CO ₂ emissions from the agricultural, forestry and fisheries industries (2050)
	2. Establishment of technologies for electrification and hydrogenation of agricultural and forestry machinery and fishing vessels (2040)
	3. Full transition to a horticulture facility that does not use fossil fuels (2050)
	4. Introduction of renewable energy in rural areas, in line with the expansion of Japan's renewable energy introduction (2050)
Environmental conservation	5. 50% reduction in risk-weighted use of chemical pesticides (2050)
	6. 30% reduction in chemical fertilizer usage (2050)
	7. Increase of the percentage of organic farming in the area of cultivated land to 25% (1 million ha) (2050)
Food industry	8. Decrease by half in business-related food loss from FY2000 (2030)
	9. Increase in food manufacturing industry's labor productivity by 30% or more compared to 2018 (2030)
	10. Reduction in the percentage of expenses in sales of food and beverage wholesale trade to 10% (2030)
Forestry	11. Achievement of the procurement of imported raw materials in consideration of sustainability in food companies (2030)
	12. Increase of the percentage of the 'elite trees' varieties in forestry saplings to 30% or more (2030) and to 90% or more (2050) Establishment of technology for high-rise wooden construction and maximization of carbon storage using wood (2040)
Fisheries	13. Recovery of fish catches to the same level as 2010 (4.44 million tons) (2030)
	14. Achievement of 100% artificial seedling rate in farming of Japanese eel and bluefin tuna, etc. (2050) Achievement of 100% compound feed rate in fish feeds used for farming (2050)

Source: Prepared by MAFF

- 2021 saw exports of agricultural, forestry and fishery products and food rise 25.6% from the previous year, reaching 1.2382 trillion yen. This is the first time they have exceeded 1 trillion yen. On a per-item basis, exports increased for beef and sake, which saw recovered eating-out demand and strong sales in the EC. They also increased for apples, which saw increased demand for gift uses and household consumption. By country and region, scallops, sake, whisky, and other alcoholic beverages saw increased exports to China.
- In FY2021, Singapore and the USA removed the import measures they had imposed due to the Fukushima Daiichi nuclear power station accident, and the EU and Taiwan eased theirs. In the field of animal and plant quarantine consultations, the ban on exports had been lifted for a few products, including Japanese Satsuma Mandarins to Vietnam.
- Exports account for a low percentage of Japan's production value compared to other countries, so increased exports have high potential. In order to achieve the export target of 2 trillion yen in 2025 and 5 trillion yen in 2030, it will be essential to develop a market-in system. Issues include inadequate support for regions and businesses taking on the challenge of exporting, and inadequate nationwide export efforts and overseas support systems.
- Based on the export strategy after it was revised in December 2021, a "Bill To Partially Revise the Act on Facilitating the Export of Agricultural, Forestry, and Fishery Products and Food, Etc." was submitted to the Diet in March 2022. It includes establishing—with cooperation from parties involved in all stages from production to sales—a system to authorize corporations aiming to promote exports by certifying them as "Authorized Export Promotion Organization." It also includes bolstering financial and tax support for making the capital investment needed to get into the export business.

Export value of agricultural, forestry and fisheries products and food

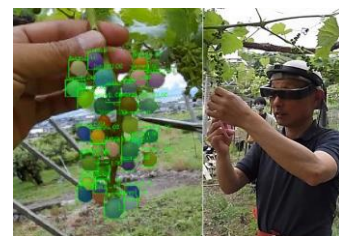


Source: Prepared by MAFF based on "Trade Statistics of Japan" (Ministry of Finance)

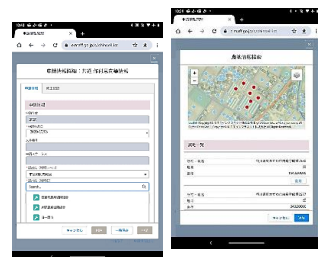
Note: 1) Small value cargo means cargo with a value of 0.2 million yen or less per item. The amounts for them are not recorded in Trade Statistics of Japan, so they were surveyed separately.
2) 2020's figure of 9,217 does not include small value cargo and wooden furniture. 2021's figure of 11,626 does not include small value cargo.

Promoting smart agriculture and Digital Transformation (DX) of agriculture

- In order to promote DX of agriculture and the food-related industries, 39 diverse projects are being driven based on the "Conception and Projects for DX of Agriculture" announced in March 2021, regarding the "sites" of agriculture and the food-related industries, the "administrative practices" by MAFF, and the "platform" to connect them.
- Starting in FY2019, smart agriculture demonstration projects utilizing cutting-edge technology have been conducted in 182 districts nationwide. While the work-hour reduction effects are confirmed, in light of the issues revealed in the demonstrations, developing agricultural support services and agricultural infrastructure, providing learning opportunities and other efforts will be promoted based on the "Smart Agriculture Promotion Comprehensive Package."
- In FY2021, the "Common Application System of MAFF (eMAFF)" went into full-scale operation, allowing administrative procedures to be made online. The aim is to enable all of the more than 3,000 administrative procedures to be made online by the end of FY2022.



Handing on the masters' techniques by showing them visually (grape picking assisted by AR)



Applicants' screen in eMAFF

- FY2021 marked the launch of "Thinking about Japan through Food. NIPPON FOOD SHIFT" a new national movement run through public-private collaboration that will focus on deepening the links between food and agriculture.
- MAFF has promoted the movement targeting Generation Z, people born in the late 1990s and 2000s and expected to lead the next generation. Specifically, MAFF has provided them with information regarding the efforts by farmers and fishermen and the appeals of local food and rural areas by working together with the companies, organizations and other promotion partners that espouse it.
- The movement has been rolled out in various ways, including planning TV shows with participation from high schools, planning advertising with cooperation from newspaper companies in the 47 prefectures, streaming videos in collaboration with Yoshimoto Kogyo Co., Ltd., and holding events featuring fashion, manga, etc.



Talk session program with members of Generation Z at NIPPON FOOD SHIFT FES.

Trend toward using domestic materials in processed foods expanded

- Use of domestic materials in processed foods expanded among food manufacturers.
- With the end of period for transitional measures for the country of origin labeling system for ingredients of all processed foods, this system became mandatory in April 2022. Support the switch from imported to domestic ingredients.
- In a survey of consumers, 50% of respondents said they would choose domestic products even if they were more expensive. Use of domestic materials by food manufacturers is expected to spread.



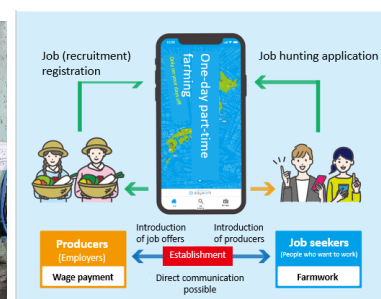
Processed foods made from domestic materials
Source: Pasco Shikishima Corporation and Iwatsuka Confectionery Co., Ltd.

"Half-farmer, half-X" and other diverse ways of getting involved in agriculture have been developing

- Over the past few years, diverse ways of getting involved in agriculture have been developing through local public organizations, agricultural cooperatives, etc. Examples include moving from urban to rural areas to become a "half-farmer, half-X" who combines agriculture with other work; going on workcations that include agriculture; and getting daily-basis part-time agricultural jobs through labor recruitment apps.
- These new developments are expected to expand further, help solve the short-term labor shortages at agricultural sites, and attract more people into agricultural jobs in the future.



Someone working as a "half-farmer, half-X"
(Working in agriculture and at a brewery)
Source: Tsuwano Town, Shimane Prefecture

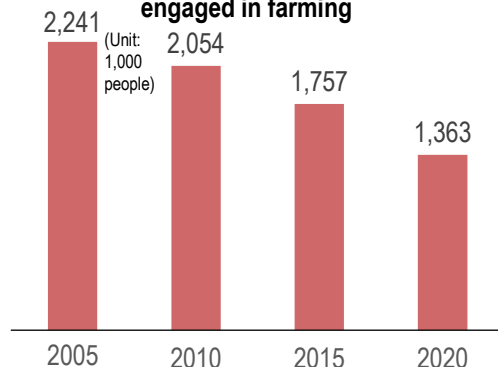


System of daily-basis agricultural part-time jobs
Source: Tokachi Agriwork Council
Establishment Preparation Committee

Core persons mainly engaged in farming

- The number of core persons mainly engaged in farming* is on a downward trend. They numbered 1.36 million in 2020.
* It means household members aged 15 years or older who were engaged in personal farming as their main work in the year prior to the survey date.
- In 2020, people aged 65 and over accounted for 70% (950,000) of the total number of core persons mainly engaged in farming. In contrast, younger age groups (49 and under) accounted for 11% (150,000).
- Compared to the groups 5 years younger from 2015, the number of core persons mainly engaged in farming by age group in 2020 were slightly higher in the groups aged 69 and under. The number in the 20-49 age group increased from 0.124 million to 0.147 million. With the number of people over 70 declining fast, as well as needing to secure and retain farmers from younger age groups, etc., each farmer will need to play a larger role.

Trends in the number of core persons mainly engaged in farming

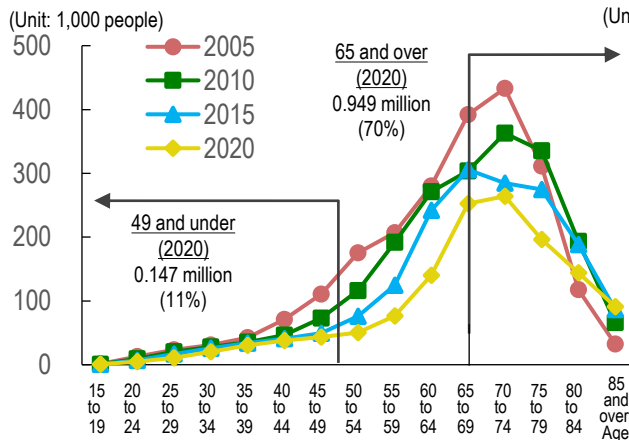


Source: MAFF, "Census of Agriculture and Forestry" and "2010 World Census of Agriculture and Forestry" (recompiled)

Note: 1) The figures are as of February 1 each year.

2) The figure for 2005's number of core persons mainly engaged in farming is based on commercial farm households.

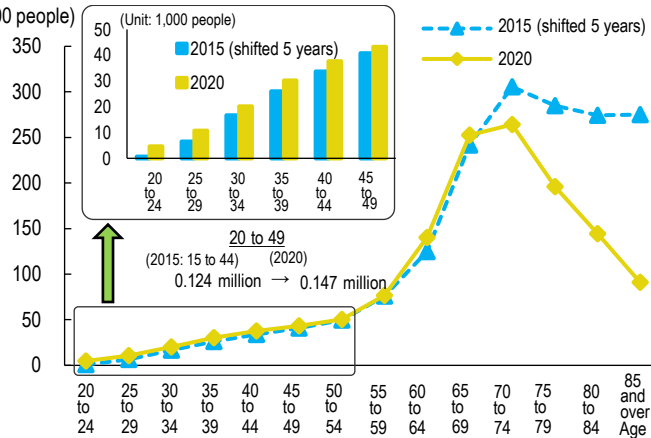
Trends in the number of core persons mainly engaged in farming by age group



Source: Prepared based on MAFF, "Census of Agriculture and Forestry" and "2010 World Census of Agriculture and Forestry" (recompiled)

Note: The figure for 2005's number of core persons mainly engaged in farming is based on commercial farm households.

Comparison of 2015's and 2020's numbers of core persons mainly engaged in farming

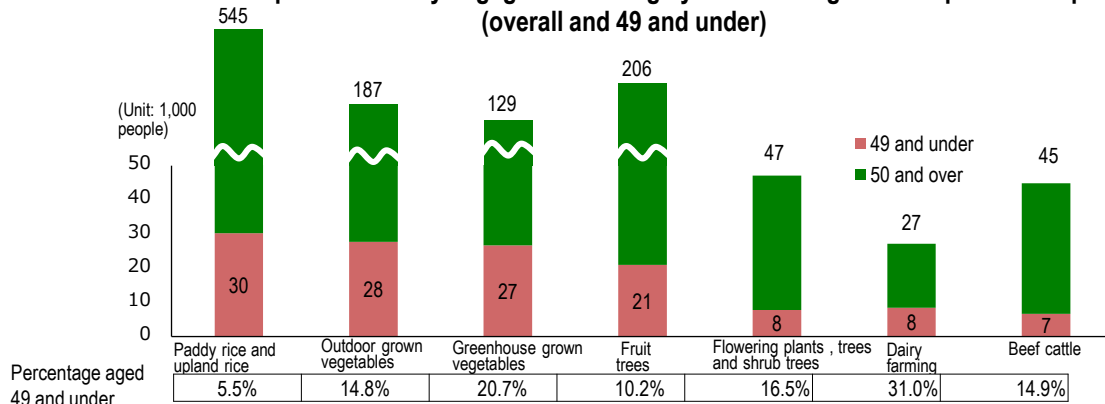


Source: Prepared based on MAFF, "Census of Agriculture and Forestry"

Note: The 2015 graph was shifted one group (five years) to the right, then compared to the same age group in 2020.

- Looking at the core persons mainly engaged in farming in the younger age groups (49 and under) in 2020 by sector, while large numbers are working in the rice cultivation and vegetable sectors, large percentages are working in the dairy farming and greenhouse grown vegetable sectors, where management entities' sales and agricultural incomes are relatively large.

Number of core persons mainly engaged in farming by section of agricultural products top sales (overall and 49 and under)



Source: Prepared based on results of MAFF, "2020 Census of Agriculture and Forestry"

<Case Study> I-turn job changes to grow chrysanthemums (Nagano Prefecture)

- In Japanese, "I-turn" means moving to a new area to start a new job. That is what Kohei and Hitomi Suzuki did when they moved to Chino City, Nagano Prefecture to become core persons mainly engaged in farming—in their case, growing chrysanthemums on 58 a of land (greenhouses: 15 a, open fields: 43 a). After training at a chrysanthemum farm household run by people who had I-turned before them, they I-turned from Aichi to Nagano Prefecture themselves in 2019.
- Through detailed cultivation plans, bloom adjustment techniques such as shade cultivation, and efforts to distribute the workload, etc., they achieved their management plan's fifth-year sales targets in just their second year on the job.

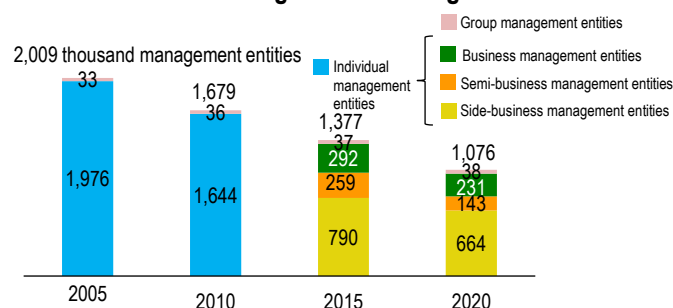


Kohei and Hitomi Suzuki

Agriculture management entities

- The number of agriculture management entities as a whole was on a downward trend, and stood at 1.08 million in 2020. About 96% of these were individual management entities.

Trends in the number of agriculture management entities



Source: MAFF, "Census of Agriculture and Forestry"

Note: 1) The figures are as of February 1 each year.

2) Business management entities: Individual management entities whose main income is agricultural, and that have a household member (engaged in self-employed agriculture for 60 days or more a year) aged under 65.

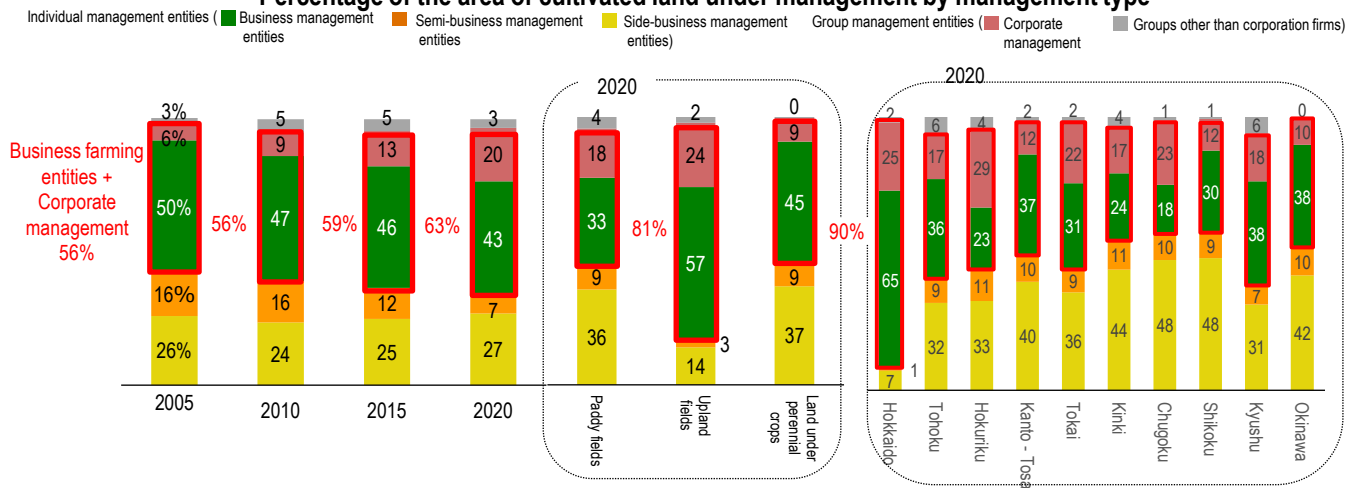
Semi-business management entities: Individual management entities whose main income is agricultural, and that have a household member (as above) aged under 65.

Side-business management entities: Individual management entities that do not have a household member (as above) aged under 65.

Looking at the percentage of the area of cultivated land under management by management type, the sum of the figures for business management entities and corporate management entities has been on an upward trend. By land type, upland fields accounted for 81% in 2020. By region, Hokkaido accounted for 90%. On the other hand, side-business management entities accounted for about half in the Chugoku and Shikoku regions, where there are many paddy fields and land under permanent crops, and the proportion of hilly and mountainous areas is also high.

- Side-business management entities accounted for a large percentage of the area of cultivated land under management particularly in West Japan, and household members engaged in own farming aged 65 and over are playing a large role in sustaining local agriculture.

Percentage of the area of cultivated land under management by management type



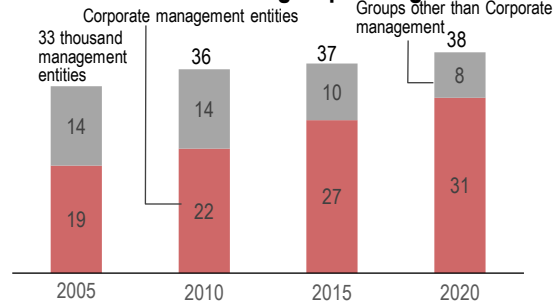
Source: Prepared based on MAFF, "Census of Agriculture and Forestry"

Note: 1) The figures are as of February 1 each year.

2) The figures for the 2005, 2010 and 2015 breakdowns by business/side-business are estimates calculated by taking the percentages of the areas by business/side-business for commercial farm households and applying them to the areas for individual management entities.

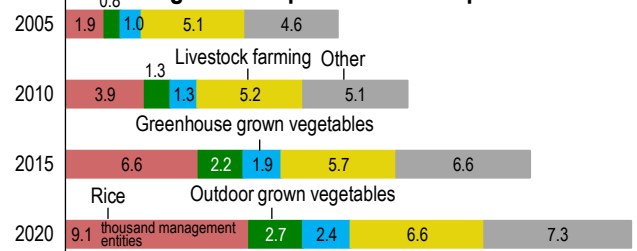
- The number of corporate management entities among group management entities is on an upward trend.
- Corporate management entities increased in all sectors in the breakdown by sector with the highest sales. The increase was particularly significant in the rice cultivation sector.

Trends in the number of group management entities



Source: Prepared based on MAFF, "Census of Agriculture and Forestry"
Note: The figures are as of February 1 each year.

Number of corporate management entities by section of agricultural products with top sales



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

Note: 1) The number of Corporate management entities does not include those that did not have any sales.

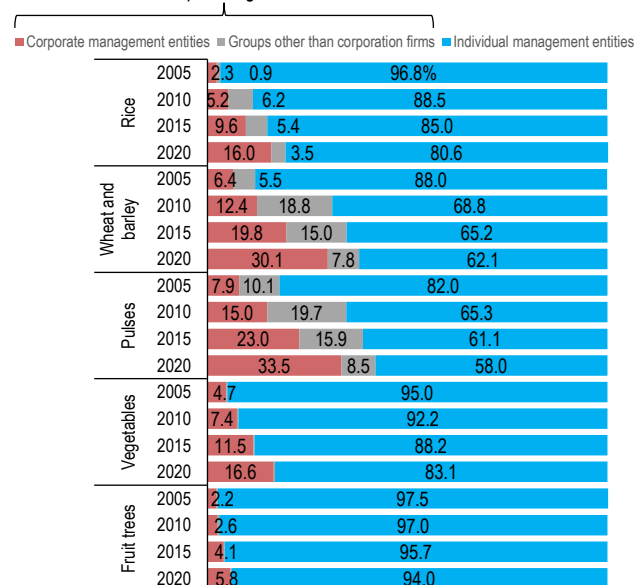
2) Livestock farming is the total for dairy farming, beef cattle, pig farming, poultry farming, sericulture worms and other livestock farming.

- Looking at the percentages for group management entities by item, in the cultivation sectors, they were on an upward trend particularly with rice, wheat and barley, and beans (planted area). Conversion of community-based farm cooperatives to corporations is progressing.

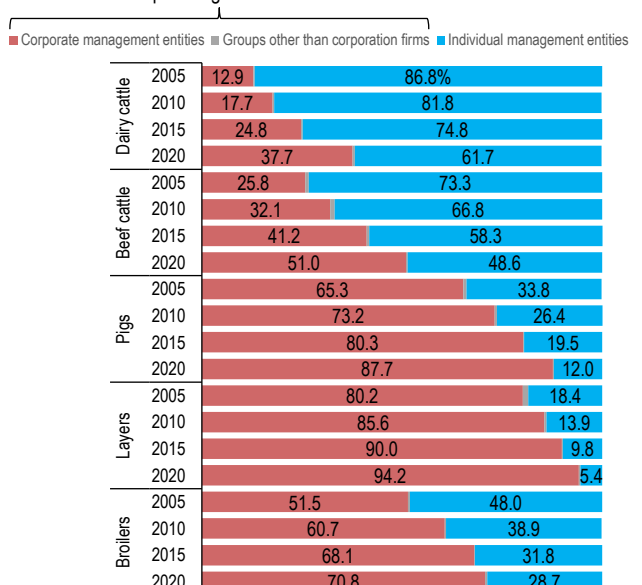
- The progress of incorporation is more pronounced in the livestock sectors than in the cultivation ones. In particular, Corporate management entities account for about 90% in the layer and pig farming sectors (number of animals)

Group management entities' percentage in planted (cultivated) area and number of animals

(Arable species sectors: planted (growing) area)
Group management entities



(Livestock sectors: number of feeding livestock)
Group management entities

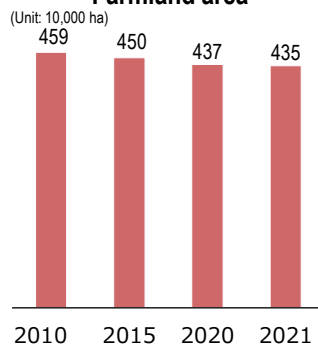


Source: Prepared based on MAFF, "Census of Agriculture and Forestry"
Note: The figures are as of February 1 each year.

