

# 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>

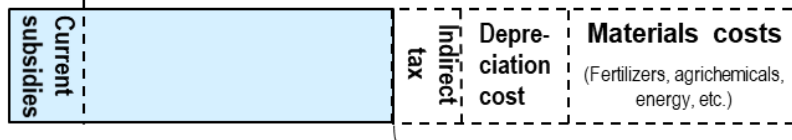
3.3 trillion yen (2020)  
<Statistics of Agricultural Income Produced>

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



The costs for agricultural production

• 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<sup>\*1</sup>

Individual management entities<sup>\*1</sup>

Business farm entities<sup>\*1</sup>

Group management entities<sup>\*1</sup>

### 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<sup>\*2</sup>

Core persons mainly engaged in farming<sup>\*2</sup>

### 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<sup>\*2</sup>

Temporary hired worker on farm<sup>\*2</sup>

### 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**

		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				<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). Foreign technical interns employed with a contract period of at least 7 months are also included. 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). However, the workforce of agricultural (forestry) labor that is entrusted to others is not included. 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. 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			
Status before farming	Student	<div style="border: 1px dashed black; padding: 5px; margin-bottom: 5px;">Entrants to farming soon after graduation from school</div> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px dashed black; padding: 5px; width: 30%; text-align: center;">New self-employed farmers</div> <div style="border: 1px dashed black; padding: 5px; width: 30%; text-align: center;">New employed farmers</div> <div style="border: 1px dashed black; padding: 5px; width: 30%; text-align: center;">New entries</div> </div>			<p>(1)</p>	<p>(2)</p>	<p>(3)</p>
	Employed in other work						
	Engaged in housework and child rearing / Other						

Defined as individuals who fulfill one of the following conditions:

- (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.”
- (2) **New employed farmers**  
Persons engaged in farming who have been hired by corporations anytime within a year of the survey date and work for their employers for 7 months or more a year.
- (3) **New entries**  
Persons responsible for farming started anytime within a year of the survey date by securing land and funds on their own, and their partners.

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.

## (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"> <li>- 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.</li> <li>- 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.</li> </ul>
Flat farming area	<ul style="list-style-type: none"> <li>- 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.</li> <li>- 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.</li> </ul>
Hilly farming area	<ul style="list-style-type: none"> <li>- Present and former municipalities where cultivated land accounts for less than 20% of the total area, other than urban and mountainous farming areas.</li> <li>- Present and former municipalities where cultivated land accounts for 20% or more of the total area, other than urban and flat farming areas.</li> </ul>
Mountainous farming area	<ul style="list-style-type: none"> <li>- 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.</li> </ul>
<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 km<sup>2</sup> 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 <sub>2</sub> 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.
<b>D</b>	
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.”
<b>E</b>	
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.”
<b>F</b>	
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	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.” 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).
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"> <li>- 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</li> </ul>
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"> <li>- Self-sufficiency ratio for individual items: The following formula is used to calculate the self-sufficiency ratio on a weight basis for individual items</li> </ul> <div style="border: 1px solid black; border-radius: 15px; padding: 10px; margin: 10px 0;"> <p style="text-align: center;">Food self-sufficiency ratio calculation formula</p> <math display="block">\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}}</math> </div> <ul style="list-style-type: none"> <li>- 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"> <li>• 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.</li> <li>• 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.</li> </ul> </li> <li>- 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).</li> </ul>
<b>G</b>	
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 <sub>2</sub> ), methane (CH <sub>4</sub> , generated from rice paddies and final waste disposal sites), dinitrogen monoxide (N <sub>2</sub> 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 <sub>6</sub> , used in the production of semiconductors) and nitrogen trifluoride (NF <sub>3</sub> , used in the production of semiconductors; added in the second commitment period) as greenhouse gases that should be reduced.
<b>H</b>	
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.
<b>I</b>	
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.
<b>J</b>	
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.
<b>L</b>	

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.
-----	---

#### 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 <sub>2</sub> 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.