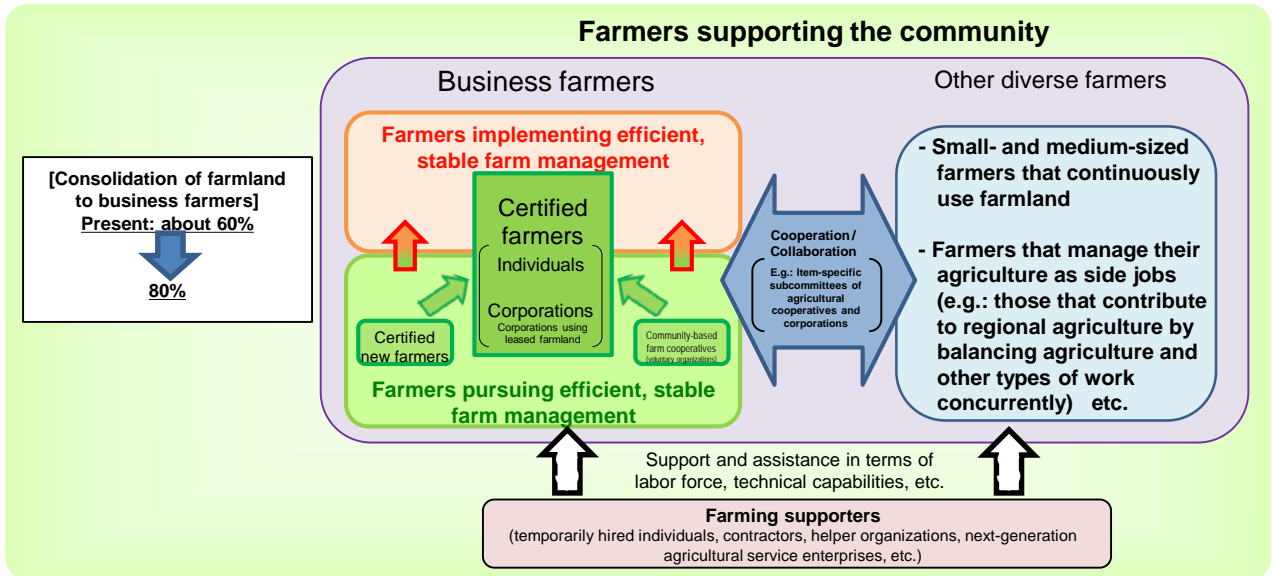


Development/Securing of business farmers for realizing a strong and sustainable agricultural structure

- The development/securing of business farmers will be advanced to enable the active participation of human resources with a business mind, irrespective of operation sizes or types of management such as family businesses or corporations.
- The government will work on enabling smooth business succession by business farmers of the next generation, enriching agricultural education, assisting new young farmers in becoming firmly established, developing an environment that enables women's active participation, and pushing forward the entry of companies into the agricultural sector by leasing farmland.

Figure 26-1 Desired agricultural structure

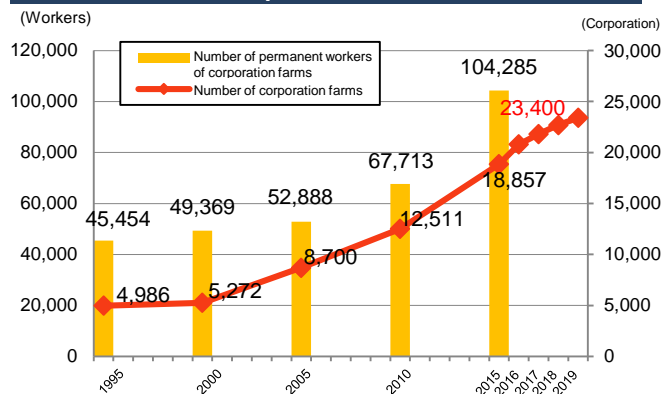


Backing up management development through the certified farmer system, incorporation, etc.

In order to ensure that business farmers can run their businesses on their own initiatives and by making original and creative efforts, the government will focus on farmland consolidation, taking Farming Income Stabilization Measures, capital subscription, loaning, and the provision of support in terms of tax.

Since the formation of corporations by farmers is expected to be effective in the development of business in forms such as the sophistication of business management and the securing of stable employment, the government will promote initiatives to push forward the acceleration of incorporation.

Figure 26-2 Changes in the number of corporation farms and permanent workers



Sources: MAFF, "Census of Agriculture and Forestry" and "Survey on Movement of Agricultural Structure"

Business succession, recruitment of new farmers, development/securing of human resources, etc.

For maintaining the sustainable development of agriculture, the government will advance the development of a system to support business succession so as to ensure that resources such as farmland are utilized by next-generation business farmers.