Farmland

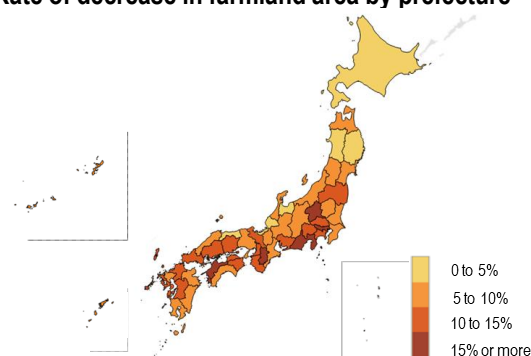
- Farmland area is on a downward trend, and stood at 4.35 million ha in 2021. The rate of decrease in area is high in and around the capital and in the prefectures in West Japan.

Farmland area



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

Rate of decrease in farmland area by prefecture



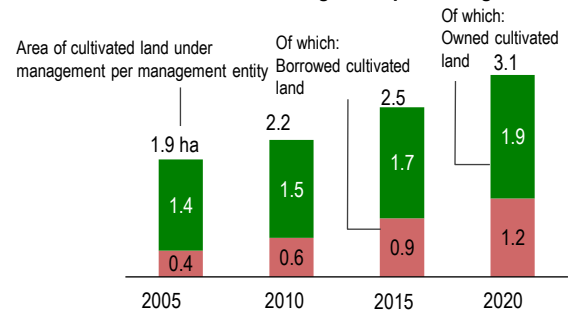
Source: Prepared based on MAFF, "Statistics on Cultivated Land and Planted Area"

Note: Rate of decrease between 2005 and 2021.

Scaling up

- The area of cultivated land under management per management entity is on an expanding trend, including an increase in the area of borrowed cultivated land.
- The planted areas for wheat, barley and legumes, and number of animals for pigs and layers, sectors in which the percentage of corporate management entities is increasing, have more than doubled in 15 years.

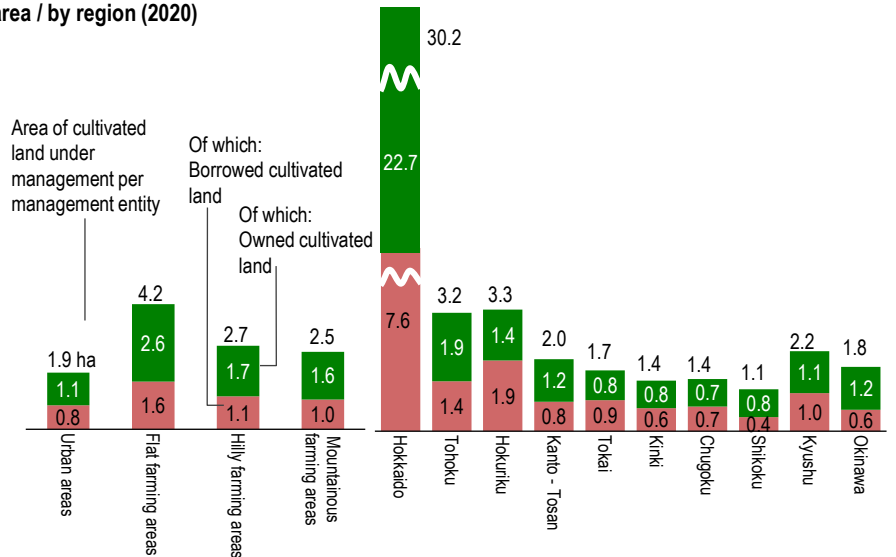
Area of cultivated land under management per management entity



Source: Prepared based on MAFF, "Census of Agriculture and Forestry"
Note: The figures are as of February 1 each year.

- In the classification of agriculture areas, areas of cultivated land under management are large in flat farming areas, and small in hilly and mountainous areas, where topographic conditions are unfavorable. By region, they are large in Hokkaido, Tohoku, Hokuriku and other parts of East Japan, and small in , such as Kinki, Chugoku, Shikoku and other parts of West Japan, where there are lots of hilly and mountainous areas.

Area of cultivated land under management per management entity by classification of agriculture area / by region (2020)

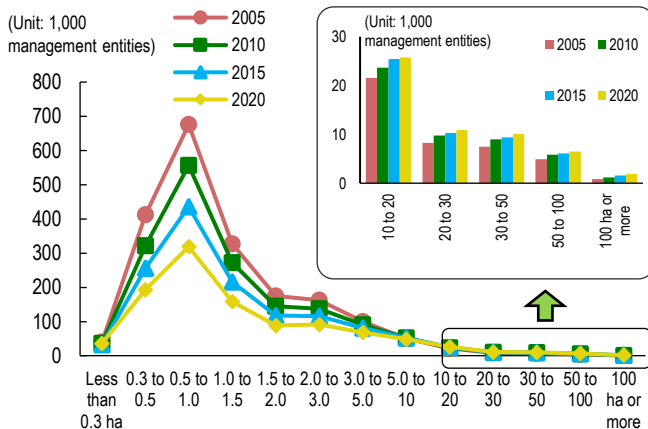


Source: Prepared based on MAFF, "2020 Census of Agriculture and Forestry" Note: The classification of agriculture areas is based on the December 2017 revision.

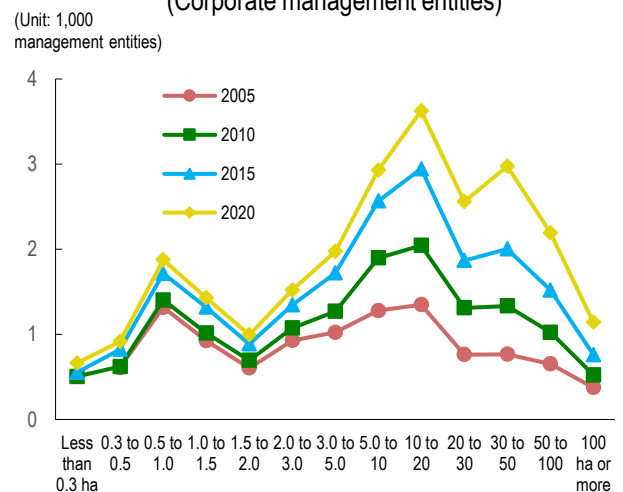
- Looking at the situation by management scale, the number of management entities in the 0.5-to-1.0-ha segment (which accounts for the largest percentage) dropped significantly, while the number in the 10-ha-or-more segment was on an increasing trend.
- With regard to corporate management entities, there were many with a large scale compared to all agriculture management entities, and an increasing trend as well.

Number of management entities by scale of area of cultivated land under management

(All agriculture management entities)



(Corporate management entities)



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

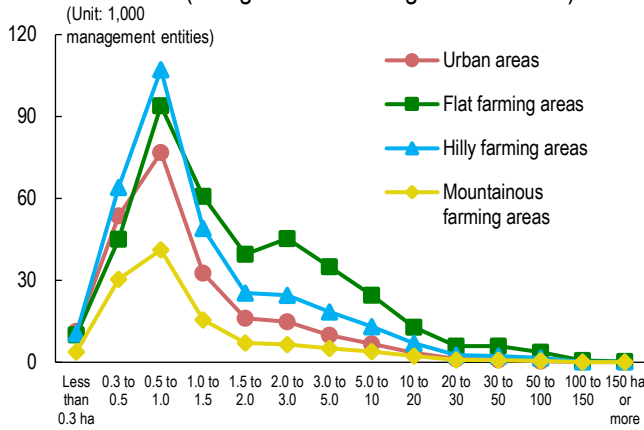
Note: 1) The figures are as of February 1 each year.

2) Excluding those with no cultivated land under management.

3) The 2005 figures exclude those with less than 0.3 ha.

- Looking at the situation by classification of agriculture area, the scaling-up is progressing more in flat farming areas. The trend is more pronounced among corporate management entities.

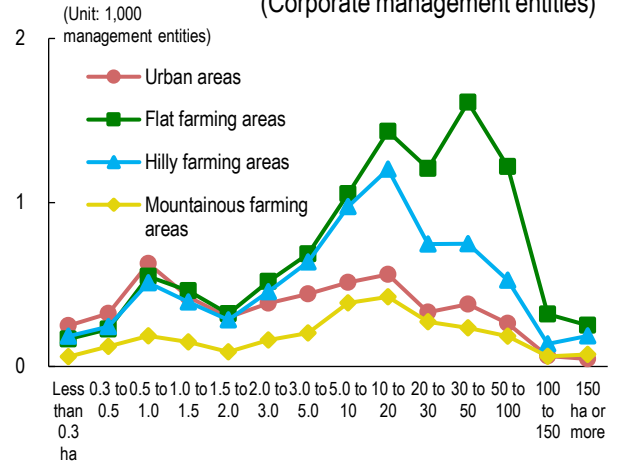
Number of management entities by scale of area of cultivated land under management, by classification of agriculture area (2020)
(All agriculture management entities)



Source: Prepared based on MAFF, "2020 Census of Agriculture and Forestry"

Note: 1) The classification of agriculture areas are based on the December 2017 revision.
2) Excluding those with no cultivated land under management.

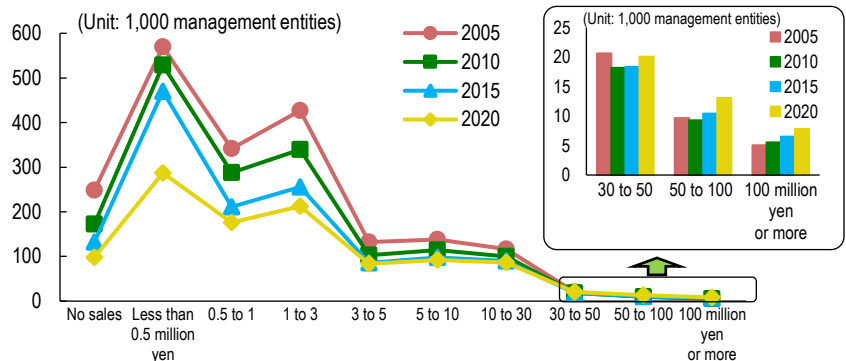
(Corporate management entities)



Agricultural income

- Looking at the number of management entities by sales, there was a downward trend in the smaller segments, and in contrast, an upward trend in the segments with 30 million yen or more. The number of management entities with sales of 30 million yen or more increased in particular in arable species sectors such as rice and vegetable farming.

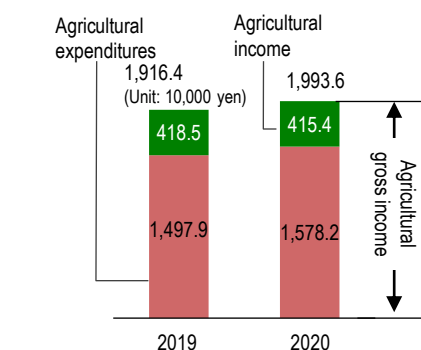
Number of agriculture management entities by Sales amount of Agricultural Products



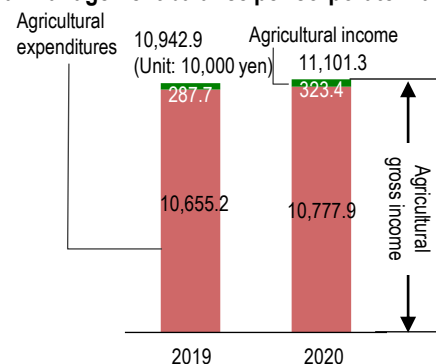
Source: Prepared based on MAFF, "Census of Agriculture and Forestry"

- Agricultural gross income per business management entity in 2020 increased to 19.94 million yen, with increased income from crops among the causes. Factors such as increased freightage and packing costs in agricultural expenditures caused agricultural income to fall to 4.15 million yen.
- The breakdown by management sector was 2.79 million yen for paddy field farming, 4.18 million yen for outdoor grown vegetable farming, 7.74 million yen for dairy farming,* and 25.01 million yen for pig farming.* In addition to the increase in gross income, it will also be necessary to understand, analyze and improve the management situation in order to reduce expenditures.
- * The figures for dairy and pig farming are for all agriculture management entities.
- The agricultural gross income per corporate management entity increased to 111.01 million yen in 2020. Agricultural expenditures increased to 107.78 million yen, due to increased feed costs, etc. Agricultural income increased to 3.23 million yen.

Agricultural management balance per business management entity Agricultural management balance per corporate management entity



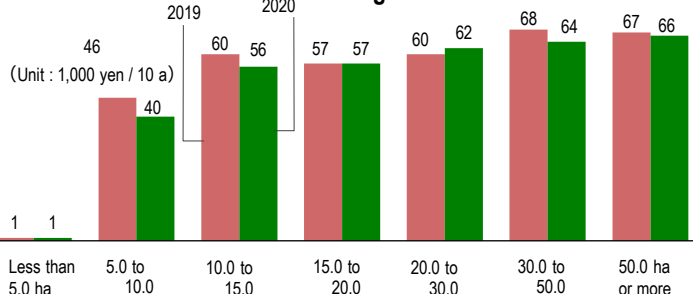
Source: MAFF, "Statistical Survey on Farm Management (Management Statistical by Farming Type)"



Source: MAFF, "Statistical Survey on Farm Management (Management Statistical by Farming Type)"

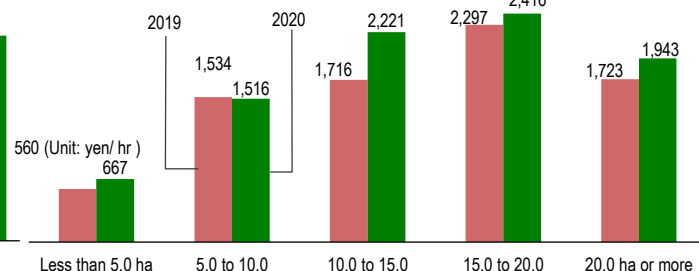
- In paddy field farming, segments with larger scales had higher the land productivity (value added per area). In order to increase income, it will be important to improve productivity further. In addition to measures such as expanding farmland partitions and consolidating farmland, other measures toward this will include promoting smart agriculture, e.g., utilization of management data.
- In outdoor grown vegetable farming, segments with larger scales had higher labor productivity (value added per hour). However, this metric was lower for scales of 20 ha or more. Expanding the overall management scale of outdoor grown vegetable farming will require efforts to shorten the work hours and improve operational efficiency, in order to further improve labor productivity in the segments with 20 ha or more.

Land productivity by scale of total planted area for paddy field farming



Source: MAFF, "Statistical Survey on Farm Management (Management Statistical by Farming Type)"

Labor productivity by scale of total planted area for outdoor grown vegetable farming

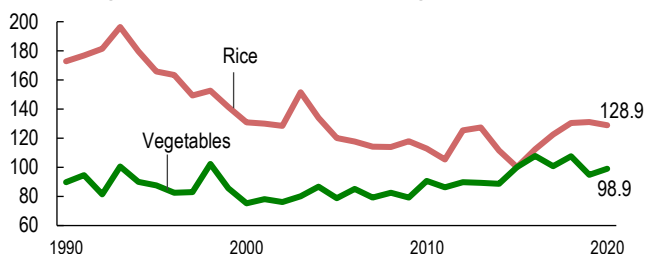


Source: Prepared based on MAFF, "Statistical Survey on Farm Management (Management Statistical by Farming Type)"

<Column> Trends in rice and vegetable prices

- In terms of the agricultural price index from 1990 onward, The trends in rice and vegetable prices are as follows: rice has generally been on a downward trend, while vegetables have been on an upward one in the long term, although their prices have been declining in recent years due to such factors as good harvests.

Rice and vegetable price indices (treating 2015's prices as 100)

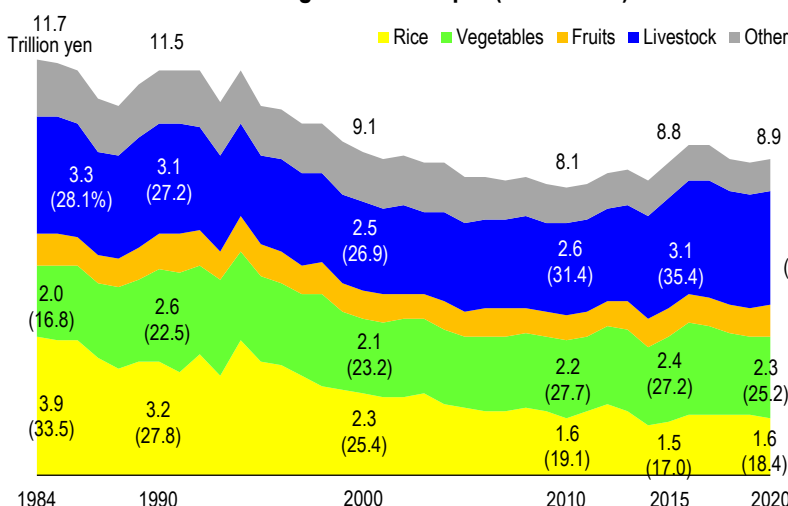


Source: MAFF, "Statistics on Commodity Prices in Agriculture"

Item composition

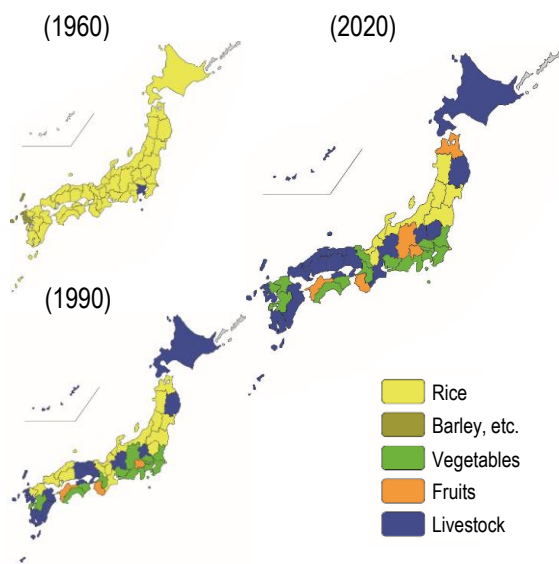
- Rice's percentage in the total agricultural output is decreasing, and livestock's and vegetables' percentages are on an increasing trend.
- The breakdown by prefecture also shows that rice was the top item in the agricultural output value in almost all prefectures in 1960, but livestock, vegetables, and fruits were the top items in most prefectures in 2020.

Total agricultural output (nationwide)



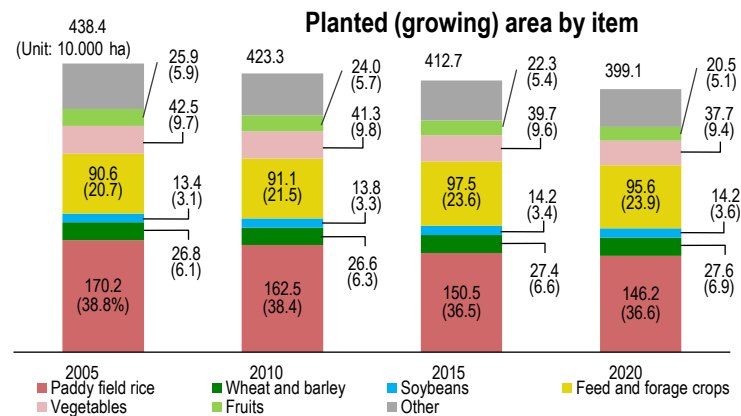
Source: MAFF, "Statistics of Agricultural Income Produced"
Note: The figures in () are the percentages of the total output.

Changes in the top item in the agricultural output value



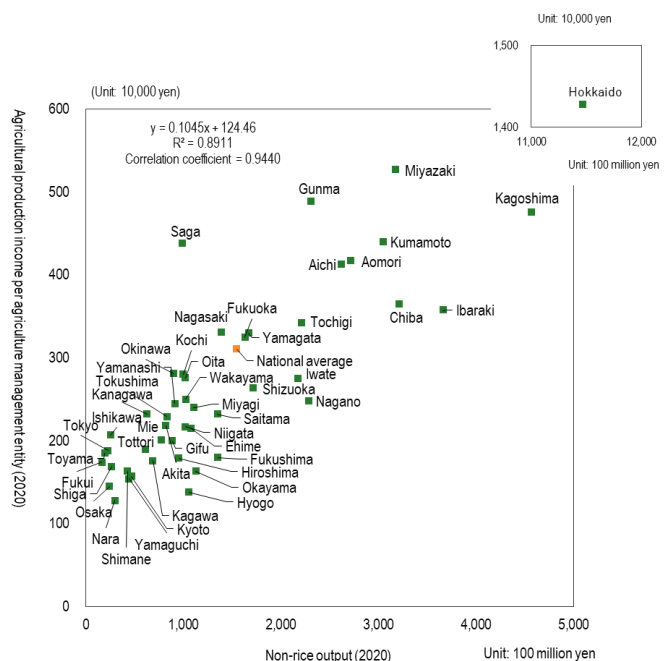
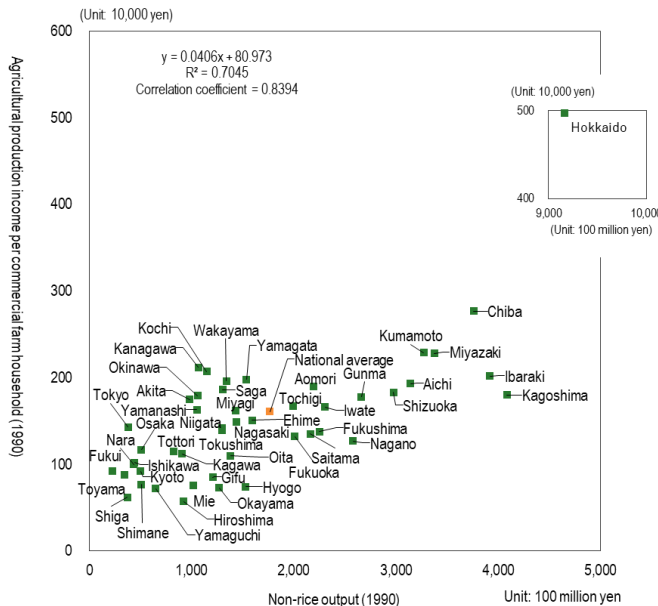
Source: Prepared based on MAFF, "Statistics of Agricultural Income Produced"

- With regard to planted area by item, rice has been on a downward trend, wheat, barley, and soybeans have been on a slightly upward trend, and vegetables have been on a slightly downward one.



- Prefectures with larger non-rice output generally had larger agricultural production income per management entity. The correlation tended to be stronger than in 2020. Production efforts in response to changes in demand will continue to be important.

Agricultural production income and non-rice output per management entity



Source: Prepared based on MAFF, "Census of Agriculture and Forestry in Japan," "Statistics of Agricultural Income Produced"

Note: 1) The 1990 figure for commercial farm households includes agricultural holdings other than farm households and agricultural services enterprises.

2) The national average for non-rice output was calculated by the nationwide non-rice output by 47 (prefectures).

- The agricultural production income per management entity increased from 1.6 million yen in 1990 to 3.11 million yen in 2020. Since 2010, the number of agriculture management entities has been decreasing, but the agricultural production income per agriculture management entity has been an increasing trend. This is because agricultural production income has been on an increasing trend due to factors such as increasing output of (e.g.) livestock products.



Toward the future

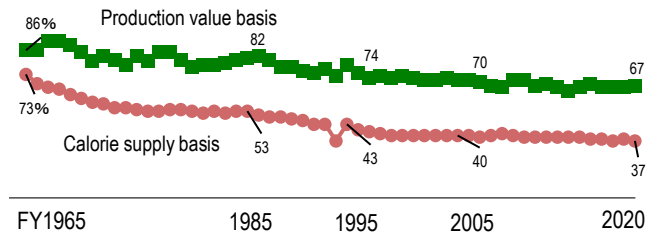
- In order for Japanese agriculture to develop sustainably, in addition to needing to secure and retain farmers from younger age groups, etc., each farmer will need to play a larger role.
- Factors such as the increasing proportion of area of cultivated land under management accounted for by business management entities and corporate management entities and increasing agricultural income in the large-scale segments mean that it will remain important to work on becoming corporations and expanding scale. On the other hand, the proportion of area of cultivated land under management accounted for by farmers aged 65 and over remains large, and their role remains large in terms of maintaining regional agriculture.
- The proportion of rice in the item composition is decreasing and that of livestock and vegetables is increasing, the proportion of younger people is higher in the livestock and vegetable sectors, and the agricultural production income per management entity is larger in prefectures with large outputs other than rice. Consequently, production efforts that respond to the changes in demand will remain important.
- These kinds of trends in the 'Shift' to date have been reflected in the on-site efforts, and are expected to be "Michishirube" (guideposts) broadly pointing the way toward achieving a sustainable agricultural structure in the future.

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



- FY2020's food self-sufficiency ratio on a calorie supply basis was 37%, a drop of 1 point compared to the previous FY, mainly due to decreased consumption of rice. On a production value basis, the figure was 67%, an increase of 1 point compared to the previous FY. This was mainly due to increased production of chicken, pork, vegetables, and fruit.
- The food domestic production ratio on a calorie supply basis (which does not reflect the feed self-sufficiency ratio) was 46%, that same as the previous year. The feed self-sufficiency ratio was also the same as the previous year, i.e. 25%.
- The food self-sufficiency potential indicator, which represents the potential food production capacity, was higher than the estimated energy requirement in the case of cultivating mainly potatoes. However, it was lower than it in the case of cultivating mainly rice and wheat.
- In order to improve the food self-sufficiency ratio, together with strengthening domestic production base through measures such as fostering and securing personnel and farmland concentration and intensification, also promote the following: improving the feed self-sufficiency ratio by increasing production and use of domestic feed; responding to processing/commercial demand and overseas demand; and measures to bolster consumption, such as shokuiku and local consumption of local products.
- The food self-sufficiency potential indicator has also been on a long-term downward trend, and the government will pursue securing farmland and labor, improving yields and productivity, and maintaining and improving the food self-sufficiency potential.

Total food self-sufficiency ratio



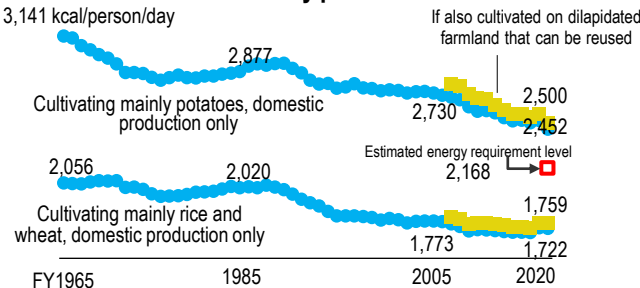
Source: MAFF, "Food Balance Sheet"
Note: Figures for FY2020 are approximations.

Food domestic production ratio (Unit: %)

	Calorie supply basis	Production value basis
Food domestic production ratio	46 (37)	71 (67)
Food domestic production ratio of livestock products	63 (16)	70 (58)
Beef	43 (11)	65 (57)
Pork	50 (6)	59 (46)
Chicken	66 (8)	74 (61)
Chicken eggs	97 (12)	98 (66)
Milk and dairy products	61 (26)	79 (71)
Feed self-sufficiency ratio		25

Source: Prepared by MAFF
Note: 1) Figures for FY2020.
2) The figures in () are the total food self-sufficiency ratio obtained by reflecting the feed self-sufficiency ratio.

Food self-sufficiency potential indicator



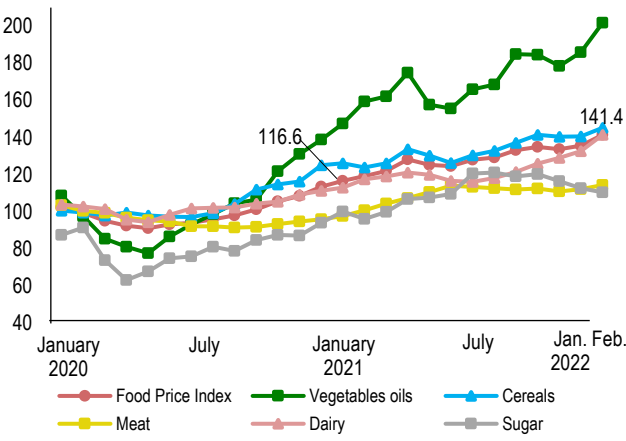
Source: Prepared by MAFF

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



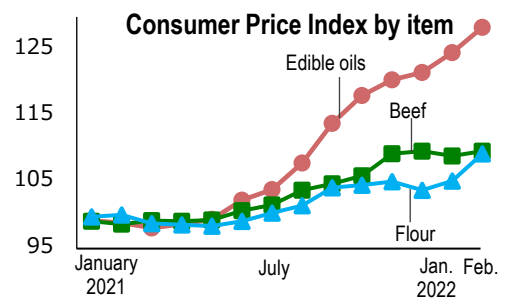
- International prices for produce such as grain have been on an upward trend, mainly due to increased demand among the major importers. In particular, wheat hit a record high in March 2022, due to the Russian invasion of Ukraine, in combination with factors such as crop failures in North America.
- The FAO Food Price Index (FFPI) released by the FAO (Food and Agriculture Organization of the United Nations) stood at 141.4 in February 2022, a rise of 21% compared to the previous year.
- In addition, food import prices are also on an upward trend due to various factors, among them the rise in marine transport fares.

FAO Food Price Index



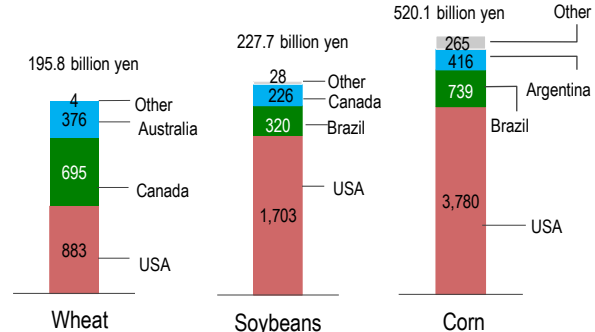
Source: FAO "Food Price Index"
Note: An index in which the average price from 2014 to 2016 is regarded as 100.

- The global rise in food prices is also affecting food prices in Japan. The Consumer Price Index for foods such as edible oils and flour has been on an upward trend in Japan. The domestic impact needs to be monitored closely, also taking into account factors such as the Russian invasion of Ukraine.
- Japan's import structure for major agricultural products is highly dependent on a small number of specific countries. It will therefore be important to work toward increasing domestic agricultural production and stabilizing and diversifying imports through the maintenance and strengthening of good relations with the countries imported from.
- The Food Security Guideline in Case of Emergency has been revised to appropriately address the new risks threatening the food supplies. A new "early caution phase" has been established, and the collection, analysis, and transmission of information is being strengthened.



Source: Prepared by MAFF based on "Consumer Price Index (2020 Base)" (Ministry of Internal Affairs and Communications)

Imports of major agricultural products by country (2021)

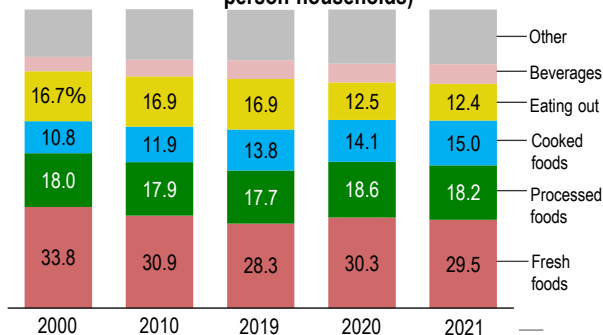


Source: Prepared by MAFF based on "Trade Statistics" (Ministry of Finance)

3. Food consumption trends

- In 2020, while the COVID-19 pandemic reduced opportunities to leave the home, it also increased opportunities to cook at home. This in turn increased the percentage of fresh foods in overall food consumption, and reduced that of eating out. Food consumption expenditure on mail order purchasing via the Internet increased.
- In 2021, the percentage of fresh foods decreased compared to the previous year, and the proportion of eating out remained about the same.
- The percentage of expenditure on cooked foods is on an increasing trend.

Breakdown of food consumption expenditure (two-or-more-person-households)



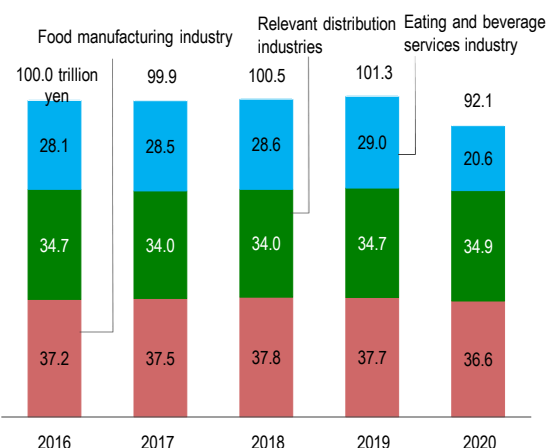
Source: Prepared by MAFF based on "Family Income and Expenditure Survey" (Ministry of Internal Affairs and Communications)

4. Exploration of demand through the creation of new value

Enhancement of competitiveness in the food industries

- The domestic food industry production value in 2020 was 92.1 trillion yen, down 9.2 trillion yen from the previous year. The cause of the decrease was the substantial impact of the COVID-19 pandemic on the eating-out industry
- Compared to the previous year, factory-shipped cold and alcoholic beverages increased in the food manufacturing industry, and the relevant distribution industries remained virtually the same.
- In December 2021, guidelines were formulated to enable food manufacturers to appropriately pass on the rises in raw material costs, etc., to promote appropriate business dealings between food manufacturers to retailers.
- Through measures such as expert discussions by working groups established in the Food Tech Public-Private Council, the government is promoting public-private cooperation toward solving problems and creating new markets. Support is also being provided toward demonstrating business models that will create new products and services that utilize food tech, etc.

Domestic production value of the food industries



Source: MAFF, "Economic relation tables on agriculture and food industries"
Note: Figures for 2020 are approximations.

Addressing environmental issues in the food industry

- The Act on Promotion of Resource Circulation for Plastics has been established. Since April 2022, it has been mandatory to streamline the use of disposable plastics such as forks and spoons, reduce emissions of them and recycle them.



5. Strategic exploration of the global market

Establishing conducive environments for promoting exports of agricultural, forestry and fishery products and food

- In order to establish conducive environments in a variety of relevant fields with a view toward switching to exports based on a market-in approach, the whole government is working as one to implement export-related measures. The Headquarters for the Export of Agricultural, Forestry and Fishery Products and Food serves as the control tower for these efforts, which include gathering information and conducting sales pitches on the ground overseas, and conducting inter-governmental consultations on import restrictions, etc.

<Case Study> Narita City opens a publicly run Narita City Wholesale Market to serve as an export hub (Chiba Prefecture)

- Narita City in Chiba Prefecture opened a publicly run Narita City Wholesale Market in January 2022.
- Located adjacent to Narita International Airport, as well as having annexes for fruit and vegetables and fishery products, the market also enables certificate issuance, quarantine and other export procedures to be completed within in. Providing a one-stop-shop solution for the export procedures means they can be completed in less time.

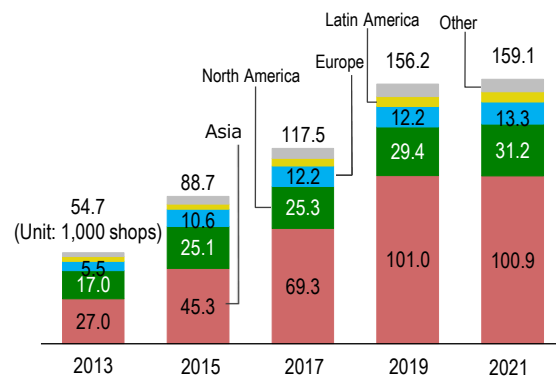


The export procedures can be completed via a one-stop-shop solution.
Narita City Wholesale Market

Establishing commercial flows to overseas and otherwise promoting overseas expansion for the food industry

- The number of Japanese restaurants overseas increased to approximately 159,000 in 2021, which is nearly triple the number in 2013.
- Overseas restaurants and food and alcoholic beverage retailers that use Japanese food products and alcoholic beverages have been certified as Japanese Food and Ingredient Supporter Stores Overseas since FY2016. They are one of the important places to export Japanese food products and alcoholic beverages.
- In order to support the overseas expansion of the Japanese agricultural, forestry, fisheries and food companies that are driving exports forward, overseas expansion guidelines have been developed that outline the key points to be careful about and the typical contract templates.

Number of Japanese restaurants

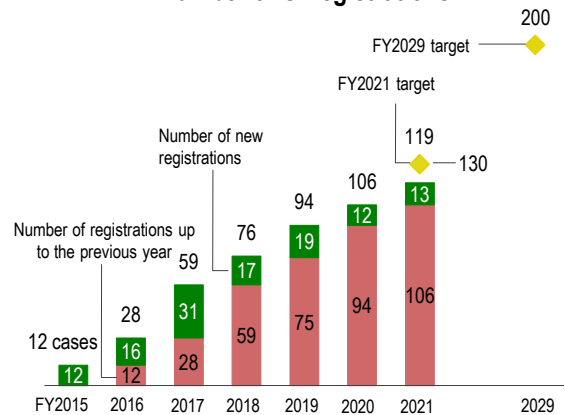


Source: Prepared by MAFF

Protection and utilization of intellectual property

- Under the Geographical Indications (GI) Protection System, which protects the names of distinctive regional products as intellectual property, 13 new products were registered in FY2021, bringing the total to 119 products.
- The revised Plant Variety Protection and Seed Act came into effect in 2021. The new Act enables holders of plant breeder's rights, for example, to restrict their varieties from being brought overseas. It is expected to protect Japan's brand and revitalize breeding.
- The revised Act on Improvement and Increased Production of Livestock and the Act on Prevention of Unfair Competition on Genetic Resources of Livestock came into effect in 2020. Various efforts are progressing based on these two acts. For instance, producers of wagyu genetic resources draw up contracts, defining the scope of usage and user, whenever they transfer genetic resources.

Number of GI registrations



Source: Prepared by MAFF

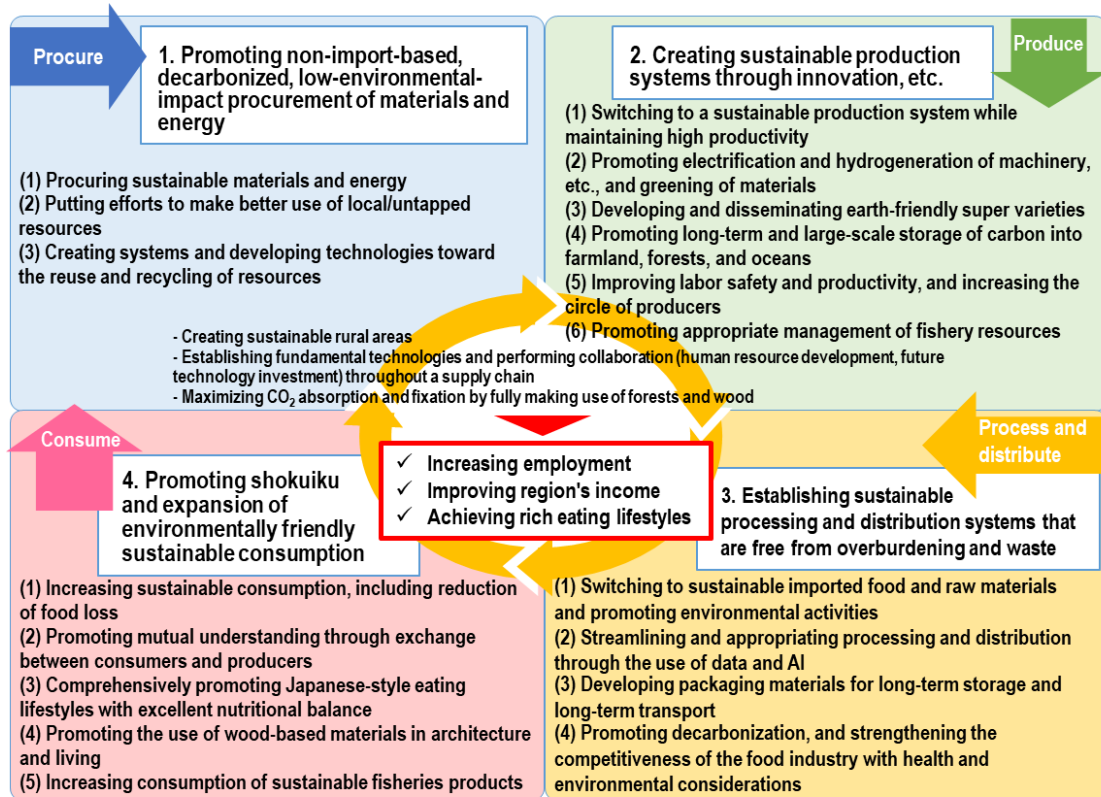


6. Promotion of the Strategy for Sustainable Food Systems, MeaDRI

The significance of the Strategy for Sustainable Food Systems, MeaDRI

- While Japan's food systems provide consumers with high-quality, high-value-added agricultural, forestry and fishery products, there are also issues that need to be overcome—notable examples being a weakening production base and how to respond to climate change. Interest in the SDGs and environment considerations are also rising worldwide.
- In order to ensure food supply stability and expansion of the agricultural, forestry and fisheries industries continue into the future, it will be necessary to establish sustainable food systems. Achieving this will require changes in the behavior of the parties involved in every stage, from procurement, through production, processing, and distribution, and all the way to consumption.

Specific efforts in each field of the Strategy for Sustainable Food Systems, MeaDRI



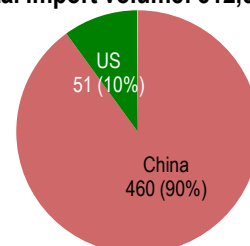
Source: Prepared by MAFF

Promoting non-import-based, decarbonized, low-environmental-impact procurement of materials and energy

- Japan mainly relies on imports for chemical fertilizer raw materials such as ammonium phosphate, potassium chloride and urea.
- In order to shift away from imported raw materials, the government will promote recycling and making better use of local/untapped resources in rural areas.

Countries that Japan imports fertilizer raw materials from

Ammonium phosphate
(Total import volume: 512,000 t)



Source: Prepared by MAFF based on "Trade Statistics" (Ministry of Finance)
Note: July 2020 to June 2021.

<Case Study> Niigata Prefecture develops its first-ever pellet compost

- JA Sasakami in Agano City, Niigata Prefecture developed a prototype pellet compost in June 2021, and is currently pursuing full-scale practical use, including conducting trial sprayings from a small spraying machine fitted to tractor.
- The aim is to reduce the necessary personnel and work hours by utilizing form of small, less-fragile pellet compost with diameters of 5 to 6 mm.

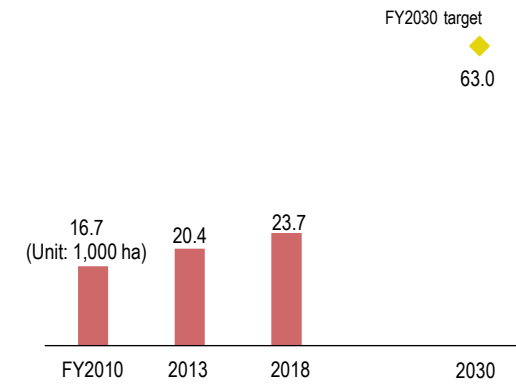


Pellet compost developed as a prototype
Source: JA Sasakami

Creating sustainable production systems through innovation, etc.

- With a view toward reducing the risk-weighted use of chemical pesticides, the government is promoting integrated pest management that does not rely solely on pesticides, and the development of pesticides with even lower risks.
- In order to reduce the use of chemical fertilizers, measures underway include promoting the recycling of unused organic resources such as livestock waste, and the adoption of variable fertilization based on sensing via drones.
- In FY2018, 23,700 ha were used for organic farming, which was 0.5% of the total area of cultivated land.
- Efforts the government is promoting to address the issue of overly time-consuming work such as eliminating weeds and pests include the following: developing advanced technologies such as robots that use AI to ensure they only eliminate weeds; and fostering leaders in the prefectures. In addition, support is being supported through the system of direct payments for environmentally friendly agriculture.

Area used for organic farming



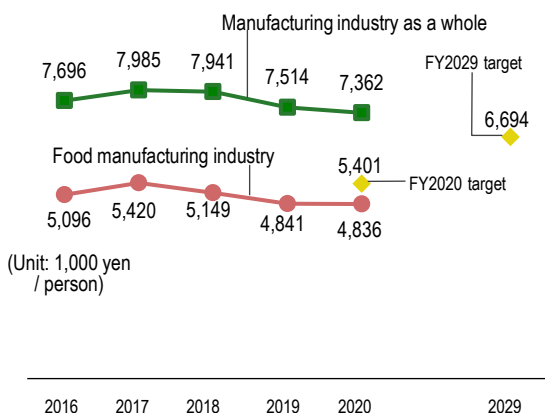
Source: Prepared by MAFF

Note: The combined area of organic JAS certified farmland and farmland where organic farming is practiced without JAS organic certification.