The government will communicate the attractiveness of agriculture to young people and enrich agricultural education in order to develop human resources who will choose agriculture as their profession in the future. In addition, it will promote practical recurrent education for a wide range of generations who wish to engage in farming. For new farmers from inside and outside the agricultural sector and for encouraging farmers to become firmly established, relevant organizations will cooperate with each other and enhance regional frameworks for accepting farmers.

Figure 27-1 Changes in female farmers

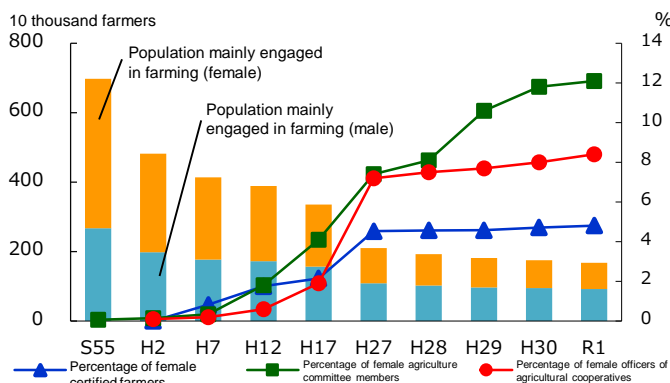
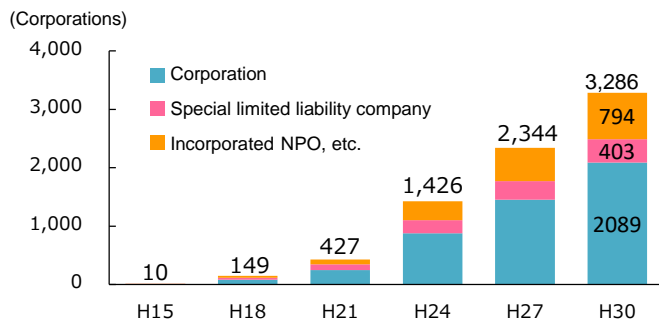


Figure 27-2 Changes in participating organizations



In recruiting human resources to agriculture and rural communities and also developing agriculture, the participation of women in agricultural management plays an important role. To promote the participation of women in the designing of policies for regional agriculture, the government will further promote women's engagement by developing female farmers into leaders of their communities and, at the same time, enhance cooperation with companies and educational institutions under the "Nougyou-Joshi Project" (campaign for female farmers to be more active in agricultural business through cooperation with various industries to utilize female farmers' knowledge and experiences) and promote regional activities to create an environment in which female farmers feel comfortable to conduct their activities.

The entry of companies into the agricultural sector will contribute to the development of regional agriculture through collaboration between the agricultural sector and industrial sector. In addition, such companies are expected to take care of farmland particularly in regions facing a shortage of business farmers. Accordingly, the government will continue to promote the entry of companies into the agricultural sector by leasing farmland mainly through Public Corporations for Farmland Consolidation to Core Farmers through Renting and Subleasing (Farmland Banks).

Part 3-2

Basic Plan p. 42–43

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

- In order to secure regional agricultural production and necessary farmland and ensure their sustainability amid the current aging and decline of the number of farmers, it is important to promote cooperation and coordination in units of a production area and the active participation of diverse human resources and entities, in addition to the development and securing of business farmers.
- On this basis, the government will develop an environment that enables diverse human resources and entities to engage in agricultural production and support their communities.

Figure 27-3 Next-generation agricultural support services



In agricultural sites, diverse farmers such as small- and medium-sized farms and family-operated farms cooperate and collaborate with each other in units of a production area and thereby play important roles in the maintenance of their communities. On this basis, the government will work on enhancing the production base and also supporting such farms with both "industrial policy" and "regional policy."

To address issues such as labor shortage on production sites, the government will encourage the firm establishment of next-generation agricultural support services such as outsourced operations and sharing/leasing that use advanced technologies, including drones and automatic traveling farm machines, and harvesting operation in cooperation with food-related business operators.

Figure 27-4 Implementation of the reform of working practices in agricultural fields



To smoothly advance the securing of human resources on production sites, the government will implement the "reform of working practices" in agricultural fields, which covers the enhancement of management by managing working hours, standardizing operations and preparing manuals.

Consolidation of farmland to business farmers, etc. and securing of farmland

- The government will implement the substantiation of the Farmers and Farmland Plan through the full-capacity operation of Farmland Banks, thereby aiming at the acceleration of consolidation of farmland to business farmers.
- The government will strive to prevent farmland dilapidation and clear dilapidated farmland by supporting joint activities, implementing measures for the prevention of damage caused by wild animals, farmland consolidation, infrastructure improvement, etc.