Establishing sustainable processing and distribution systems that are free from overburdening and waste

- The labor productivity of the food manufacturing industry in 2020 was 4,836,000 yen per person. The government is promoting increased labor productivity through shifting to automation and remote operation by utilizing robots, AI, IoT, etc.
- Japan's food loss and waste has been on a downward trend in recent years, and the amount in FY2019 is estimated to be 5.7 million tons, which is 0.3 million tons less than the previous year. In order to reduce the food loss and waste in the food industry, the government is promoting easing expiry date labeling (year/month format and date batch format) for food manufacturers, and the development of supply-demand prediction systems that utilize data and AI.
- Efforts the government is promoting include the following: the development of efficient food distribution systems in the manufacturing, distribution and sales sectors; working toward sustainable procurement of imported raw materials; and information disclosure that will help draw in ESG investment.
- Through developments such as creating systems that will enable mutual use of data at every stage from production, through processing, distribution and sales, and all the way to consumption, the government is promoting increasing products' added value and reducing their environmental impact by enabling consumers to confirm their freshness.

Labor productivity in the food manufacturing industry and in the manufacturing industry as a whole

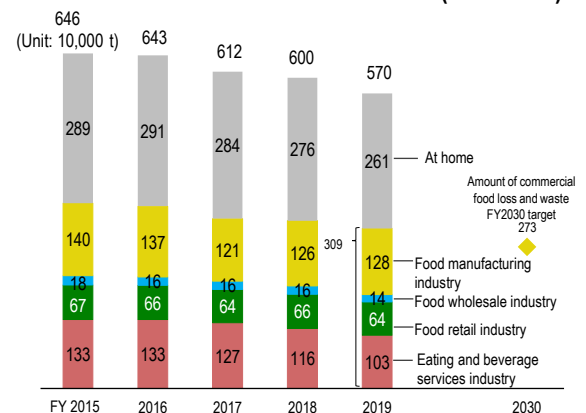


Source: Prepared by MAFF based on "Financial Statements Statistics of Corporations by Industry" (Ministry of Finance)

Note: 1) Labor productivity = value added / total personnel

2) The figures for food manufacturing include beverages and cigarettes.

Amount and location of food loss and waste (estimated)



Source: Prepared by MAFF

Note: The amount of commercial food loss and waste is the total of the food manufacturing, food wholesale, food retail, and eating and beverage services industry.

Promotion of Shokuiku and enhancement of the consumption of sustainable and environmentally friendly foods

- Public and private sectors formed a consortium (AFFF-no-wa 2030 – for Sustainability of Agriculture, Forestry, Fisheries and Food) and worked together to encourage sustainable production and consumption. This project involved 150 members including farmers, large companies, SMEs and associations.
- During “the Week for Sustainability” in September 2021, the project members presented their activities for sustainability to raise consumers awareness on sustainability in the agriculture, forestry, fisheries and food industries.
- Methods for communicating information such as carbon footprint of foods were discussed for better consumer’s reception, which would lead to promoting decarbonization and its visibility.
- In order to achieve the targets set forth in the Fourth Basic Plan for the Promotion of Shokuiku, the government will work with relevant local parties to promote shokuiku activities about issues such as protecting and passing on food culture, including leading Japanese-style dietary habits.



An event during Week for Sustainability
Source: AEON Saga Yamato Store, AEON KYUSHU Co., Ltd.

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



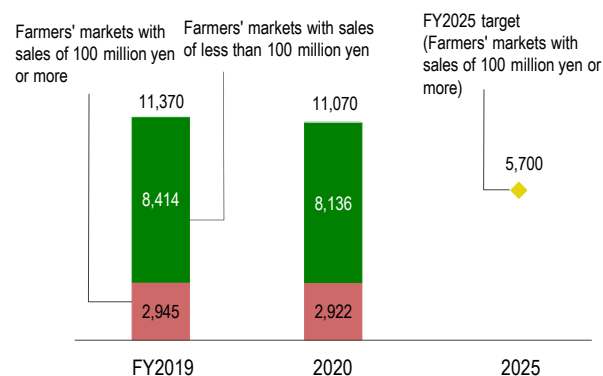
Efforts for local production for local consumption and increase in consumption of domestic agricultural, forestry and fishery products

- The number of farmers' markets that are open year-round with annual sales amounts of 100 million yen or more is 2,922 in FY2020.

Protection/transmission of Japanese food culture

- In order to protect and pass down the diverse food culture of the region, the “Our Regional Cuisines - Beloved tastes and flavors we want to pass on to the next generation” was released, which contains information on the histories, origins, and recipes of over 1,300 regional cuisines for 47 prefectures.

Number of farmers' markets (by scale of sales)



Source: Prepared based on MAFF, “Comprehensive Survey on AFFrinnovation”

Note: 1) Farmers' markets that are open year-round and use permanent facilities are the targets of the survey.
2) The number of farmers' markets by scale of sales is an estimate.

Strengthening the relationship between consumers and producers

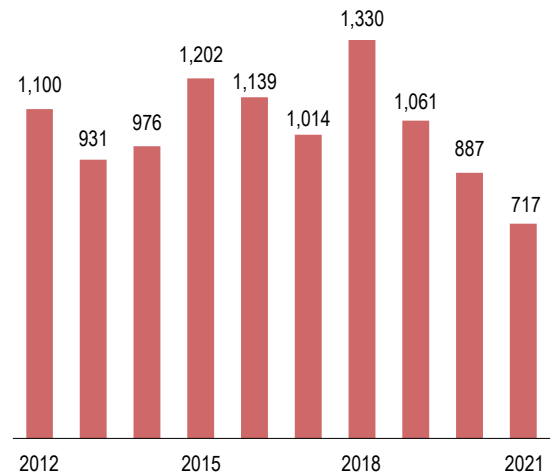
- The Ministry's official YouTube channel “BUZZ MAFF,” the Ministry's official Twitter, the web magazine “aff,” etc., strengthened the communication of information to connect consumers, agricultural, forestry, and fisheries stakeholders, and the MAFF.

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



- The number of food poisoning incidents in 2021 was 717 cases, the fewest in the last 10 years, as a result of a decrease in the use of restaurants due to the spread of COVID-19, etc.
- In order to allow farmers to use fertilizers derived from industrial by-products without concern, the raw materials control system was introduced in December 2021 based on the Act for Partial Revision to the Fertilizer Regulation Act, including setting the standards of raw materials, requiring manufacturers and importers to maintain raw material books, and prohibiting false advertising of raw materials.

Number of incidents of food poisoning (cases)



Source: MHLW, "Food poisoning statistics"

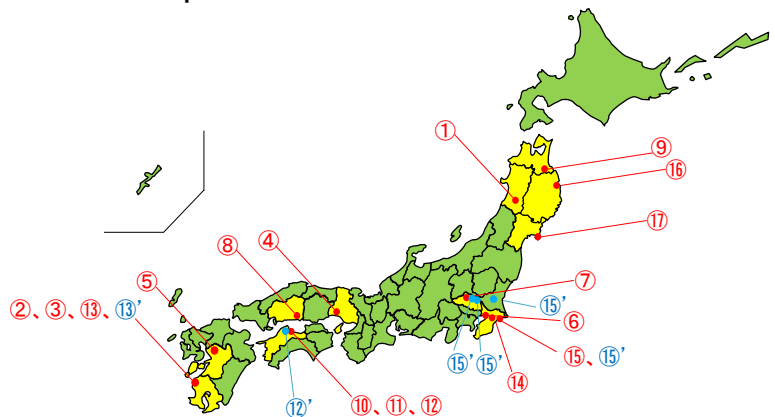
Note: Excluding incidents outside Japan and incidents in which it is unclear whether it occurred inside or outside Japan.

9. Strengthening measures for animal and plant quarantine



- In November 2021, a highly pathogenic avian influenza outbreak occurred in Akita Prefecture. 17 cases in 11 prefectures were confirmed through March 2022 and about 1.09 million birds were subject to destruction.
- Thorough biosecurity of animal health by all concerned parties, including disinfection and bird-proof net management, and monitoring for early detection and reporting were strengthened.

The place where the avian influenza occurred



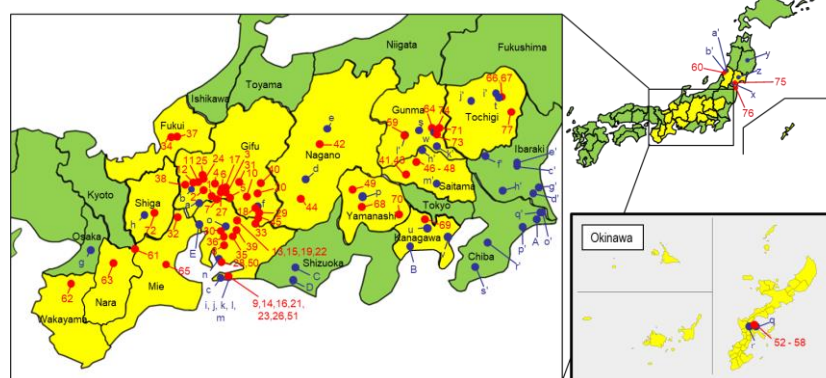
Source: Prepared by MAFF

Note: 1) As of March 31, 2022.

2) The figures indicate the order of occurrence. The red figures indicate the farms where a poultry case occurred. Blue figures that are the same as the red figures indicate farms, etc., where sacrifice was carried out due to the determination as suspected affected animals based on the fact that the poultry were moved or transferred from the affected farm.

- The first outbreak of classical swine fever (CSF) in Japan in 26 years occurred in September 2018, with 77 cases reported in farms in 16 prefectures as of the end of March 2022.

Location of CSF outbreaks



Source: Prepared by MAFF

Note: 1) As of March 31, 2022.

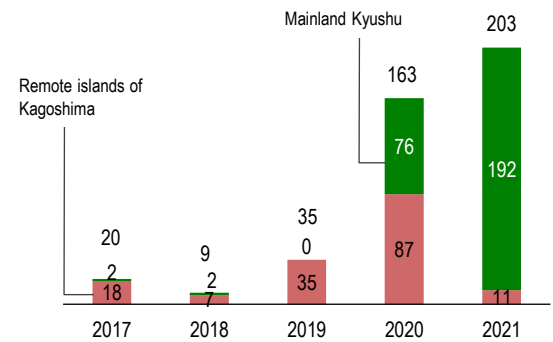
2) The numbers indicate the farms where a breeding pig case occurred and the order of occurrence. Letters are used to indicate farms, etc., where animals were destroyed due to the determination as suspected affected animals based on the fact that the pigs were moved or transferred from the affected farm.

- As a countermeasure against CSF and African swine fever, measures were implemented against wild boars such as strengthening surveillance and capture, oral vaccine application, etc., in addition to thorough biosecurity, and border measures were strengthened.

- In view of the occurrence of highly pathogenic avian influenza and the continuing occurrence of CSF at the farms with CSF-vaccinated pigs, the Biosecurity Standards were amended in September 2021.

- Since May 2021, a number of detections of Oriental fruit flies (a serious threat to citrus fruit) have been reported in Okinawa and some Kyushu prefectures. In recent years, the risk of introduction and spread of pests has increased due to climate change, such as global warming.
- In light of the fact that decreasing the environmental load from the use of chemical pesticides is an international agenda, a "the proposed act partially amending the Plant Protection Act" was submitted to the Diet in February 2022.

Number of detections of Oriental fruit flies in the Kyushu region



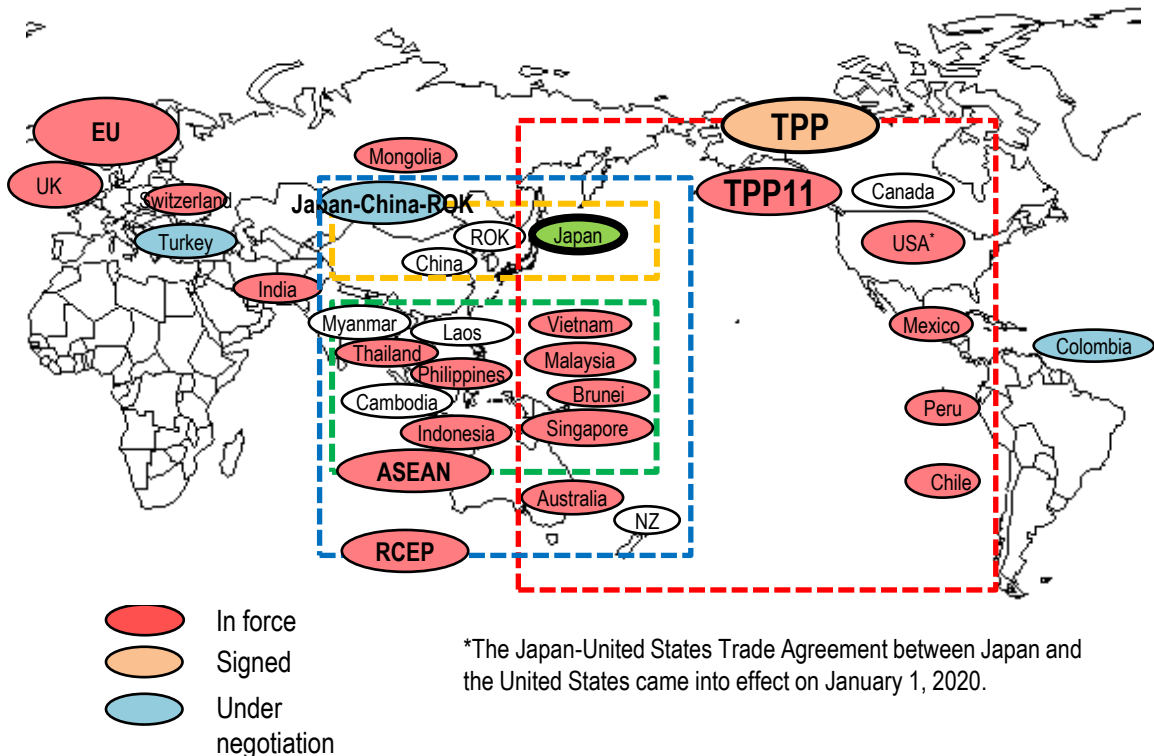
Source: Prepared by MAFF

10. Status of international negotiations



- 21 EPAs/FTAs and related initiatives were in force or signed as of the end of FY2021. The RCEP Agreement entered into force in January 2022.
- At the G20 Agriculture Ministers' Meeting held in September 2021, Japan expressed that compatibility between enhancing the potential of food and agricultural production and improving sustainability is important.

Japan's EPA/FTA and related initiatives

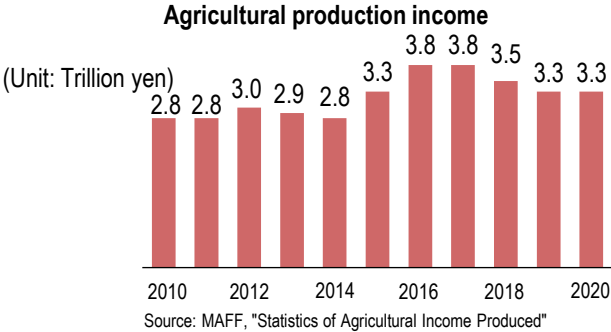


Source: Prepared by MAFF
Note: As of the end of March 2022.

Chapter 2 Sustainable Development of Agriculture

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

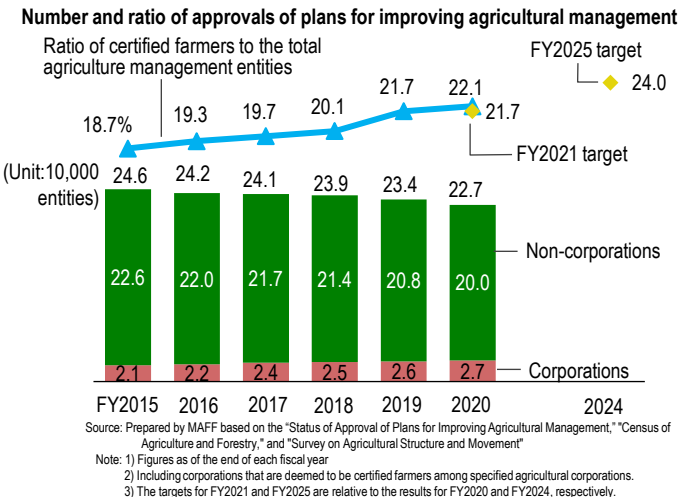
- The total agricultural output in 2020 increased by 43.2 billion yen to 8.9 trillion yen from the previous year.
- The agricultural production income in 2020 increased by 21.8 billion yen to 3.3 trillion yen from the previous year, mainly due to an increase in the total agricultural output.



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

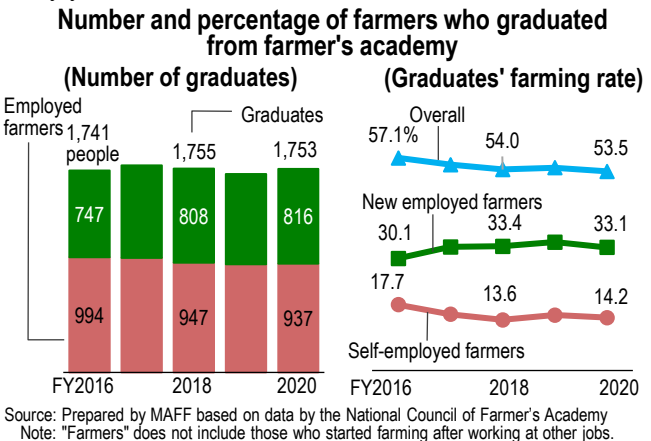
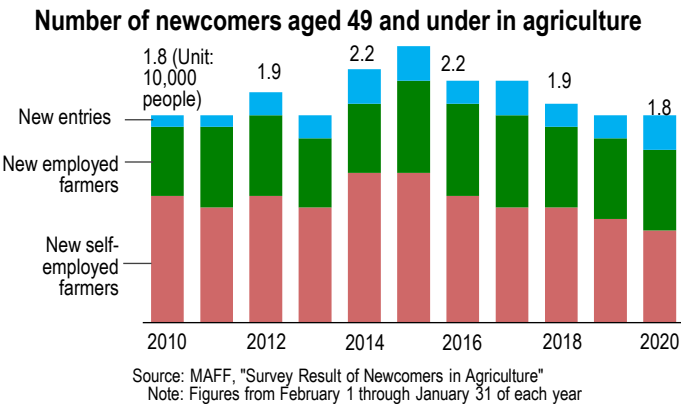
Encouragement of management development through the certified farmers system, incorporation, etc.

- The number of certified plans for improving agricultural management for FY2020 decreased by 8% from five years ago to 227,000 management entities. The ratio of certified farmers to the total agriculture management entities was 22%.
- The number of corporate farmer certified plans for improving agricultural management has increased consistently. The ratio of certified farmers to the total corporate management entities in FY2020 was 86%.



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

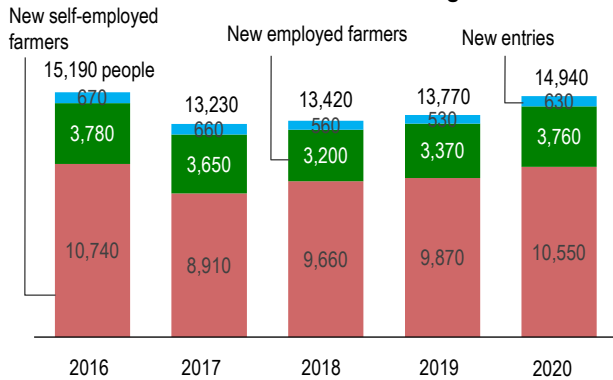
- Looking at the status of securing successors to take over agricultural management, the management entities securing a successor within five years account for 27%, and the management entities not securing a successor within five years accounted for 71%, in the management entities whose owner was 65 years old or older.
- The number of newcomers aged 49 and under has remained at around 20,000 in recent years, with 18,000 reported in 2020.
- Newcomers faced major challenges at the start of management, including securing farmland and funds, and learning farming technologies. Some farmers cannot be established due to poor management, etc.
- The number of farmer's academy graduates in FY2020 was 1,753. 54% of them became employed farmers. The percentage of new employed farmers is on the rise year by year, with 33% in FY2020.



Creating an environment in which women can play an active role

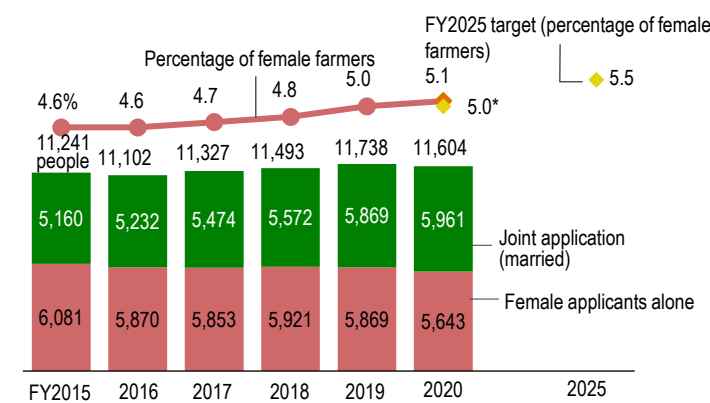
- The number of female newcomers in 2020 increased by 8.5% to 14,940 from the previous year.
- In FY2020, the number of certified female farmers decreased by 134 to 11,604 from the previous year, and the ratio of women to the total number of certified farmers was 5%.
- The ratio of women to the total number of farmers to decide on management policies was 36%.
- Support for women was provided with efforts such as creating women-friendly work environments and providing training for women leaders leading their regions.

Number of female newcomers in agriculture



Source: MAFF, "Survey Result of Newcomers in Agriculture"
Note: Figures from February 1 through January 31 of each year

Ratio of certified women farmers



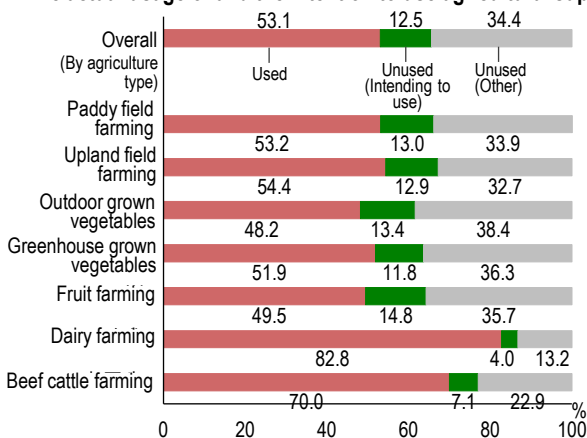
Source: Prepared by MAFF based on the "Approval Status of Plan for Improving Agricultural Management by Agriculture Type"
Note: 1) Figures as of the end of each fiscal year
2) The figure marked with * is the target for FY2021 in the measurement indicator of policy evaluation.