Acceleration of consolidation of farmland to business farmers

The substantiation of the Farmers and Farmland Plan will be implemented by local farmers, coordinating organizations, such as local governments, agricultural committees, agricultural cooperatives, and land improvement districts, and Farmland Banks working together. In addition, the consolidation of farmland to business farmers will be accelerated by simplifying the procedures of the farmland mid-level management project and enhancing the implementation system following the integration and unification of systems.

In particular, the government will implement initiatives for field sites on the basis that farmland consolidation will be more important in the future from the aspects of the streamlining of farmland use, the promotion of smart agriculture, etc.

With regard to farmland whose owner is unknown, the government will consider necessary matters in cooperation with relevant ministries on the basis of the situation of deliberation on the revision of basic civil legislation, etc.

Figure 28-1 Implementation of the substantiation of the Farmers and Farmland Plan

1. Implementation of a questionnaire survey

A questionnaire survey pertaining to at least a majority of the cultivated land area in the survey target district will be conducted to find out about the ages of the farmers (cultivators or land owners) and whether they have successors among other matters.

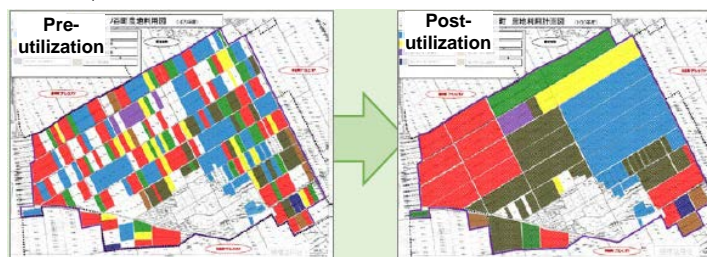
2. Understanding the current situation

The results of 1. will be mapped, and the area of farmland for which no successor is to be available in 5 to 10 years time will be "visualized." These data will be used at meetings.

3. Preparation of future policy for consolidation of farmland to core farmers

On the basis of 1. and 2. above, thorough discussions will be held among relevant parties such as farmers, local governments, agricultural committees, JAs, and land improvement districts to determine, in principle for each rural community, the desired form of core farmers in charge of use of farmland in 5 to 10 years time.

Case example where farmland consolidation was realized through the revision of the Farmers and Farmland Plan by the community, mainly the agricultural committee and Farmland Bank, and through utilization of the Farmland Bank (Hikone City, Shiga Prefecture)



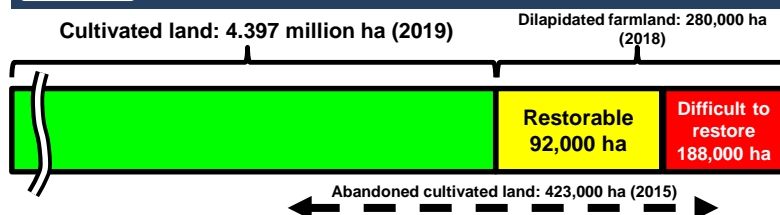
Promotion, etc. of measures to prevent farmland dilapidation and clear dilapidated farmland

The government will strategically implement measures to prevent farmland dilapidation and clear dilapidated farmland by, for example, encouraging discussions concerning the future use of farmland in areas and rural communities to which a multifunctional payment system or direct payment system to farmers in hilly and mountainous areas applies, supporting the joint activities of these areas and communities, reducing damage to field crops by taking measures for the prevention of damage caused by wild animals, promoting farmland consolidation under the farmland mid-level management project, and effectively improving infrastructure.

In addition, factors causing dilapidated farmland, areas vulnerable to dilapidation, and the status of resolution of dilapidation will be investigated/analyzed in detail.

The government will push forward initiatives for securing and effective use of fine farmland by appropriately operating the agricultural promotion area system and the farmland diversion permission system.

Figure 28-2 About farmland and dilapidated farmland



Source: Statistics Department, Minister's Secretariat, MAFF, "Statistics on Cultivated Land and Planted Area (2019)" and "2015 Census of Agriculture and Forestry"; and Rural Development Bureau, MAFF, "2018 Survey on the Status of Generation and Clearing of Dilapidated Farmland"

Notes: 1) Data of cultivated land include temporarily fallow land and unplanted land.
2) Abandoned cultivated land refers to land that was cultivated in the past but has not been planted for the past one year or more, and is not planned to be planted again in the next few years (area subjectively derived by farmers, etc.).

- Dilapidated farmland	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
- Restorable dilapidated farmland	Dilapidated farmland that is expected to become usable for cultivation with conventional farming methods by restoring the land through stump pulling, soil preparation, farmland partition adjustment, soil dressing, etc.
- Dilapidated farmland that is expected to be difficult to restore	Dilapidated farmland which is equivalent to land that is extremely difficult to be physically conditioned to be restored into farmland, such as in the form of a forest, or is not equivalent to land that is continuously usable even if the land is restored into farmland in light of the conditions of the surrounding area

Promotion of initiatives for stabilization of agricultural management

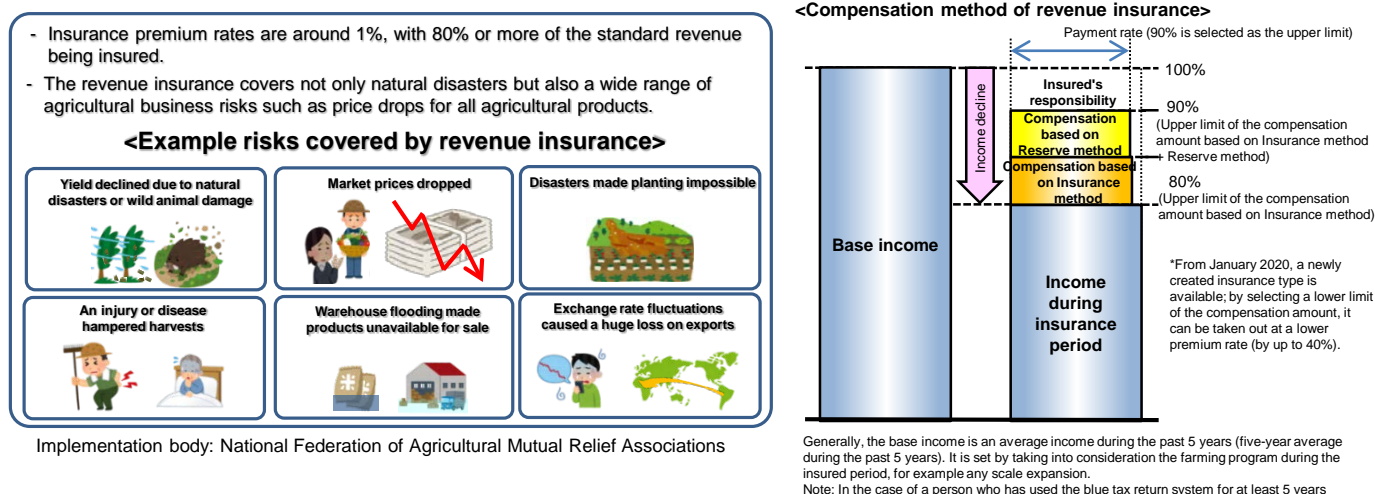
- The government will make efforts to disseminate and promote revenue insurance and expand its use, and steadily implement the Farming Income Stabilization Measures, etc.
- Furthermore, it will consider how comprehensive and effective safety-net measures should be. In addition, the digitalization of procedures, the simplification of application data, etc. will be promoted.

Steady promotion of revenue insurance and the Farming Income Stabilization Measures

Revenue insurance started from January, 2019. Covering all agricultural products, revenue insurance compensates farmers for income decline caused by various risks that cannot be avoid by their management efforts, including yield decrease resulting from a natural disaster and price decline.

In order to disseminate and promote revenue insurance, the government will build an implementation system in cooperation with agricultural mutual relief associations and other relevant organizations including administrative organs, agricultural cooperatives, and agricultural corporations associations, and push forward initiatives to promote insurance subscription.

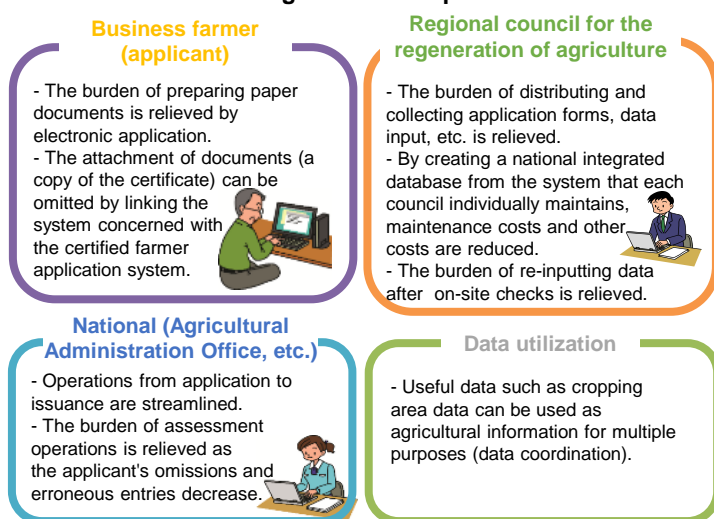
Figure 29-1 Overview of revenue insurance



Consideration of how comprehensive and effective safety-net measures should be

Figure 29-2 Effectiveness of the digitalization of procedures

- Effectiveness of the digitalization of procedures



On the basis that the Agricultural Insurance Act provides that, among other relevant matters, how the system of revenue insurance should be is to be considered after about 4 years have passed since the Act came into force, relevant measures such as the Narashi measure (measure to mitigate the impact of reduced income in relation to rice and upland field crops) and the vegetable price stabilization system will be verified as a whole, and how comprehensive and effective safety-net measures should be will be considered in light of the needs of farmers, etc. On this basis, necessary measures are to be implemented around 2022.