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



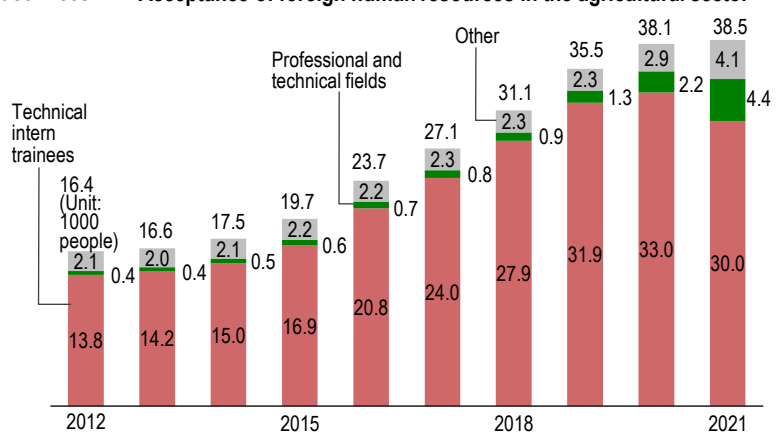
- As of the end of FY2020, the number of farmers who have signed a family management agreement that stipulates the division of work and conditions of employment, etc. among their families was 59,000.
- To promote the work-style labor reforms with regard to farming, a handbook titled "Handbook for future agricultural management - Working with women -" has been prepared and distributed.
- The ratio of farmers using agricultural support services, such as farming consignment, leasing of machinery and equipment, and staffing, was 53% in a 2021 survey. The livestock sector, including dairy farming and beef cattle farming in particular, has shown a higher tendency of using these agricultural support services.
- The acceptance of foreign human resources in the agricultural sector has been on an increasing trend. As of the end of October 2021, the total number of foreign human resources in this sector was 38,532. This was about the same level as the previous year due to technical intern trainees' extending their period of stay in Japan. These figures were seen despite the large decrease of foreign nationals entering Japan, which resulted from the impact of the border measures taken against the spread of COVID-19.

The actual usage of and the intention to use agricultural support services



Source: Prepared by MAFF based on the "Survey on Awareness and Intent on Agricultural Support Services" (published in December 2021)
Note: 1) Questionnaire survey conducted by mail and the Internet of 20,000 farmers from August to September 2021 (valid responses: 12,938)
2) Survey results to the questions "whether or not you are using services provided by external organizations or individuals" and "whether or not you intend to use the services in the future (for farmers who do not use them)" (total number of responses: 12,881)

Acceptance of foreign human resources in the agricultural sector



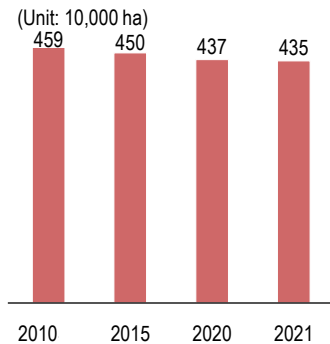
Source: Compiled and prepared by MAFF based on the "Notification of the Employment Status of Foreign Nationals" of the Ministry of Health, Labour and Welfare
Note: 1) Figures as of the end of October of each year
2) Figures in professional and technical fields after 2019 include the number of "specified skilled foreign workers."
3) The notification of "employment status of foreign nationals" is mandatory at the time of employment and employment separation, but there is no obligation to make notification when the status is changed from "Technical Intern Trainee" to "Specified Skilled Worker" without turnover. Therefore, the figures should not be those consistent with other survey results.

4. Integration and consolidation of farmland and securing business farmers



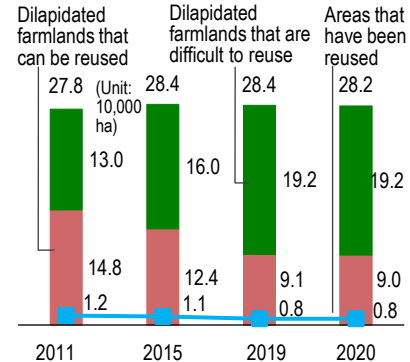
- The area of farmland in 2021 was 4.35 million ha, down 23,000 ha from the previous year. The area of dilapidated farmland in 2020 was 282,000 ha, the same level as the previous year. The dilapidated farmlands that are difficult to reuse was on an increasing trend.

Farmland area (reposted)



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

Dilapidated farmland area

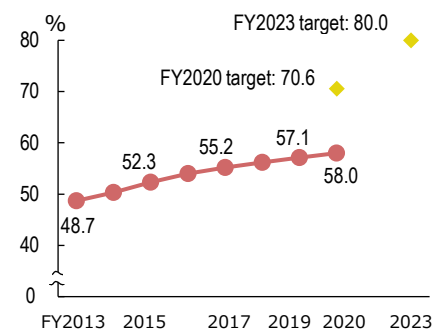


Source: Prepared by MAFF based on the "Survey on the Occurrence and Resolution of Dilapidated Farmland"

- Since the establishment of the Farmland Intermediary Management Institutions (Farmland Banks) in FY2014, the business farmers' share of the total farmland has been increasing year by year, and was 58% as of the end of FY2020.
- A "bill to revise part of the Act on Reinforcement of the Agricultural Management Framework" was submitted to the Diet in March 2022. The consolidation of farmlands, etc. was further developed by establishing manpower and farmland plans in laws and making use of farmland banks.
- A "bill to revise part of the "Act on Vitalizing Rural Areas*" was submitted to the Diet in March 2022. Support was provided by newly positioning projects for farmland conservation, such as pasturing, the development of buffer zones for wildlife, and turning to forestlands, as the targets of the revitalization plan.

* The official name is the "Act on Promotion of Settlement and Interregional Exchange for Vitalizing Rural Areas."

Business farmers' share of total farmland



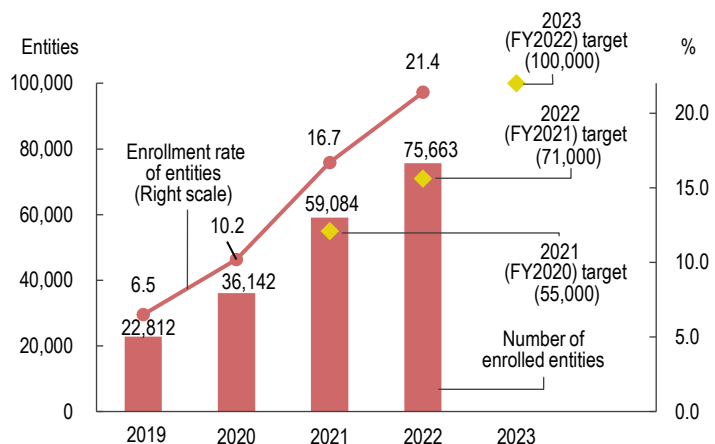
Source: Prepared by MAFF
Note: Including other than farmland banks.

5. Promotion of initiatives toward stabilization of agricultural management



- In 2021, the number of entities enrolled in revenue insurance increased by approximately 23,000 entities to 59,000 entities from the previous year. This was due to increased interest in the revenue insurance among farmers due to the impact of the spread of COVID-19.
- The actual enrollment in 2022 was 76,000 entities as of the end of February 2022.
- The number of applications for Farming Income Stabilization Measures in FY2021 decreased by 600 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 68,000 cases from the previous year.

Enrollment number and rate of entities for revenue insurance



Source: Prepared by MAFF

Note: 1) The number of enrolled entities in 2022 was as of the end of February 2022

2) Enrollment rates are based on the percentage of farmers who file the blue form tax returns (353,000 entities (excluding cash basis)) in the 2020 Census of Agriculture and Forestry

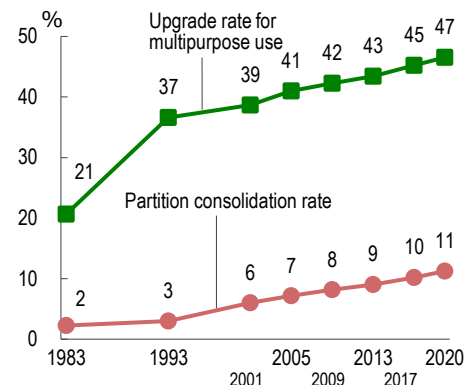
6. Development of agricultural production bases that contribute to the transformation of agriculture into a growth industry and strengthening national resilience



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

- As of March 2020, 11% of paddy fields had been consolidated into large partitions, and 47% of paddy fields were upgraded to multipurposed paddy fields by installing culvert drainage, etc. Irrigation facilities had covered 25% of upland fields.
- In order to facilitate the implementation of smart agriculture, the expansion of farmland partitions suitable for automated agricultural machinery, development of ICT water management facilities, etc., and development of an information communication environment in agriculture and rural areas have been promoted.
- Support has been provided to promote the Strategy for Sustainable Food Systems, MeaDRI, by introducing renewable energy using small hydroelectric power generation, etc. and by taking actions to achieve energy saving in agricultural irrigation facilities.
- A "bill to revise part of the "Land Improvement Act" was enacted in March 2022. The development of agricultural drainage facilities and culvert drainage, etc. for agricultural use, has been added to the scope of farmland development projects related to the Farmland Intermediary Management Institutions, which can be implemented without the expense of farmers in order to accelerate the integration and consolidation of farmlands.

Partition consolidation and multipurpose use of paddy fields



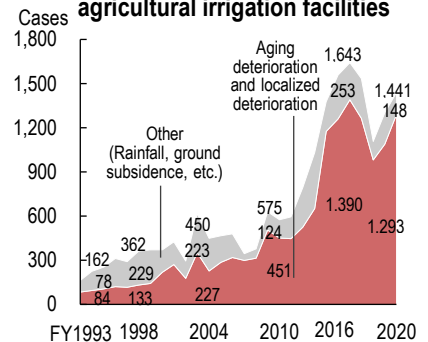
Source: Prepared by MAFF based on the "Statistics on Cultivated Land and Planted Area" and "Basic Surveys on Agricultural Infrastructure Information"

Note: The partition consolidation rate is the percentage of the paddy fields consolidated into large partitions of 50a or more. The upgrade rate for multipurpose use is the percentage of the paddy fields consolidated into large partitions of about 30a or more, whose groundwater levels are 70 cm or more and flooding removal time is 4 hours or less.

Strategic conservation and management of agricultural irrigation facilities

- Developed core agricultural irrigation facilities include channels totaling 51,472 km and 7,656 facilities including dams and diversion weirs as of March 2020. The aging of agricultural irrigation facilities has been progressing, and sudden accidents such as water leaks have also been high.
- Long-life facilities and lower life cycle costs have been achieved through stock management, which implements repairs and renewals in a planned and efficient manner.

Occurrences of sudden accidents at agricultural irrigation facilities



Source: Prepared by MAFF

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

- Pursuant to the Act on Special Measures for Construction of Agricultural Reservoirs*, as of the end of July 2021, approximately 55,000 locations were designated as Important Agricultural reservoirs for disaster prevention. Approximately 25,000 of those reservoirs have created hazard maps.

* The official name is "Act on Special Measures Concerning Promotion of Disaster Prevention Works on Important Agricultural Reservoirs for Disaster Prevention."

- Efforts for River Basin Disaster Resilience and Sustainability by All were promoted through "releasing water in advance" of agricultural dams, "rice paddy dams" using paddy fields, and utilization of Agricultural reservoirs and agricultural drainage facilities in order to properly exercise the flood control functions of farmland and agricultural irrigation facilities.

- A "bill to revise part of the "Land Improvement Act" was enacted in March 2022. Measures for heavy rain in agricultural drainage facilities were added to the target of emergency disaster prevention projects that can be implemented at the discretion of the national or local governments, and further development with regards to measures for disaster prevention and reduction have been made.

Examples of River Basin Disaster Resilience and Sustainability by All (agricultural reservoirs)



Source: Prepared by MAFF

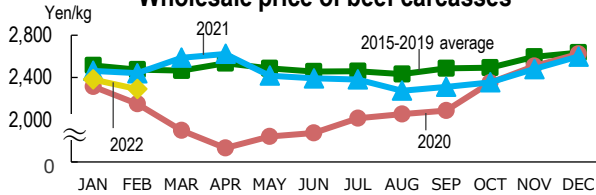
7. Strengthening of the production bases compatible with changes in the demand structure, etc., and streamlining of distribution/processing structures



Livestock products

- Wholesale prices of beef carcasses have been on a recovery trend since May 2020, and have been around the same level as the average prices in recent years since 2021.
- Wholesale prices of pork have been above the average prices in recent years in 2020, and have been around the same level as the average prices in recent years since 2021.

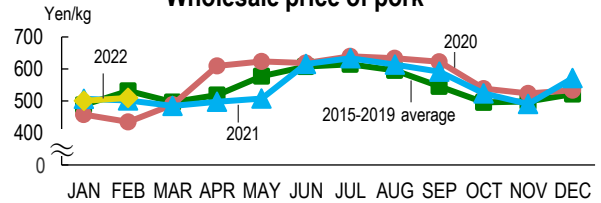
Wholesale price of beef carcasses



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

- Note: 1) Calculated by dividing the total prices of carcass transactions by standard in the 10 central wholesale markets by the total weight of carcass transactions by standard
 2) 2015-2019 figures are simple averages for the relevant months of each year
 3) Castrated wagyu "A4" standard

Wholesale price of pork

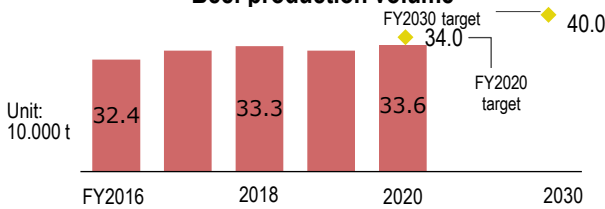


Source: Prepared by MAFF based on the "Statistics Livestock"

- Note: 1) The weighted average of the "prime and quality" standards in the wholesale markets of Tokyo and Osaka
 2) 2015-2019 figures are weighted averages for the relevant months of each year

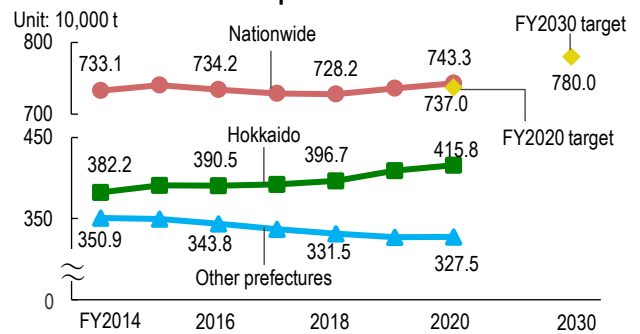
- Beef production volume in FY2020 increased by 1.8% from the previous year due to an increase in wagyu production volume.
- In FY2020, raw milk production volume increased by 71,000 tons from the previous year. Raw milk production volume has especially increased in prefectures for the first time in eight years.

Beef production volume



Source: Prepared by MAFF based on the "Statistics Livestock"
 Note: Figures for meat parts

Raw milk production volume



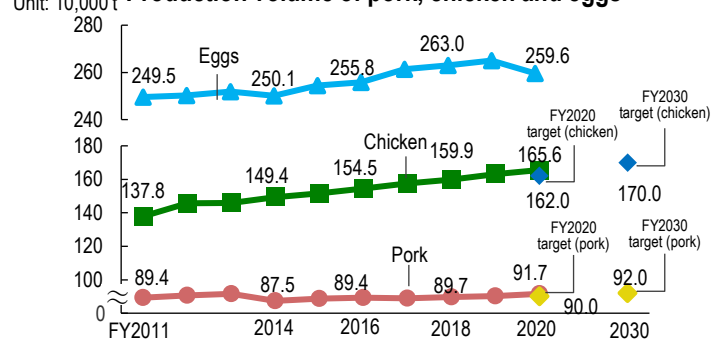
Source: MAFF, "Statistics on Milk and Dairy Products"

- In FY2020, the production volume of pork, chicken and chicken eggs was 920 thousand tons (up 1.5% from the previous year), 1.66 million tons (up 1.5% from the previous year), and 2.6 million tons (down 2.0% from the previous year) respectively.

- In order to promote production in response to domestic and overseas demand, further developments, such as strengthening the production base for increasing the stock of breeding meat cows, improving sanitation management, improving livestock, and improving cattle management technology have been made.

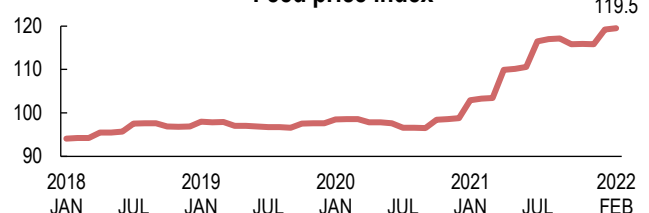
- Since 2021, feed prices have been on an upward trend, mainly due to soaring prices of imported raw materials

Production volume of pork, chicken and eggs



Source: Prepared by MAFF based on the "Statistics Livestock" and "Food Balance Sheet"
 Note: 1) Pork production volume is based on meat parts
 2) FY2020 figures of the production volume of chicken and eggs are estimated.

Feed price index



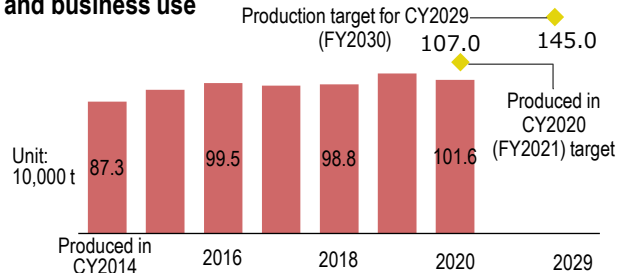
Source: MAFF, "Agricultural Price Statistics"

- Note: 1) Figures for each month of each year based on the 2015 annual average price as 100
 2) Approximate figures for 2021 and 2022

Vegetables

- The volume of shipments of vegetables for processing and business use produced in CY2020 decreased by 4% to 1.016 million tons from the previous year, due to adverse weather conditions and a decrease in demand from the food service industry as a result of the spread of COVID-19.
- In order to further strengthen the production system of vegetables for processing and business use, and to promote the switching of imported vegetables to domestic vegetables, support was provided for the introduction of a new integrated mechanization system in the horticultural production area making use of rice paddies, the creation of new production and distribution systems, and the introduction of crop stability technology, etc.

Volume of shipments of designated vegetables for processing and business use

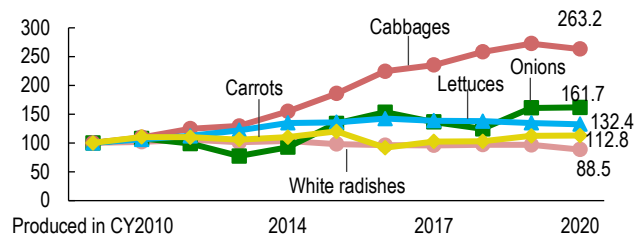


Source: MAFF, "Statistics on Production and Shipment of Vegetables"

Note: 1) The total shipment volume of 14 designated vegetables, excluding potatoes (white radishes, carrots, taros, Chinese cabbages, cabbages, spinach, lettuces, Welsh onions, onions, cucumbers, eggplants, tomatoes, green peppers)

2) Vegetables for processing means those that have been shipped to the processing plant or to the contractor for processing purposes, and those that have been clearly known as to be processed (including those for refrigeration provided for long-term storage); vegetables for business use means those that have been shipped to the food manufacturing and food service industries such as school lunches, restaurants, etc.

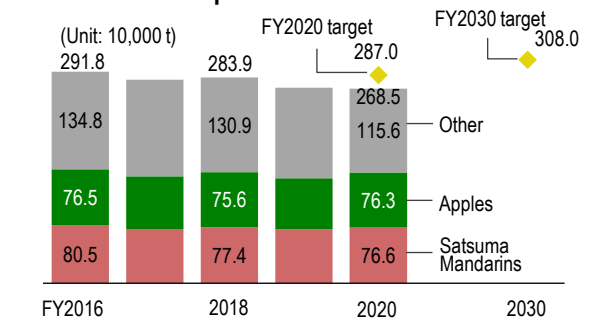
Volume of shipments of designated vegetables for processing and business use (Indices treating those produced in CY2010 as 100)



Fruits

- In FY2020, the production volume of fruits was generally similar to that of the previous year, mainly due to the fact that apples' growth was favorable, but the Japanese pear's fruit setting decreased due to the low temperatures after flowering.
- In order to strengthen the production base, efforts for the introduction of labor-saving tree forms and the diffusion of new technologies and varieties, etc. in response to the diversification and sophistication of consumer needs.

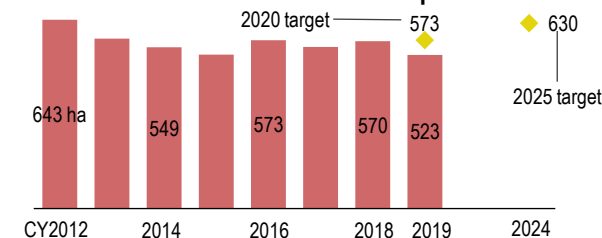
Domestic production volume of fruits



Source: MAFF, "Food Balance Sheet"

Note: Figures for FY2020 are estimated

Cultivation area of medicinal plants



Source: Prepared by MAFF based on the "Materials on Local Specialty plants (industrial crops, medicinal plants, and Japanese paper raw materials, etc.)" of the Japan Specialty Agriculture Products Association

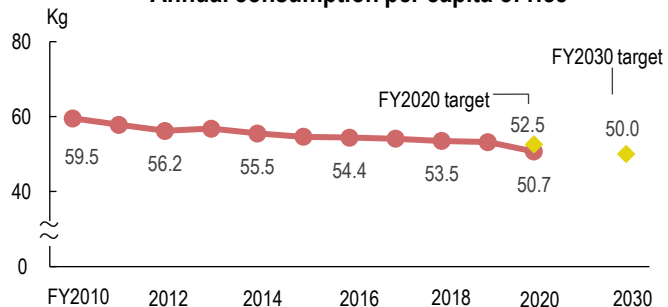
Note: 1) Figures for medicinal plants used exclusively for medical and pharmaceutical products (crude drugs)

2) The target value for 2020 and 2025 is for the results of 2019 and 2024, respectively

Rice

- Annual consumption per capita of rice was on a downward trend. In FY2020, due to the impact of the spread of COVID-19, a front-loaded purchase of polished rice was made at the end of the previous fiscal year, and commercial demand decreased, resulting in 50.7 kg.
- In order to produce rice that meet consumer needs, stable transactions through prior contracts and multi-year contracts linking production areas, producers, and actual users were promoted, crop conversion was supported, and information on inventory and prices, etc. was provided.