In addition, the government will strive to improve convenience and reduce administrative burden for both applicants and the assessor by promoting the digitalization of procedures, simplifying application data, etc., and deliberating on improving the contact system for comprehensive safety nets and consolidating the contact points for such safety nets.

Improvement of the agricultural production infrastructure for the growth of agricultural industry and the building of national resilience

- In order to develop agricultural production industry, the government will promote the enlargement of farm blocks, the multi-purpose use of paddy fields and the upgrading of upland fields and fruit farms.
- The government will thoroughly promote the strategic preservation and management of farm irrigation facilities for extending their lifetime and reducing their life cycle cost.
- In order to appropriately respond to disasters that occur more frequently and cause more devastating damage today, the government will promote disaster prevention/mitigation measures toward building the resilience of agriculture and rural areas.

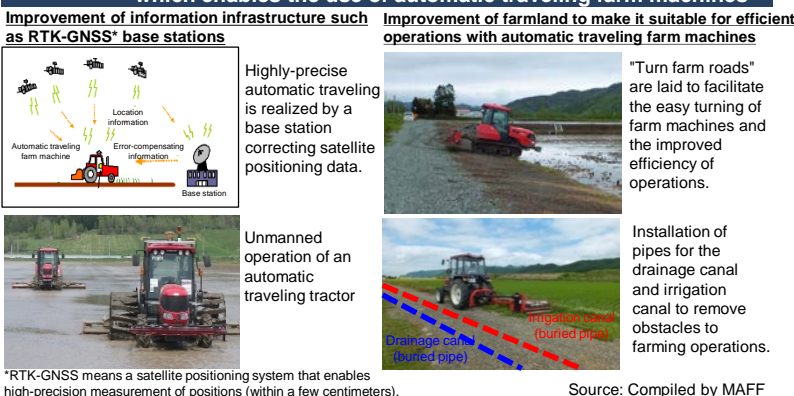
Improvement of the agricultural production infrastructure for the growth of agricultural industry

The government will promote the enlargement of farm blocks thereby making progress in the consolidation of farmland and the reduction of production cost.

Furthermore, in order to improve the profitability of production areas, the government will promote the creation of multipurpose paddy fields and the sophistication of upland fields, etc.

In addition, the improvement of agricultural production infrastructure, which enables use of automated farm machinery and ICT-based water management, is implemented, and infrastructure for telecommunication in rural areas is to be developed

Figure 30-1 Improvement of the agricultural production infrastructure, which enables the use of automatic traveling farm machines

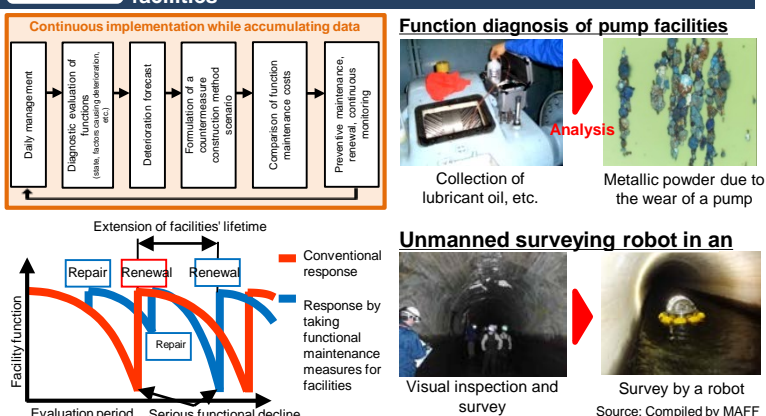


Strategic preservation and management of farm irrigation facilities

In order to ensure that a series of farm irrigation facilities from the main to terminal facilities performs its functions in a stable manner, the government will work on extending its lifetime by, for example, efficiently repairing and renewing such facilities in a planned manner under appropriate risk management through the inspection, function diagnosis, monitoring, etc. of such facilities.