Annual consumption per capita of rice



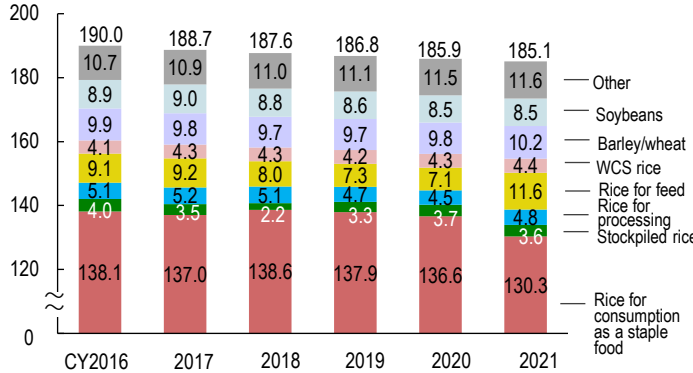
Source: MAFF, "Food Balance Sheet"

Note: Figures for FY2020 are estimated.

- Regarding rice produced in CY2020, private inventories rose due to insufficient crop conversion to meet demand and a decrease in commercial demand due to the impact of the spread of COVID-19.
- In response to this, the MAFF provided support for crop conversion regarding rice produced in CY2021, as well as the parties concerned in the region worked together to promote production and sales in accordance with demand. As a result, a 63,000-ha crop conversion, which is necessary for the stability of rice supply and demand, has been achieved.
- Exports of commercial rice in 2021 increased by 12% to 5.93 billion yen from the previous year. Exports to Hong Kong, Singapore and other countries have been increasing, and exports have been expanding mainly to target countries and regions, and further developments with regards to fostering production areas of rice for export in large lots have been made.
- In FY2020, the demand of rice for rice flour was 36,000 tons, the same amount as in the previous fiscal year. Production volume was 33,000 tons. JAS certification for manufacturing process control of non-gluten rice flour began in June 2021.
- The planted area of rice for feed produced in CY2021 increased by 63% to 116,000 ha from the previous year.

Planted areas of rice for consumption as a staple food, etc.

(Unit: 10,000 ha)

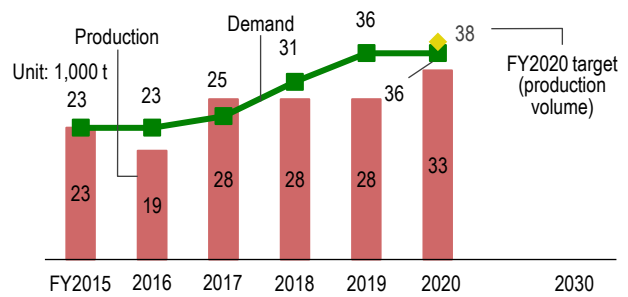


Source: Prepared by MAFF

- Note: 1) The planted area of rice for consumption as a staple food is based on the "Statistics on Cultivated Land and Planted Area" of the MAFF.
 2) Other areas are for rice for rice flour, rice for new market development, feed crops, buckwheat, and rapeseeds.
 3) Areas for rice for processing, rice for feed, WCS rice, rice for rice flour, and rice for new market development are certified areas for the action plan.
 4) Areas for barley/wheat, soybeans, feed crops, buckwheat, and rapeseeds are those that the Regional Agricultural Administration Office, etc., heard from prefectural revitalization councils, etc. (only for core crops).
 5) The area for reserved rice was determined by the Regional Agricultural Revitalization Council.

Production and demand of rice for rice flour

FY2030 target (production volume) — ◆ 130

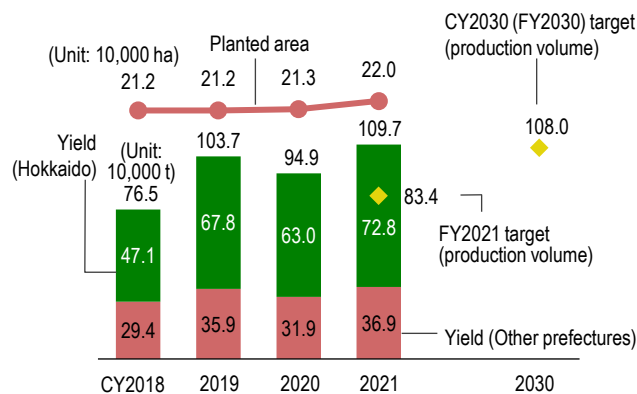


Source: Prepared by MAFF

Wheat/Soybeans

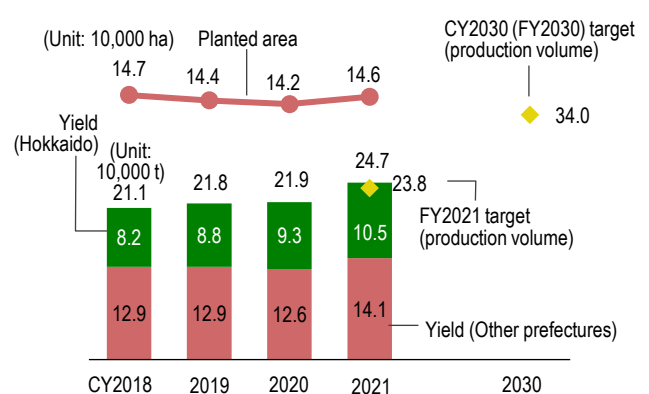
- The production volume of wheat in CY2021 was 1.097 million tons due to favorable weather conditions and favorable growth.
- The production volume of soybeans in CY2021 was 247 thousand tons due to favorable weather conditions and favorable growth.
- In order to increase the domestic market share through increased production of wheat and soybeans that were in demand, further developments with regards to integrated cultivation, strengthening production systems in production areas, and increasing production efficiency, etc. have been made.

Wheat planted area and yield



Source: MAFF, "Statistics on Crops"

Soybean planted area and yield

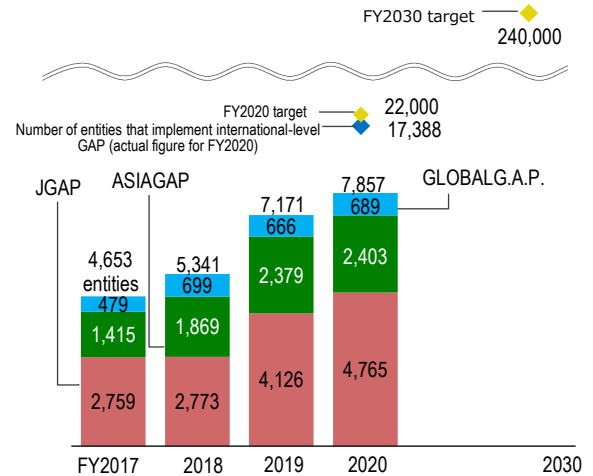


Source: MAFF, "Statistics on Crops"

Promotion of Good Agricultural Practices (GAP)

- Implementing GAP contributes to ensuring sustainability, improving farm management, and ensuring trust by consumers.
- As of the end of FY2020, 7,857 entities obtained GLOBALG.A.P., ASIAGAP, or JGAP certification for agricultural products. It was increased approximately 1.7-fold over three years from FY2017.
- As of the end of FY2020, 17,388 entities implemented international-level GAP, including some entities under the guidance of international-level GAP instructor set up by the prefectural government.
- In March 2022, MAFF formulated Guidelines on International-level GAP aiming for implementation of international-level GAP in almost all domestic production sites by 2030.

Number of GAP-certified entities and number of entities that implement international-level GAP (agricultural products)



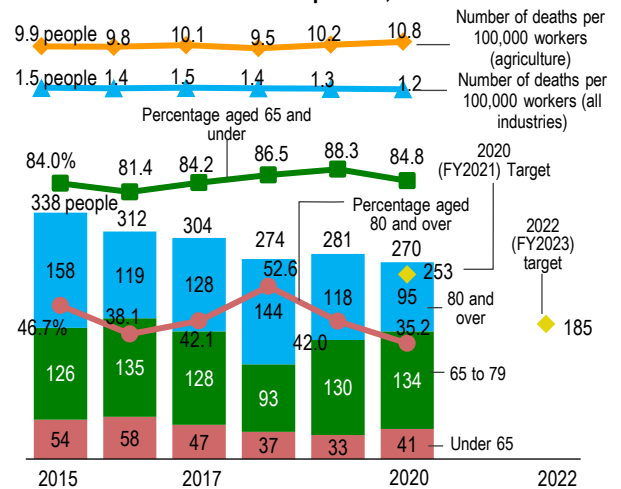
Source: Prepared by MAFF based on data published by GAP Extension Organization Inc. and Japan GAP Foundation

- Notes: 1) Figures are as of the end of each fiscal year, except for GLOBALG.A.P. in FY2017 and FY2020, which are as of the end of December of the respective years.
2) The total for each fiscal year is the sum of the figures for JGAP, ASIAGAP, and GLOBALG.A.P.
3) Figures for JGAP, ASIAGAP, and GLOBALG.A.P. are the number of certified entities through the respective program.

Promoting farming safety measures

- In 2020, 270 people died in accidents during agricultural work, down 11 from the previous year. The number of deaths with 10.8 per 100,000 workers remains high compared to other industries.
- Efforts such as improving seat belt usage are promoted with the aim of halving the number of fatal accidents related to agricultural machinery work, which is the main cause of deaths, from 2017 levels by 2022.
- Since May 2021, the MAFF Application has begun using the notification function that alerts users of potential heat strokes. The Smart Agriculture Demonstration Project has demonstrated the effectiveness of the safety monitoring system for workers.

Number of deaths in agricultural work by age group and number of deaths per 100,000 workers



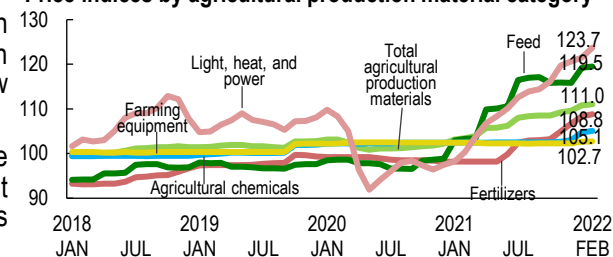
Source: Prepared by MAFF, based on the "Survey on Fatal Accidents in Agricultural Work," "Census of Agriculture and Forestry," and "Survey on Agricultural Structure and Movement" of MAFF, the "Report of Fatal Accidents" of MHLW, and the "Labour Force Survey" of MIC

Note: In 2017, there was one death of a person whose age is unknown.

Supply of high-quality and low-cost agricultural materials and rationalization of production, distribution, and processing of agricultural products

- When it comes to agricultural materials, Japan relies heavily on imports for the majority of the raw materials. Since the raw materials for fertilizers are unevenly distributed throughout the world, they are characterized for being influenced by international affairs. It is therefore necessary to secure import countries and replace imported raw materials with domestic resources.
- Price indices such as feed, light, heat, and power have been on an upward trend since April 2021, mainly due to the rise in raw-material prices. In February 2022, the feed level rose by 20 points. The light, heat, and power levels rose by 24 points, and the fertilizer level rose by 9 points, from those in 2015. Behind Russia's invasion of Ukraine, international market prices of crude oil, etc. have been changing at high levels and unstable. It is necessary to pay close attention to future trends and make every effort to secure materials.
- Agricultural production materials costs account for a certain percentage of agricultural expenditures, and it is important to promote an environment in which farmers can purchase agricultural materials at low cost in order to increase agricultural income.
- A protected horticulture safety net was established to provide compensation for when the fuel price exceeds a certain standard. In light of the soaring price of fuel in FY2021, support was provided to farmers by offering safety net membership, as well as other additional offerings.

Price indices by agricultural production material category



Source: MAFF, "Agricultural Price Statistics"

- Note: 1) Figures for each month of each year based on the 2015 annual average price by agricultural production material category as 100
2) Approximate figures for 2021 and 2022
3) Figures for gasoline and kerosene among light, heat, and power are referred to the results of the "Consumer Price Index" of MCA.

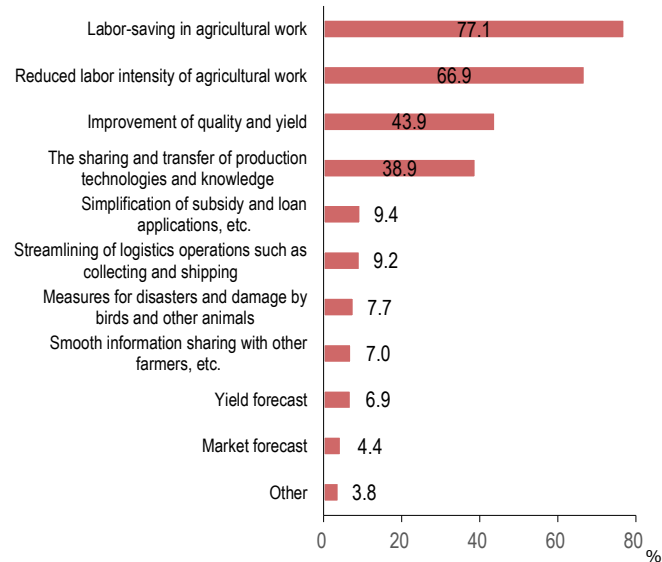
8. Promotion of innovations at agricultural production/distribution sites by utilizing information and communication technologies, etc.



Promotion of smart agriculture

- “Labor-saving in agricultural work” was farmers' most expected outcome from the introduction of smart agriculture, followed by “Reduced labor intensity of agricultural work” and “Improvement of quality and yield.”
- The Smart Agriculture Demonstration Project evaluated the impact of technology introduced during its 2-year project period (FY2019-2020), in the regions where demonstrations were implemented. The autopilot function has enabled the farmers, including beginners, to work with the same accuracy and speed as experienced farmers, and in some cases, it was found that the size of the farmland entrusted to them increased.
- The services provided by private companies etc. utilizing WAGRI - an agricultural data collaboration platform - has been extensively deployed. From FY2021, the required support to develop a data sharing system which allows farmers to utilize data obtained from various resources such as agricultural machinery across different manufacturers.

Expected effects by digitalizing agriculture and by introducing smart agriculture (multiple responses)

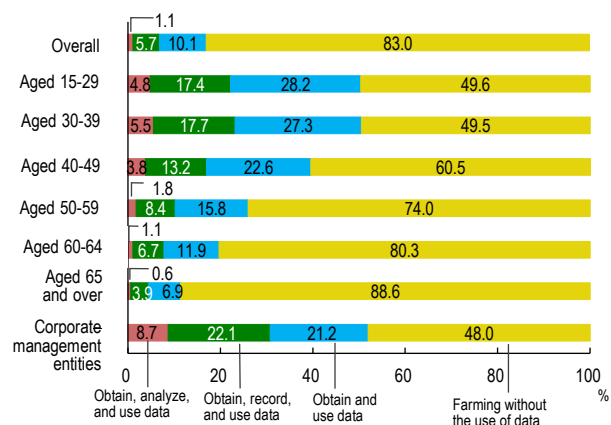


Source: Prepared by MAFF based on Japan Finance Corporation's "Survey of Agricultural Business Conditions" (conducted in July 2021) (valid responses: 6,336)

Promotion of digital technologies in the development of agricultural policies

- The rate of unincorporated agriculture management entities engaged in data-driven agriculture is less than 20%, while the rate under the age of 15 to 39 years-old, and of incorporated agriculture management entities engaged in data-driven agriculture is more than 50%.
- Based on "The Conception and Projects for DX of Agriculture," MAFF aims to implement highly efficient farming by using digital technology and realize agriculture which provides products and food in a way that understands consumer needs through data, leading customers to realize its value.
- In order to achieve DX of agriculture, 39 various projects have been implemented, such as smart agriculture, the "Common Application System of MAFF (eMAFF)" which promotes administrative procedures of the MAFF being made online, and the "Common Geographic Information System of MAFF (eMAFF Map)" which aims to integrate agricultural land ledgers and to enable drastic efficiency and labor savings in confirmation of farmland usage.

Agriculture management entities that use data (Unincorporated management entities by age and incorporated management entities)



Source: Prepared based on MAFF, "2020 Census of Agriculture and Forestry"

Creation of innovation and promotion of technological development

- The open innovation initiative, Field for Knowledge Integration and Innovation, promoted creation of many new technologies and products via supporting open innovation in the agriculture, forestry, fisheries, and food sectors, and facilitated information sharing through various events such as the Agribusiness Creation Fair.
- The development of various products in agriculture, forestry, and fishery sectors has been promoted to provide benefits to the public, such as healthy diets and lowering the environmental impact.



Agribusiness Creation Fair

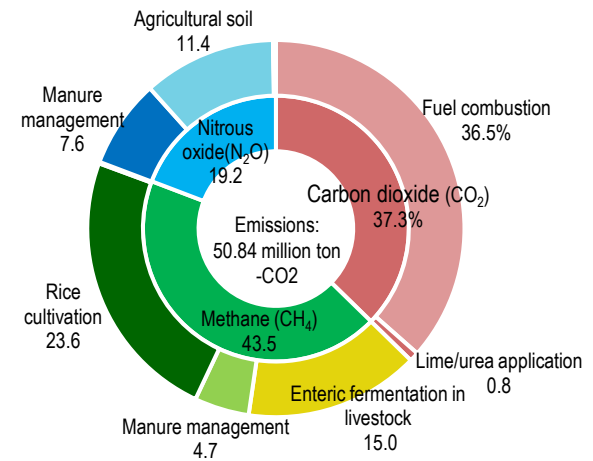


9. Environmental policy and biodiversity responses to climate change

Implementing global warming countermeasures

- Japan's agriculture, forestry, and fisheries sectors produced 50.84 million tons (CO₂ equivalent) of greenhouse gases in FY2020, which accounts for 4.4% of national total emissions.
- To achieve carbon neutrality by 2050, the "Plan for Global Warming Countermeasures" and the "Climate Change Adaptation Plan" of the MAFF were revised in October 2021, also in light of the "Strategy for Sustainable Food Systems, MeaDRI." The target for reducing greenhouse gas emissions from these sectors in FY2030 was set to 3.5% of Japan's total emissions in FY2013.
- Carbon storage in farmland and grassland has been promoted as one of the measures to enhance greenhouse gas sinks, by applying organic materials such as compost and green manure, as well as biochar.

Greenhouse gas emissions in the agriculture, forestry, and fisheries sectors (FY2020)



Source: Prepared by MAFF based on "The GHG Emissions Data of JAPAN" of the Greenhouse gas Inventory Office of National Institute for Environmental Studies

Note: Carbon dioxide equivalent emissions

<Column> Efforts to use biochar made by the pruned branches of fruit trees

- Yamanashi Prefecture has promoted long-term carbon storage by making use of the pruned branches of fruit trees on fruit farms, which have a large amount of carbon accumulated through photosynthesis, as biochar.
- By making use of easily produced biochar by simple carbonizers, Yamanashi Prefecture will attract the attention of consumers and strengthen the brand of their "environmentally friendly fruits."



Pruned branches charred with a simple carbonizer
Source: Yamanashi Prefecture

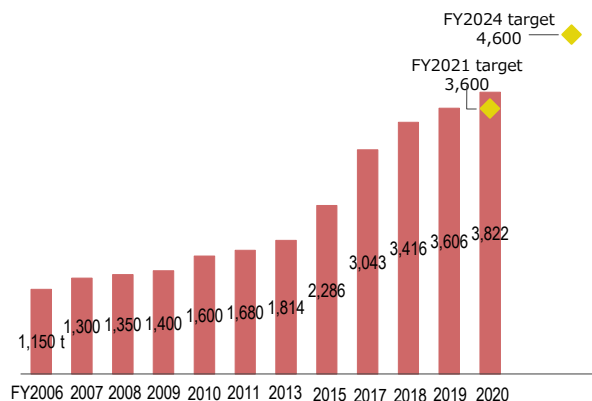
Conservation of biodiversity and making use of it

- The "Kunming Declaration," which commits to political momentum, etc. to adopt the "Post-2020 Biodiversity Framework," was adopted at the first part of the Fifteenth meeting of the Conference of the Parties (COP 15) to the Convention on Biological Diversity, held in October 2021. The "Post-2020 Biodiversity Framework" is to be adopted at the COP 15 second part in 2022.

Measures against waste plastics

- Japan's volume of waste plastic was 8.22 million tons in 2020. Of these, the amount of waste plastic emissions in the agricultural, forestry and fisheries sectors was 0.11 million tons, accounting for 1.4% of the total emissions of Japan.
- In the agricultural sector, farmers, agricultural organizations, and local governments thoroughly promoted measures to reduce emissions and promote proper disposal of waste plastics.
- For coated fertilizer using plastic, measures have been promoted to prevent the coated shell from escaping from the field after use and causing marine pollution.

Annual usage of biodegradable multi film (Quantity of resin shipped)



Source: Prepared by MAFF based on the materials of the Association of Biodegradable-Plastics for Agriculture

Note: 1) Not surveyed in 2012, 2014, and 2016

2) The target value for each fiscal year is against the actual value of the previous fiscal year to understand the actual value in December of the following fiscal year after the survey.

- For agricultural houses, progress in the use of films with enhanced durability has been made, and for mulching culture*, progress in the conversion to biodegradable multi films, which are dissolved into soil after use, was made.
- Annual usage of biodegradable multi films has been on an increasing trend, with a total of 3,822 tons in FY2020. Further developments in the efforts to reach 4,600 tons of biodegradable multi films in FY2023 has been made.

* Cultivation by covering ridges with polyfilms or vinyl films

10. Agriculture-related organizations supporting agriculture



- In accordance with the revised Agricultural Cooperatives Act, which came into effect in 2016, the JA Group implemented its own reforms to raise farmers' income. In the "Action Plan for Regulatory Reforms" approved by Cabinet decision in June 2021, the direction of establishing a cycle in which the Japan Agricultural Cooperatives (JA) will implement their own reforms and a system in which the MAFF will provide guidance and supervision, etc. was decided.

<Example> Continuous profitability achieved by maintaining quality and price (Shizuoka Prefecture)

- JA Mikkabi has been focusing on growing "Mikkabi Mikan (Satsuma Mandarin)," which accounts for 85% of the production and sales amount.
- Since 2015, JA Mikkabi has succeeded in making profits for more than 10 years by putting efforts, such as maintaining the quality and price of "Mikkabi Mikan" as food with function claims.