When renewing farm irrigation facilities, the government will work on optimizing the stock of facilities by consolidating, reorganizing, integrating, eliminating, etc. of facilities. Furthermore, it will promote research and development and verification study concerning the use of robots, AI, etc. to make the inspection, function diagnosis, etc. of facilities labor-saving and sophisticated.

Figure 30-2 Strategic preservation and management of farm irrigation facilities



Disaster prevention/mitigation measures toward building the resilience of agriculture and rural areas

In order to appropriately respond to disasters that occur more frequently and cause more devastating damage today and thereby realize stable agricultural management and safe and untroubled living conditions in rural areas, the government will implement appropriate combinations of structural measures, such as the extension of the lifetime of farm irrigation facilities, etc., making such facilities earthquake-resistant, and water-resistance measures, such as the preparation of hazard maps and awareness-raising activities targeting local residents.

With regard to irrigation ponds, the government will promote the preparation of hazard maps, the repair/elimination of levee bodies, and the prevention of damage caused by the collapse of embankments to surrounding areas.

Furthermore, drainage measures to prevent disasters from occurring and the enhancement of the flood control function of existing dams will be promoted.

Figure 30-3 Functional enhancement of farm irrigation facilities (flood countermeasures and making facilities earthquake-resistant)

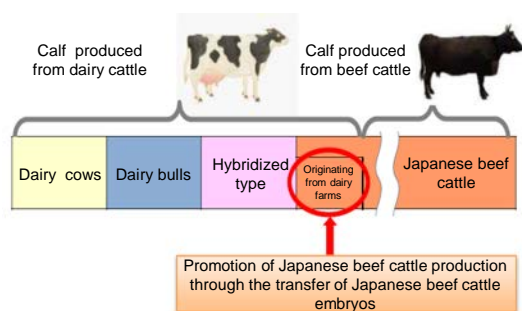


Enhancement of the production base to deal with changes in the demand structure, etc., and streamlining of the distribution/processing structure

- The government will ensure that the collective strength of diverse human resources including business farmers supplying domestic agricultural products and small- and medium-sized/ family-operated farms in light of the needs of consumers and users will be brought out, enhance the production base for each item, and promote improvement in labor safety, reduction in the costs of production materials, the streamlining, etc. of distribution and processing.

Enhancement of the competitiveness of the livestock industry by means such as expanding the production of beef cattle and dairy products, and enhancement of the production structure of horticulture products, etc. in response to new demand

Figure 31-1 Promotion of the embryo transfer of Japanese beef cattle



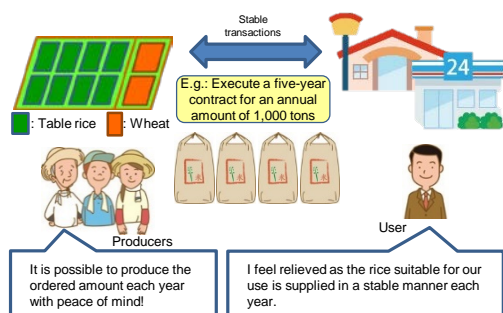
The government will push forward the enhancement of the production base of each item on the basis of the needs of consumers and users.

- Beef cattle: increase of beef cows for breeding, and expansion of the production of the embryos of Japanese beef cattle
- Dairy: increase of livestock and expansion of production in the entire region, and utilization of sex determination technology
- Vegetables: formation of production areas for vegetables for processing and manufacturing use by utilizing paddy fields, development of year-round supply systems, establishment of integrated mechanization systems, and conversion into data-driven agriculture
- Fruits: acceleration of switching to fine items and varieties, improvement of labor productivity through introduction of labor-saving tree forms, and development of new production areas by utilizing paddy fields, etc.
- Flowers: development and dissemination of varieties and technologies that respond to labor productivity improvement, creation of overseas demand and establishment of cropping systems that respond to such demand, and expansion of the use of flowers in daily life
- Tea: switching to Matcha, organic tea, etc. to meet overseas demand and diversified needs, and transplanting or newly planting varieties

Steady promotion of the rice policy reform and conversion into highly profitable crops, etc. in paddy fields

Figure 31-2 Demand-based production and sale, and stable transactions

- Demand-based production on the basis of producers' own management judgments and sales strategies, and stable transactions on the basis of multiple-year contracts, etc. are promoted.



With the rice consumption in Japan expected to decline in the future, the government will make efforts to facilitate the full utilization of paddy fields, ensure that the rice policy reform will be firmly established, and promote demand-based production/sale by producers and collectors on the basis of information provided by the national government, etc. Furthermore, the government will work on enhancing productivity by reducing production costs, realizing stable transactions based on preharvest contracts and multi-year contracts, communicating information focusing on the functionality of rice, absorbing new demand including that arising from inbound tourism, and developing production areas that can meet the quality, quantity, etc. that overseas markets demand.

For wheat, barley and soybean whose demand has been increasing, the government will launch a "wheat, barley and soybean production increase project," enhance its cooperation with the food industry in meeting the quantity, quality and price that users demand, and also make efforts to, among other matters, reduce costs by encouraging cropping to be conducted in consolidated agricultural fields or agricultural fields as complexes.

Furthermore, the government will advance the transformation of paddy fields into upland fields, the creation of multipurpose paddy fields, and the introduction of machines/facilities in a planned and integrated manner, thereby promoting conversion into highly profitable crops such as vegetables and fruits in relation to the use of paddy fields.

Promotion of GAP and implementation of effective farming safety measures

Figure 31-3 Implementation of farming safety measures



Risk chart organizing measures based on accident investigations in an easy-to-understand manner
URL for training purposes: https://nitiinoki.or.jp/risksite/anzenkakunin_y.html
URL for corporations: https://nitiinoki.or.jp/risksite/anzenkakunin_t.html

In order to ensure international-level GAP (Good Agricultural Practices) to be implemented in almost all production areas by 2030, the government is promoting the establishment of the method of instruction, to introduce GAP to production areas, and to develop the content of GAP at agricultural education institutions.

Furthermore, since the fatal accident rate in agriculture tends to be higher than those in other industries, the government will take stock of the situation in which accidents occur during agricultural operations and utilize the results of relevant investigations and analyses for comprehensively promoting farming safety measures according to the actual situation of each region, which include encouraging the thorough implementation of necessary safety measures when a high-risk operation is to be conducted.

Supply of high-quality and affordable agricultural materials and streamlining of the distribution and processing of agricultural products

In order to ensure the supply of high-quality and affordable agricultural materials and the streamlining of the distribution and processing of agricultural products, the government will implement, among other matters, the review of regulations and standards, the facilitation of business restructuring and new entry, and the visualization of the prices of agricultural materials and agricultural product distribution.

Promotion of innovation in agricultural production/distribution sites by utilizing information communication technology, etc.

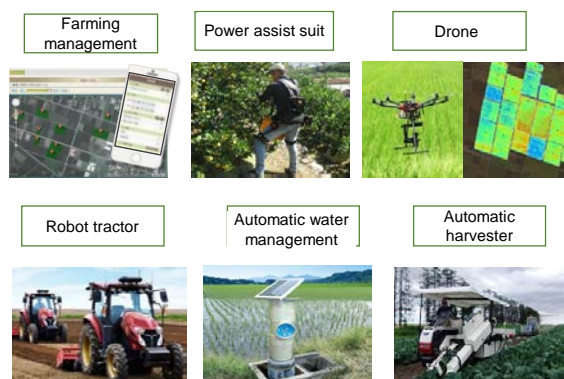
- The government will intensively implement measures to accelerate the transformation of agriculture into a form that creates and provides value that precisely address consumer needs by conducting data-driven agricultural management with digital technology (FaaS: Farming as a Service).
- The on-site implementation of smart agriculture with advanced technology applied thereto will be promoted.
- Research and development in various forms that are in line with the needs of agricultural sites will be promoted.

Promotion of utilization of digital technology in agricultural sites, such as for the acceleration of smart agriculture

Efforts will be made to resolve issues in each of the stages of verification, introduction and dissemination of smart agriculture technologies according to the situation surrounding the inheritance of skilled farmers' techniques and the regional characteristics of hilly and mountainous areas, etc.

Furthermore, the government will launch a "smart agriculture project" to consider and implement measures necessary for making progress in the on-site implementation of smart agriculture, in order to create new agricultural support services that use the means of sharing or leasing, develop farmland's infrastructure for smart agriculture, coordinate data by utilizing an agricultural data collaboration platform, etc., and address institutional issues, etc. according to technological development.

Figure 32-1 Examples of smart agriculture technologies



Promotion of digitalization in the implementation of agricultural measures

The government will develop a common online application service of the MAFF (eMAFF) to enable various administrative procedures involving the MAFF to be completed online; directly provide and collect information to/from farmers, etc; and consider and carry out the integrated management of farmland information based on digital maps and the effective utilization methods of such information.

The government will compile various projects utilizing digital technologies into "Agriculture DX Program" (tentative name), flexibly carry it out while adding/adjusting projects in line with the advancement of digital technologies, and thereby aim at converting the agriculture structure into the one in which farmers manage and expand their business, taking advantage of digital technologies and making the most of their abilities.

Figure 32-2 Digital Transformation in agriculture



Promotion of innovation creation and technology development

The government will promote the concept of open innovation that unifies industrial, academic and public sectors and agricultural production sites, in order to promote research and development for addressing various issues associated with on-site needs, for resolving global-scale issues such as global warming, and for creation of new industries.