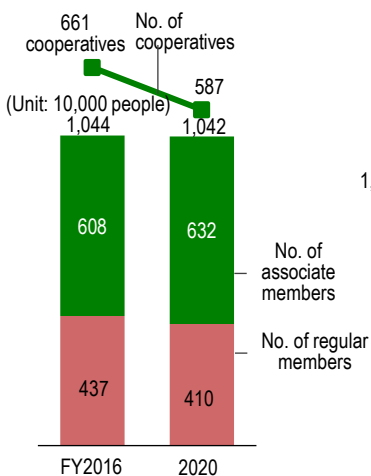


Sorting Mikkabi Mikan
Source: JA Mikkabi

- The agricultural committee has visualized the content and results of its activities to optimize farmland use, and promoted efforts to set concrete targets and record and evaluate optimization activities in order to further improve its activities.
- The agricultural mutual relief associations, etc. have promoted the establishment of one cooperative in one prefecture to improve the efficiency of their operations, and have succeeded in establishing it in 45 prefectures as of April 2021.
- A "bill to revise part of the "Land Improvement Act" was enacted in March 2022. For land improvement districts, business has smoothly been promoted by making use of the construction consignment system, etc. to the Federation of Land Improvement Associations.

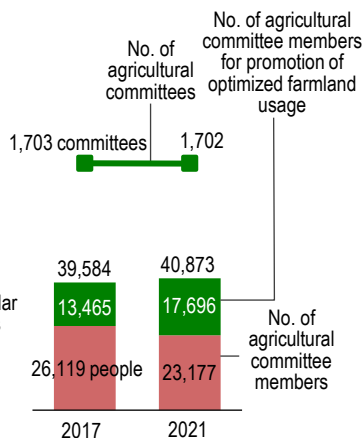
Number of agriculture-related organizations, etc.

(Agricultural cooperatives)



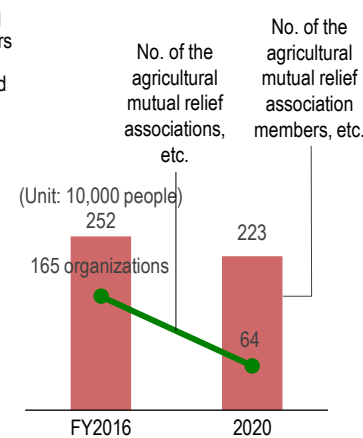
Source: MAFF, "Statistics on Agricultural Cooperatives"

(Agricultural committees)



Source: Prepared by MAFF

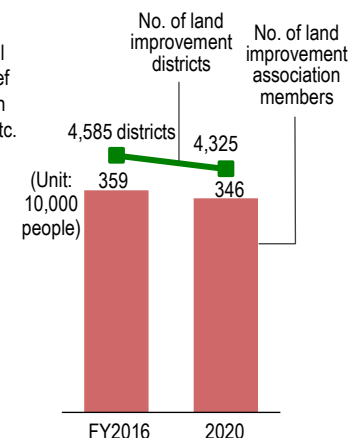
(Agricultural mutual relief associations)



Source: Prepared by MAFF

Note: 1) The figure for the agricultural mutual relief associations, etc. is the sum of the municipalities that carry out an agricultural mutual relief project with the agricultural mutual relief association.
2) The number of the agricultural mutual relief association members, etc. includes subscribers to voluntary mutual relief as well as institutional mutual relief.

(Land improvement districts)



Source: Prepared by MAFF

Chapter 3 Promotion of Rural Areas

1. Trends in the return to rural living

- Approximately 80% of the Japanese population is concentrated in urban areas. The population in hilly and mountainous areas have been aging and declining faster compared to urban areas.
- Meanwhile, according to a public opinion survey conducted by the Cabinet Office, about 27% of urban residents answered that they "have" or "more or less have" a desire to move to rural areas. By age, the trend is high at ages 18 to 29 and 50 to 59.

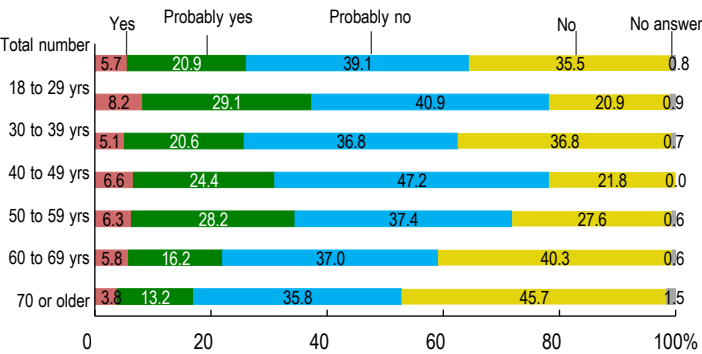
Population trends classified by types of agriculture areas (Estimates)

(Unit: 1,000 people, %)

	2010		2020 (Estimates)		Number of changes (%)
	Population	Ratio	Population	Ratio	
Urban areas	100,880	78.8	100,847	80.9	▲ 33 (0.0)
Flat farming areas	11,906	9.3	10,864	8.7	▲ 1,042 (▲ 8.8)
Hilly farming areas	11,407	8.9	9,837	7.9	▲ 1,570 (▲ 13.8)
Mountainous farming areas	3,865	3.0	3,108	2.5	▲ 757 (▲ 19.6)
Total	128,057	100.0	124,656	100.0	▲ 3,401 (▲ 2.7)

Source: Prepared by MAFF based on PRIMAFF "Demographics of Rural areas and Changes of Rural Communities - Statistical Analysis Using Data from Small Local Areas"

Whether urban residents want to move to rural areas



Source: Prepared by MAFF based on the Cabinet Office "Survey of Public Opinion on Rural Areas" (published in October, 2021)

Notes: 1) Survey conducted by mail and the Internet from June to August, 2021. Questionnaire completed by 3,000 Japanese nationals aged 18 years or older. (Number of effective collections is 1,655)

2) Response results to the question "Do you have a desire to move to rural areas?" targeted for those who answered that they live in "urban areas" or "more or less urban areas." (The total number of responses is 1,036)

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

Promotion of agriculture in hilly and mountainous areas

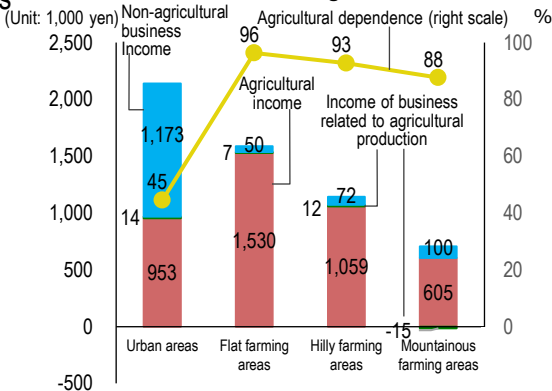
- Hilly and mountainous areas account for approximately 40% of the number of agriculture management entities, its total farmland area, and output, playing a key role in performing multiple functions and food production.
- The agricultural income per agricultural management entity in hilly farming areas and mountainous farming areas were approximately 70% and 40% respectively of the flat farming areas.
- Promoting the nationwide development of multi-management to take advantage of the characteristics of hilly and mountainous areas.

Key indicators for hilly and mountainous areas

	Nationwide	Hilly and mountainous areas	Percentage
Population (10,000 people)	12,709	1,420	11.2%
Number of agriculture management entity (1,000 management entities)	1,076	453	42.1%
Farmland area (1,000 ha)	4,372	1,617	37.0%
Agricultural output value (100 million yen)	89,370	36,647	41.0%
Total land area (1,000 ha)	37,286	24,118	64.7%

Sources: Prepared by MAFF, based on "2015 Census" by the Ministry of Internal Affairs and Communications, "2020 Census of Agriculture and Forestry" (recompiled), "2020 Statistics on Cultivated Land and Planted Area," and "2020 Statistics of Agricultural Income Produced" by MAFF
Note: The figures for hilly and mountainous areas are estimated by MAFF.

Agricultural income and others by classification of agriculture area



Source: "Statistical Survey on Farm Management (Management Statistical by Farming Type) in 2020" (individual management entities)

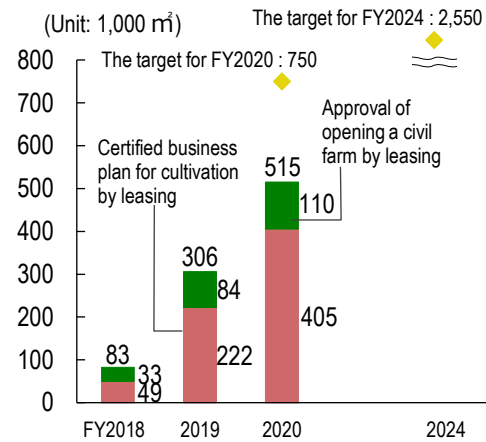
Promotion of urban agriculture

- Although urban agriculture is mainly carried out in urban areas around 1% of the national farmland, the number of agriculture management entities and output are respectively about 13% and 7%. Agriculture developed by taking advantage of the conditions of producing vegetables, etc. at the consumption areas
- In 2020, the area of the productive green zones was 12,000 ha. With an urban farmland leasing act* put into force, leasing farmlands in productive green zones have progressed.

* The official name is the "Act on Facilitating Urban Farmland Leasing."

- With an urban farmland leasing act, approximately 515,000 m² of farmland has been certified/approved for leasing at the end of FY2020.

Farmland based on an urban farmland leasing act Certification for leasing / Approved area



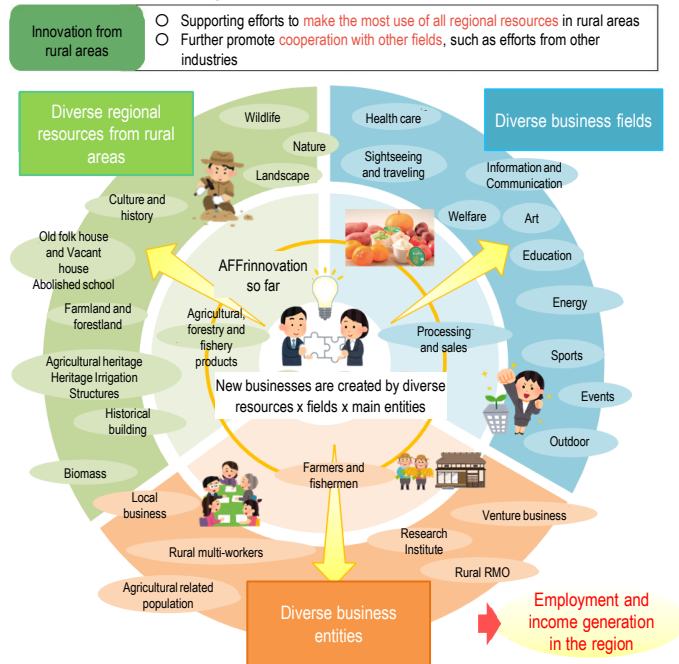
Source: Prepared by MAFF

3. Promotion of innovations from rural areas

Promotion of rural areas in response to a declining population

- Promote "innovations from rural areas" to create new businesses and added value by utilizing diverse regional resources.
- A "bill to revise part of the Act on Vitalizing Rural Areas" was submitted to the Diet in March 2022. Accelerated procedures for the relocation of farmland for the development of innovation facilities for rural areas.

The image of innovations from rural areas

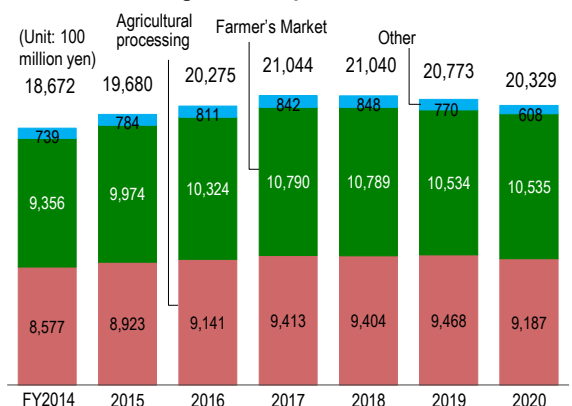


Source: Prepared by MAFF

Creation of new value chains to meet demand

- Total annual sales of agricultural production-related businesses (such as processing and direct sales) by farmers engaged in AFFrinnovation*, has been flat in recent years.
- Total annual sales in FY2020 decreased by 44.3 billion yen compared to the previous year to 2,032.9 billion yen.

Total annual sales from agricultural production-related business



Source: MAFF, "Comprehensive Survey on AFFrinnovation"

Note: Other items are total of tourist farms, farm houses, and farm house restaurants.

* AFFrinnovation is a combination of the first letters of "Agriculture," "Forestry," and "Fisheries" and the word "innovation," and means utilizing the regional resources from rural areas and combining the primary, secondary, and tertiary sectors to create innovation and value chains down to consumers.

Promotion of countryside stays

- The total number of guests staying in the countryside in FY2020 was 3.91 million, decreasing by 1.99 million compared to the previous year, affected by the spread of COVID-19. Efforts have been made to promote demand for countryside stays as a safe and secure travel destination, including supporting efforts to improve its contents for the future after the COVID-19 is under control.

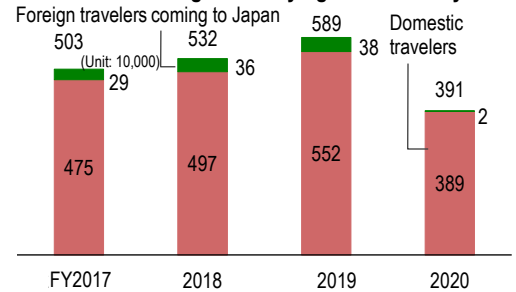
Promotion of agriculture-welfare collaborations

- The number of parties engaged in the agriculture-welfare collaborations in FY2020 increased by approximately 10% compared to the previous year. Training programs were provided to educate persons with disabilities on farmwork methods to support their establishment in the agricultural sector.
- 25 organizations were awarded with the "Noufuku Award 2021" as best practices in agriculture-welfare collaboration.

Utilizing of renewable energy

- Promote efforts to establish local production for local consumption energy management system, which is set forth in the "Strategy for Sustainable Food Systems, MeaDRI." As of the end of FY2020, the economic scale of the districts that are working to develop regional agriculture, forestry and fisheries by utilizing renewable energy-generated power generation has increased to 44.8 billion yen.
- The area of farming photovoltaics in FY2019 is 742 ha.
- At the end of FY2020, 287 renewable energy facilities, such as small hydroelectric power generation, utilizing agricultural irrigation facilities. The use of electricity generated by the system at agricultural irrigation facilities reduces the burden on farmers.

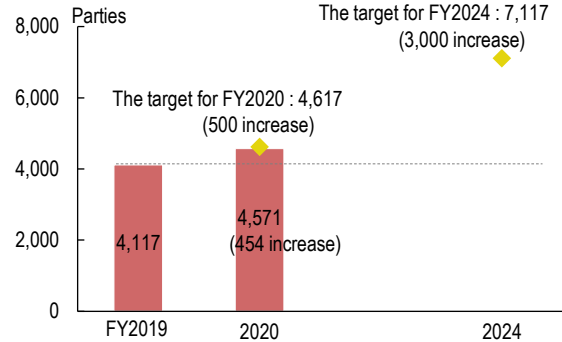
The total number of guests staying in the countryside



Source: Prepared by MAFF

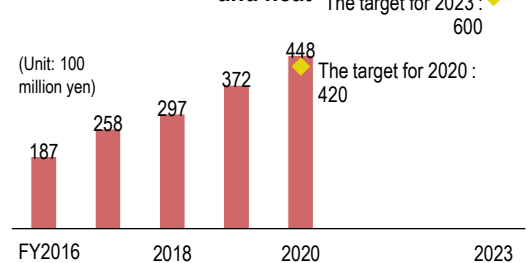
Note: Figures for 2017-2019 include the 515 regions for countryside stays adopted by 2019, and those for 2020 include the 554 regions adopted by the same year.

Changes in the number of parties engaged in agriculture-welfare collaborations



Source: Prepared by MAFF

Economy scale related to renewable energy electricity and heat



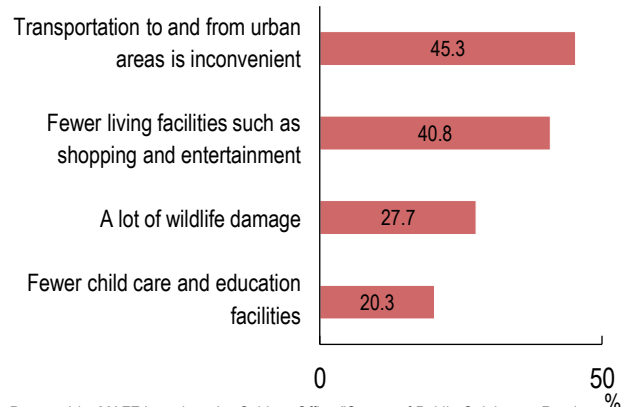
Source: Prepared by MAFF

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

- Among the troubles of living in rural areas, more than 40% of respondents respectively said that "transportation to and from urban areas is inconvenient" and "there are fewer living facilities such as shopping and entertainment."
- It is important to complement the functions of multiple villages, and form a "Region Management Organization" (RMO) that will work together with agricultural land conservation activities and economic activities, including life support, to contribute to the maintenance of local communities.

Problems of living in rural areas



Source: Prepared by MAFF based on the Cabinet Office "Survey of Public Opinion on Rural Areas" (published in October, 2021)

Notes: 1) Survey conducted by mail and the Internet from June to August, 2021. Questionnaire completed by 3,000 Japanese nationals aged 18 years or older. (Number of effective collections is 1,655)
2) Response results to the question "What is the trouble of living in rural areas?" (611 responses, multiple answers)

Promoting the exercise of multifunctional roles

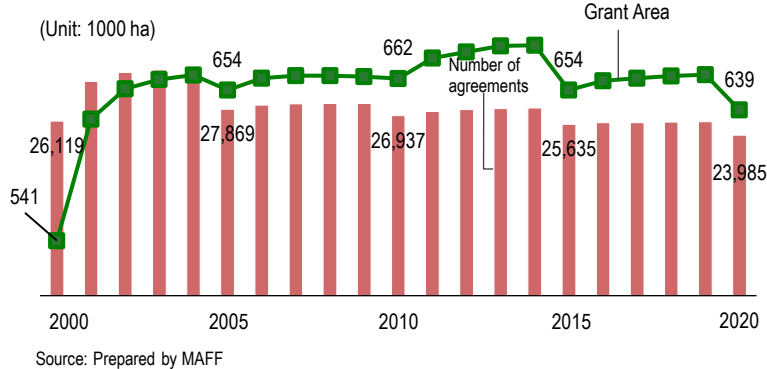
➤ The 5th phase of the direct payments to farmers in hilly and mountainous areas had begun (from FY2020). Additional measures were established for activities that strengthen the rural communities' functions, introduce labor-saving technologies for farmwork, and promote the rice terraces. It also promoted rural communities' strategies to clarify the future of agricultural land and communities.

➤ From FY2021 the payments for activities to enhance multi-functionality, measures to strengthen the rainwater storage function in paddy fields (rice paddy dams) have been implemented to increase the unit price of the resource improvement payments when area requirements are met.

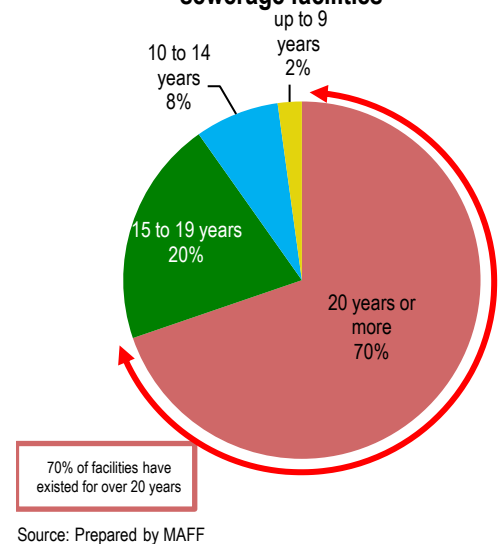
Securing infrastructure, etc. for daily life

- The rural infrastructure, such as rural sewerage facilities and farm roads, has been continuing to age. Seventy percent of rural sewerage facilities have been around for twenty years (the durable life of machinery) since they were used for the first time.
- The government is promoting improvement of the conditions necessary for people to continue to live in rural areas with peace of mind systematically and intensively, including reorganization, strengthening, and upgrading of rural infrastructure.

Number of agreements and the grant area of the direct payment to farmers in hilly and mountainous areas



Number of years since the start of use of the rural sewerage facilities



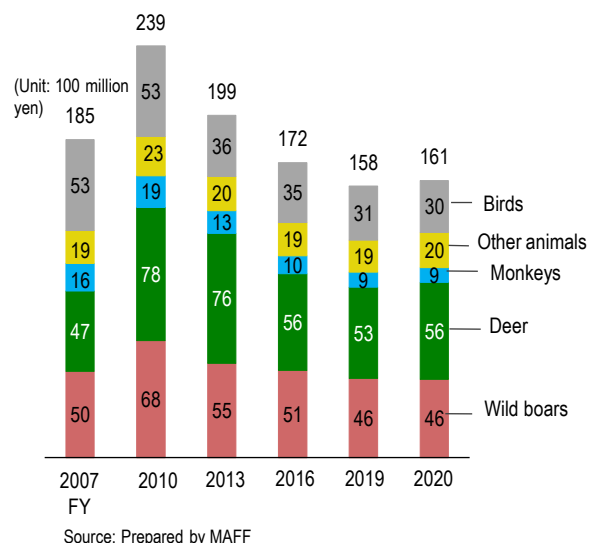
5. Promotion of wildlife damage countermeasures and utilization of gibier*



Promotion of wildlife damage countermeasures

- The amount of agricultural crop damage caused by wildlife trended downward since its FY2010 peak. In FY2020, in some regions, the amount of damage slightly increased from FY2019 to 16.1 billion yen due to the habitat expansion of deer and wild boars.
- The target number of captured wildlife was reviewed mainly in regions where damage had not decreased, and its capturing activities were strengthened by increasing traps and utilizing ICT under the intensive hunting campaign in FY2021.
- In order to promote wide-area hunting, the prefectural government promotes research and capturing activities across administrative districts and human resource development.

The amount of agricultural crop damage caused by wildlife

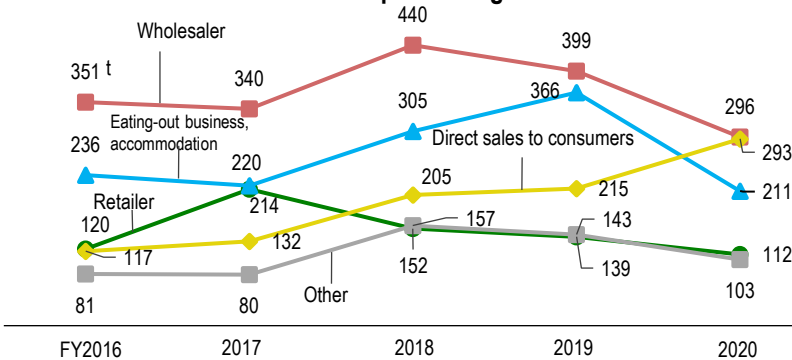


*Gibier is meat from wildlife which is hunted according to the hunting regulations or captured to prevent damage to agriculture or ecosystems.

Increasing the use of gibier

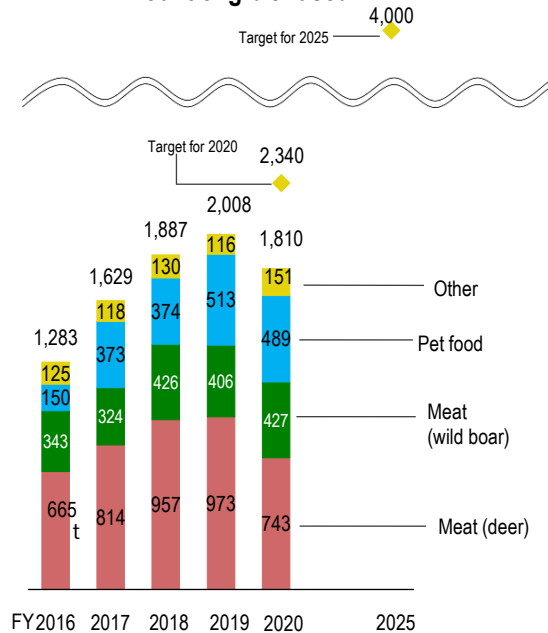
- The amount of gibier used had increased until FY2019.
- In FY2020, the consumption of deer, which is consumed mostly in restaurants, was reduced by 24% compared to the previous year, due to a decrease in demand for eating-out because of the spread of COVID-19. The amount of gibier used was 1,810 t. Overall, 10% decreased.
- Sales to wholesalers, retailers, restaurants, etc. have decreased, while direct sales to consumers are increasing.
- In order to double the amount of gibier processed from wild animals at meat processing facilities, we have been promoting bringing in hunted wildlife and boosting its demand, etc. since 2019.
- 29 facilities obtained the domestic gibier certification system to ensure safety and security. (as of the end of March 2022)

Gibier sales for each wholesaler, retailer, consumer, etc. from meat processing facilities



Source: MAFF "Fact-finding Survey on Wildlife Resources Utilization"
Note: "Other" indicates "manufacturer of processed products," "school lunch," etc.

Amount of gibier used



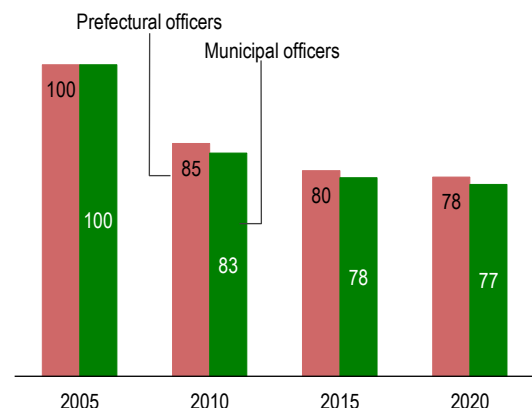
Source: MAFF "Fact-finding Survey on Wildlife Resources Utilization"
Note: "Other" indicate wildlife meat other than deer and wild boars, meat for household consumption, etc.

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

Developing human resources to support the community

- In recent years, the number of employees in local public organizations, particularly in the field of agriculture, forestry and fisheries, has decreased. Compared to 2005, 2020 saw a drop of more than 20 points.
- In order to develop human resources to support the achievement of the future image and hope of the region, the "rural area producers training course" began in FY2021.

Changes in staff in the Agriculture, Forestry and Fisheries sector of local public entity (Year 2005 = 100 index)



Source: Prepared by MAFF based on "the results of the survey on the capacity management of local public entity" created by Ministry of Internal Affairs and Communications.
Note: As of April 1 each year

- In order to expand the human resources supporting rural communities, including urban residents, it is effective to create and expand "Agricultural related population," and deepen relations with rural communities by involving diverse human resources in agriculture and rural areas through urban agriculture and countryside stay.

- Twenty percent of those who said they had a desire to move to the rural areas responded that they would combine multiple jobs if they moved.

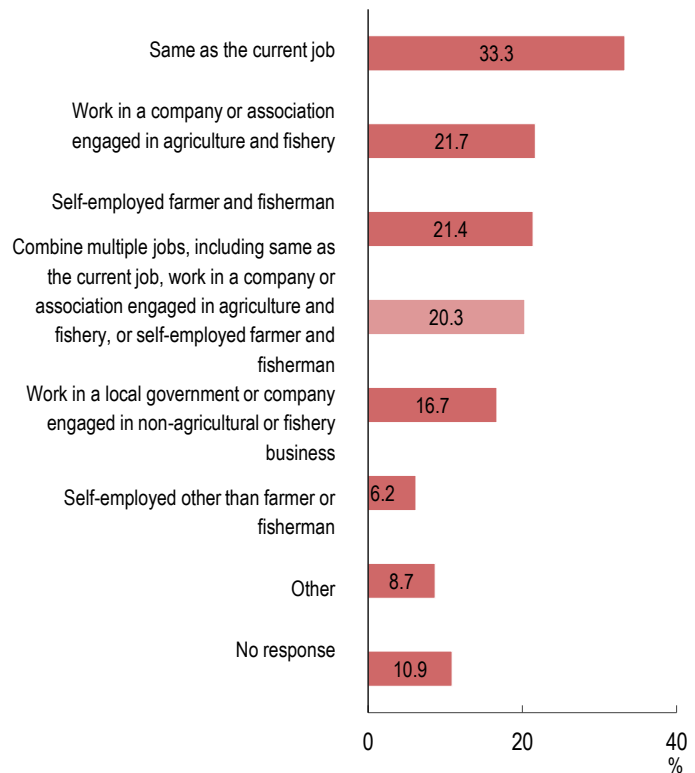
Example: A company implementing half-farmer-half-x (Shizuoka Prefecture)

- Tsuchiya Construction Co., Ltd., located in Izunokuni City, Shizuoka Prefecture, started agriculture in 2011 to revitalize rural areas and promote regional industries, in response to a decrease in demand for infrastructure development due to the aging of rural areas and a decrease in population.
- Since 70a of the farmlands borrowed at the beginning of farming were abandoned, they cultivated it using the construction industry's technology, such as their own heavy machinery and the operators.
- They cultivated about 60 kinds of local vegetables, including radishes and watermelons, which are local specialties. They sold the harvested vegetables with their own brand name, "Roppo vegetables."



Farmwork
Source: Tsuchiya
Construction Co., Ltd.

Work when moving to the rural areas



Source: Prepared by MAFF, based on the Cabinet Office "Survey of Public Opinion on Rural Areas" (published in October 2021)

Notes: 1) Survey conducted by mail and the Internet from June to August, 2021.

Questionnaire completed by 3,000 Japanese nationals aged 18 years or older (Number of effective collections is 1,655).

2) Response results to the question "What kind of work would you like to do if you moved to a rural area" for those who answered "have" or "more or less have" a desire to move to the rural area (total number of responses is 276, multiple answers)

Promoting the appeal of rural areas

- Under the Act on Vitalization of Tanada Region enacted in 2019, related government ministries provided comprehensive support for efforts of regional development focusing on rice terraces. Those rice terraces are participated by the Designated Tanada Regional Promotion Council including municipalities, prefectures, farmers, and local residents. A total of 698 areas were designated as rice terraces.
- From the point of preserving rice terraces and promoting the region, in FY2021 the MAFF certified 271 excellent rice terraces, for "TSUNAGU TANADA heritage – passing hometown pride to the future."
- In 2021, "Teragaike pond and Teragaike waterway", and "Usa Irrigation System" were newly registered as World Heritage Irrigation Structures. The number of registered facilities in Japan is 44 in total.
- In November 2021, the "International Conference on GIAHS 2021" was held to commemorate the 10th anniversary of the first domestic recognition of Globally Important Agricultural Heritage Systems. The efforts of various regions were shared and discussed for further utilization and conservation.



Teragaike pond and Teragaike waterway (Kawachinagano city, Osaka)



Usa Irrigation System (Usa city, Oita)

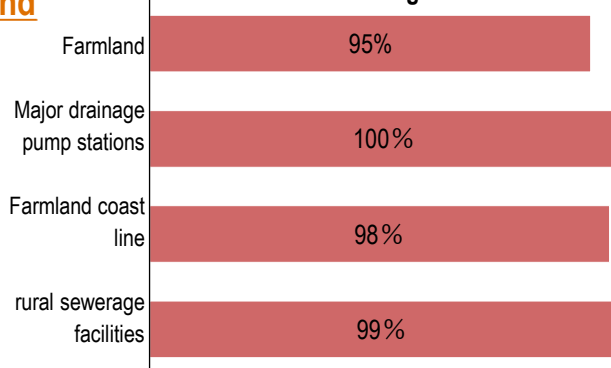
Chapter 4: Restoration/Reconstruction from Natural Disasters, Disaster Prevention/Reduction and Strengthening National Resilience

1. Restoration/Reconstruction from Great East Japan Earthquake

Restoration and reconstruction from earthquake and tsunami disasters

- Salt removal and rice paddy boundary reconstruction after earthquake and tsunami disasters have been conducted on 19,660 ha of farmland which was subject for restoration, and it accounts for 95% of the tsunami damaged farmland as of the end of March 2022.
- Farmland partitions were expanded in conjunction with the restoration efforts after earthquake and tsunami disasters.

Restoration of farmland and agricultural facilities



Source: Prepared by MAFF
Note: As of the end of March 2022.

Restoration and reconstruction after the nuclear disaster

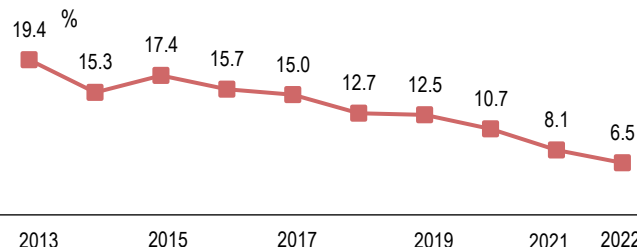
- Approximately 6,577 ha of the suspended farmlands in 12 municipalities affected by the nuclear disaster have resumed farm operations. To accelerate the resumption of farming, the government is dispatching MAFF officials to municipalities and supporting the creation of production areas that develop 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.
- Seven percent of respondents are hesitant to purchase Fukushima products due to fear of radioactive materials. The government is disseminating information based on the "Strategy for dispelling harmful rumors and strengthening risk communication."

Resumed farm operations of 12 municipalities affected by the nuclear disaster

	As of the end of FY2020	Target for the end of FY2025	Progress
Resumed farmland area of 12 municipalities affected by the nuclear disaster	6,577 ha	10,264 ha	64%

Source: MAFF "Fukushima Prefecture Farm Resumption Support Project/2020 Business Performance Report"
Note: Progress rate = Resumed farmland area (as of the end of FY2020) ÷ the target area at the end of FY2025.

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

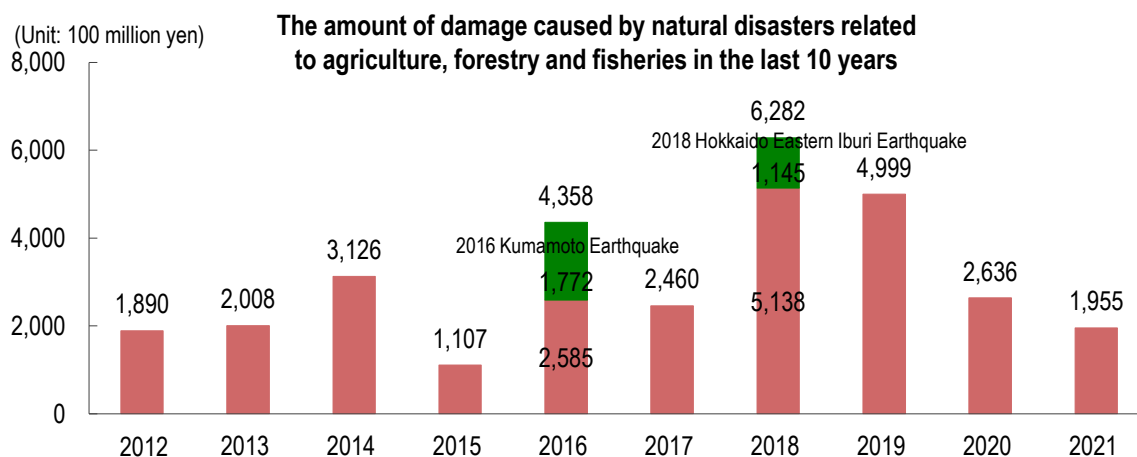


Source: Prepared by MAFF based on Consumer Affairs Agency, "Survey on Consumer Awareness of Harmful Rumors"

2. Restoration/Reconstruction from large-scale natural disasters

Recent natural disasters and damage to the agricultural, forestry, and fisheries industries

- In recent years, large-scale natural disasters occur throughout Japan every year. In Japan's agricultural, forestry and fisheries industries, significant damage occurred to agricultural crops, agricultural land and agricultural facilities.



Source: Prepared by MAFF
Note: The amount of damage in 2021 was as of March 31, 2022.

The state of restoration and reconstruction from natural disasters in FY2020

- Restoration work for farmland and agricultural facilities in the Tohoku, Tokai, and Kyushu regions, which were damaged by heavy rains in July 2020, have progressed. As of February 2022, approximately 60% of the disaster recovery project target was restored. As of March of the same year, approximately 90% of devastated agricultural machinery and greenhouses were restored.



Damaged farmland



Recovery completed

(Restoration of farmland and agricultural facilities that were affected by heavy rains in July 2020 (Saga Prefecture))

Recovery from natural disasters in FY2021

- The amount of damage related to agriculture, forestry and fisheries in 2021 amounted to 195.5 billion yen. The "heavy rain starting on July 1, 2021" and the "heavy rain in August 2021" caused widespread damage from river flooding.
- In response to the severe damage caused by heavy rain starting on July 1, 2021 or other disasters, the government supported disaster restoration for farmland and agricultural facilities and designated the disaster-stricken regions as ordinance-designated serious disaster areas early on, so as to reduce the burden on local governments and affected farmers.



Inflow of soil in farmland (Shimane Prefecture)
(Heavy rain starting on July 1, 2021)



Collapse of the Tea Garden (Saga Prefecture)
(Heavy rain in August 2021)

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



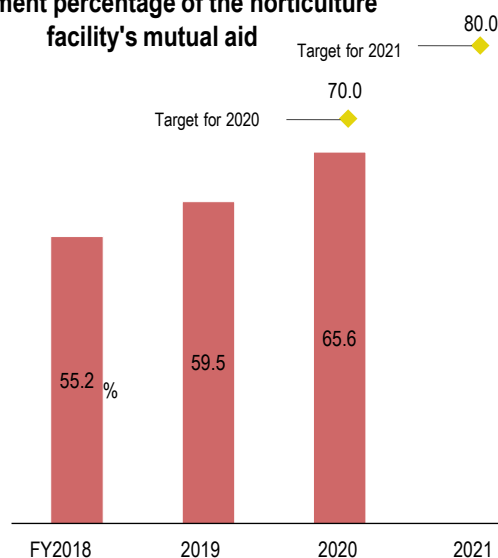
Promoting measures for disaster prevention/reduction and strengthening national resilience

- Based on the "5-years acceleration measures for disaster prevention, disaster reduction and strengthening national resilience" decided by the Cabinet in December 2020, in order to promote measures for strengthening national resilience, for the five years from FY2021 to FY2025, the government promoted measures for disaster prevention and disaster reduction with structural measures such as reinforcement for seismic resistance of agricultural irrigation facilities and construction/restoration of drainage pump stations, as well as non-structural measures such as producing hazard maps.

Enrollment percentage of the horticulture facility's mutual aid

Preparing for disasters

- To prepare for the disasters, farmers themselves were encouraged to join the NOSAI and agricultural insurance scheme
- As a result of reviewing the contents in horticulture facility mutual aid and promoting farmers to join in, the percentage of the enrollment in FY2020 was 66%. The government continued to promote the enrollment of farmers.
- 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.



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 agricultural production bases 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 (2020)
<Statistics of Agricultural Income Produced>

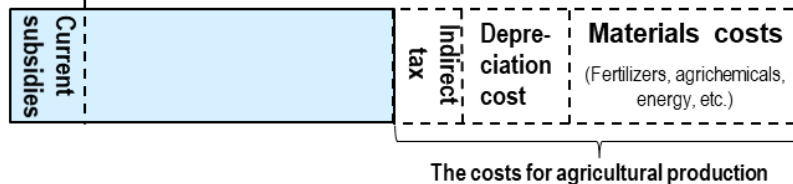
3.3 trillion yen (2020)
<Statistics of Agricultural Income Produced>

4.7 trillion yen (2020)
<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



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}

Individual management entities^{*1}

Business farm entities^{*1}

Group management entities^{*1}

Statistical data <source>

1.03 million entities (2021)
< Survey on Movement of Agricultural Structure >

0.99 million entities (2021)
< Survey on Movement of Agricultural Structure >

0.22 million entities (2021)
< Survey on Movement of Agricultural Structure >

40,000 entities (2021)
< Survey on Movement of Agricultural Structure >

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>

2.29 million persons (2021)
< Survey on Movement of Agricultural Structure >

1.3 million persons (2021)
< Survey on Movement of Agricultural Structure >

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>

0.15 million persons (2021)
< Survey on Movement of Agricultural Structure >

1.42 million persons (2021)
< Survey on Movement of Agricultural Structure >

*1: See Definitions 2 (1)

*2: Including persons hired for businesses related to agricultural production. 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 of Agriculture and Forestry 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 agriculture management entities) – Expenditures of business related to agricultural production (expenditures such as labor and material costs required for the aforementioned businesses)
Non-agricultural business income	Non-agricultural or non-agricultural-production-related business income (e.g., income from forestry, fishery, commerce and industry, and so on as independent part-time nonagricultural businesses, salaries and wages) – Non-agricultural business expenditures (e.g., expenditures for labor and material costs required for the aforementioned businesses)

(5) Agricultural labor

(c) Agricultural labor

		Involvement in farming		Household member of individual management entities
		Engaged in farming		Not engaged in farming
		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>(2)</div></div>		<p>As a rule, people who live and earn a living together</p> <p>(1) Core persons mainly engaged in farming Household members 15 years old and over who are working mainly in agriculture during regular hours.</p> <p>(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.</p> <p>* Housework, school, etc.</p>
	Other *			
Permanently employed worker		<p>A worker employed mainly for agricultural (forestry) management with a contract (including oral contract) period of at least 7 months per year (including those employed without specifying a contract period).</p> <p>Foreign technical interns employed with a contract period of at least 7 months are also included.</p> <p>In the case of agricultural management, employees include employed persons for the purpose of agriculture and/or agricultural production related businesses.</p>		
Temporarily employed worker		<p>A day worker or seasonal worker temporarily employed for agricultural (forestry) management other than a permanently employed worker, including mutual help among farm households (labor exchange) and voluntary help (labor accepted for free).</p> <p>However, the workforce of agricultural (forestry) labor that is entrusted to others is not included.</p> <p>In addition, it includes workers who are employed mainly for business other than agricultural (forestry) management work but temporarily engaged in agricultural (forestry) management, as well as those who are employed as “permanently employed workers” with a contract period of at least 7 months but resigned before reaching that period.</p> <p>In the case of agricultural management, employees include employed persons for the purpose of agriculture and businesses related to agricultural production.</p>		

(6) 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	<p>Defined as individuals who fulfill one of the following conditions:</p> <p>(1) New self-employed farmers Members of individual management entities whose living status has changed anytime within a year of the survey date from “student” or “employed in other work” to “new graduate who has become a farmer” or “a new farmer who changed occupations.”</p> <p>(2) New employed farmers Persons engaged in farming who have been hired by corporations anytime within a year of the survey date and work for their employers for 7 months or more a year.</p> <p>(3) New entries Persons responsible for farming started anytime within a year of the survey date by securing land and funds on their own, and their partners.</p> <p>Entrants to farming soon after graduation from school New self-employed farmers who have changed their status from “student” to “engaged mainly in farming,” as well as new employed farmers who were recently students.</p>
Status before farming	Student	<div><div>Entrants to farming soon after graduation from school</div><div>(1) New self-employed farmers</div></div>	<div>(2) New employed farmers</div>	<div>(3) New entries</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.
<p>Notes: 1) Order of priority: Urban area → Mountainous farming area → Flat and hilly farming area</p> <p>2) As a rule, DID (Densely Inhabited Districts) are defined as areas where basic district units, as defined by the national census, with populations densities of 4,000 per km² or more are adjacent to each other and the total population of these conjoined districts is 5,000 or more.</p> <p>3) Gradient refers not to the gradient of cultivated land per parcel, but to the main topographical gradient as grouped land.</p> <p>4) The combination of the hilly and mountainous farming area categories is referred to as hilly and mountainous area.</p> <p>5) Former municipalities are those that were classified as municipalities as of February 1, 1950.</p>	

(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	To enable farming through crop rotations between rice and crops by implementing measures such as culvert drainage.
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.
DX	“DX” is the abbreviation of Digital Transformation. “DX” means to change, based on customers’ and social needs, the paradigm of management, business, policy making, or the way of life and work style by making full use of data and digital technology; furthermore, it means to achieve cultural revolution in the organization or conceptual breakthrough. The “X” of the “DX” refers to “Trans (X)” of the word “Transformation,” meaning “beyond.”
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.
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	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.

	<ul style="list-style-type: none"> - Food self-sufficiency potential indicator 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. 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). (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
Food self-sufficiency ratio	<p>This index indicates the percentage share of domestic production in the total supply of food in Japan.</p> <ul style="list-style-type: none"> - Self-sufficiency ratio for individual items: The following formula is used to calculate the self-sufficiency ratio on a weight basis for individual items <div style="border: 1px solid black; border-radius: 10px; padding: 10px; margin: 10px 0;"> <p style="text-align: center;">Food self-sufficiency ratio calculation formula</p> $\text{Self-sufficiency ratio for individual items} = \frac{\text{Domestic production volume}}{\text{Supply for domestic consumption}} = \frac{\text{Domestic production volume}}{\text{Domestic production volume} + \text{Import volume} - \text{Export volume} \pm \text{Fluctuations in inventory}}$ </div> <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 supply basis and production value basis. Products made from domestic livestock raised with imported feed are not included in domestic production. The food self-sufficiency ratio for FY2018 and beyond is adjusted for changes in food consumption due to inbound (outbound) consumption. <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 - 2020 - (Eighth 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. - Feed self-sufficiency ratio: 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).
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	
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	WTO is the abbreviation of World Trade Organization. It is an international organization established in January 1995 to further a framework for the General Agreement on Tariffs and Trade (GATT) as a result of the Uruguay Round Negotiations. The headquarters is located in Geneva, and 164 countries and regions are joined as of March 2022. Its purpose is to promote trade liberalization by lowering trade barriers by providing the forum for multilateral trade negotiations and settling international trade conflicts.
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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.