Figure 32-3 R&D examples



Development of an advanced milking system that can be used in stall barns



Development of fertilization technology, etc. to reduce the poor germination of pear seeds due to global warming



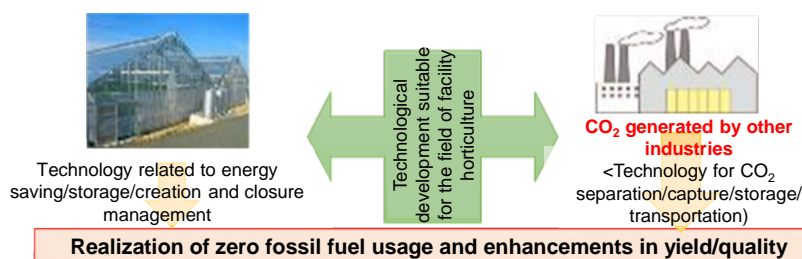
Development of ingredient production technology including high-performance veterinary drugs using silkworms

Promotion of environmental policy including responses to climate change

- The government will promote efforts to reduce the emission of greenhouse gases in the agriculture, forestry and fisheries sector and efforts concerning greenhouse gas sinks in farmland.
- Furthermore, the government will promote environmental policy in the field of agriculture, covering the preservation and utilization of biodiversity, the further promotion of organic farming, the implementation of activities for soil productivity improvement, and responses to the issue of plastic waste in the field of agriculture.

Promotion of mitigation/adaptation measures for climate change

Figure 33-1 Reduction of the emission of greenhouse gases



Efforts toward firmly achieving the target of greenhouse gas emission reduction will be enhanced, which include the application of biogas that effectively utilizes livestock excrement, the introduction of highly energy-efficient installations and equipment for facility horticulture, and the full utilization of renewable energy.

Preservation and utilization of biodiversity, further promotion of organic farming, and implementation of activities for soil productivity improvement

Figure 33-2 Promotion of organic farming

- Efforts toward the development of a stable supply system according to the expanded demand for organic food in Japan and abroad



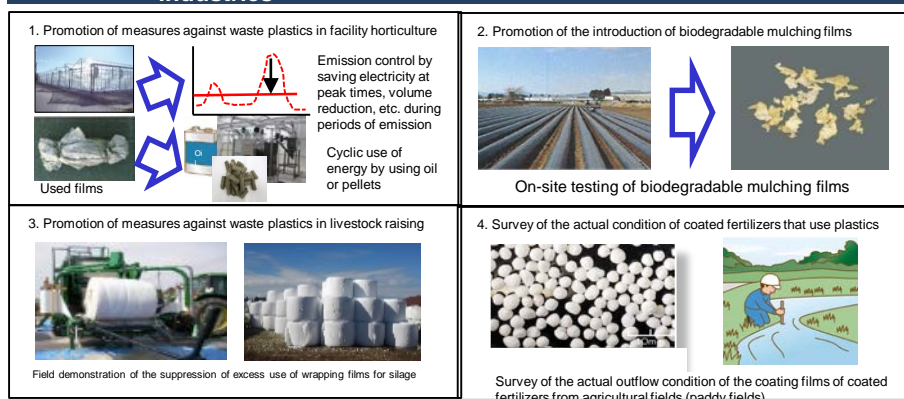
Environment-creation type agriculture will be promoted from the aspect of the preservation of biodiversity.

The expansion of production and of the domestic share of organic foods will be promoted with a view to expanding organic farming.

[Under organic farming]	23,500 ha	(2017)	→	63,000 ha	(2030)
[Number of organic farmers]	11,800 persons	(2009)	→	36,000 persons	(2030)
[Domestic share of organic foods]	60%	(2017)	→	84%	(2030)
[Proportion of consumers who consume organic food once a week or more]	17.5%	(2017)	→	25%	(2030)

Responses to the issue of plastic waste in the field of agriculture

Figure 33-3 Measures against plastic waste in the agricultural and livestock industries



Efforts will be promoted in order to address the issue of plastic waste in the field of agriculture, including the thorough ensuring of collection and appropriate processing of waste plastics and the promotion of cyclic use of such plastics, and the expansion of use of biodegradable mulching films and mid- to long-term extensible films for emission control.

[Proper processing]

- Increase the rate of recycle including thermal recovery

[Emission control]

- Reduce the emission of plastics in facility horticulture
- Increase the annual amount of biodegradable mulching films used
- Reduce the emission of waste plastics in the field of livestock

[Outflow prevention]

- Suppress the outflow of microplastics originated from coated fertilizers into the sea