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Changes in Society Related to Agriculture in Tokyo

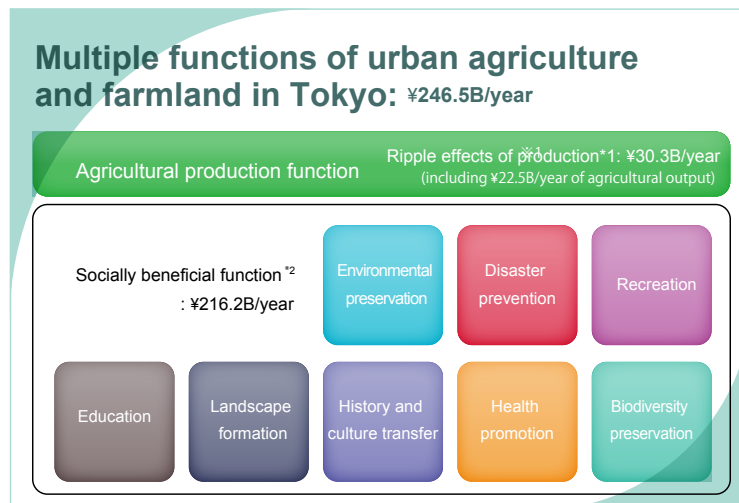
(1) Situation surrounding agriculture in Tokyo

Consumer attitude towards food is changing, and they are increasingly interested in buying fresh, safe and secure locally produced agricultural and livestock products that can be identified by their growers. In addition, since agriculture and farmland, besides producing food, can also function as disaster prevention and evacuation sites, environmental controls to mitigate the heat island phenomena and educational tools for students, they are becoming increasingly appreciated in densely populated areas.

However, many difficulties face the farming profession including the price slump due to mass imports of low-cost agricultural products, worsening profitability due to rising production costs, real estate taxes imposed on farmland in areas designated for urbanization, and heavy taxes on inherited land. These problems, as well as the difficulty in securing successors, the high average age of existing farmers, and a decrease in the number of farmers and available farmland all combine to make the future of agriculture in Tokyo extremely uncertain.

Multi-functionality and estimated value of urban agriculture and farmland in Tokyo

Survey Concerning Economic Appraisal of Multiple Functions of Urban Agriculture and Farmland: 2016 policy research by the Tokyo Metropolitan Government Bureau of Industrial and Labor Affairs



*1: The value of the ripple effects of agricultural production was calculated based on estimated agricultural output from farmland in areas designated for urbanization and inter-industry analysis.

*2: The estimated value of the socially beneficial function was obtained by multiplying the number of households by the average per-household cost for maintaining farmland (¥131,466/year) which was obtained via a CVM survey.

(2) Actions related to urban agriculture

The Tokyo Metropolitan Government, in order to maintain urban agriculture in the future, has requested the national government to revise the laws, regulations, and taxation system involving urban agriculture and farmland. In March 2015, we submitted Proposals Concerning National Strategic Special Zones to the national government on revising the laws and regulations to promote urban agriculture and preserve urban farmland.

Also, the Ministry of Agriculture, Forestry and Fisheries organized a Study Group for Promoting Urban Agriculture. The Ministry of Land, Infrastructure, Transport and Tourism established a City Planning System Subcommittee, the City Planning Committee, the Subcommittee on City Planning and Historic Features in the Panel on Infrastructure Development. These groups have been discussing the goals for urban agriculture and the positioning of farmland in areas designated for urbanization.

The Basic Act on the Promotion of Urban Agriculture (hereafter “the Basic Act”), which defines the guiding principle of the promotion of urban agriculture, was enacted in April 2015. The Cabinet endorsed the Basic Plan for the Promotion of Urban Agriculture (hereafter “the Basic Plan”) in May 2016, which is based on Article 9 of the Basic Act and explains the national government’s basic policy for the promotion of urban culture and preservation of farmland. Agriculture in Tokyo has reached a major turning point with an improving environment for stable and sustainable urban agriculture.

Enactment of the Basic Act on the Promotion of Urban Agriculture

The Basic Act on the Promotion of Urban Agriculture (Act No. 14 of 2015) aims to stably sustain urban agriculture and create a favorable urban environment through the various functions of urban agriculture. (Enforced on April 22, 2015)

Basic Act on the Promotion of Urban Agriculture

(Purpose)

Article 1 The purpose of this Act is to stably sustain urban agriculture through comprehensive and systematic implementation of the policies on the promotion of urban agriculture by; establishing basic principles and basic matters for its realization; clarifying the responsibilities of the national and local governments; and contributing to the creation of a favorable urban environment through appropriate and full utilization of the function of urban agriculture...

(Basic Plan for the Promotion of Urban Agriculture)

Article 9 The national government shall establish a Basic Plan for the Promotion of Urban Agriculture (hereafter “Basic Plan”) for the comprehensive and systematic implementation of the policies on the promotion of urban agriculture.

Basic Plan for the Promotion of Urban Agriculture

The Basic Plan for the Promotion of Urban Agriculture (endorsed by the Cabinet on May 13, 2016) outlines the new direction of urban agricultural promotion. Specifically, the measures presented in the plan are “securing human resources,” “securing land,” and “advancing the measures for agriculture in earnest.”

The Basic Plan for the Promotion of Urban Agriculture

Number 2 The comprehensive and systematic measures that the government should take to promote urban agriculture

- 1 Improving the function of supplying agricultural products and training and securing human resources
- 2 Fully utilizing the features of disaster prevention, natural beauty, nature conservation and the environment, etc.
- 3 Formulation of a plan for appropriate land use etc.
- 4 Taxation measures
- 5 Promoting the local consumption of agricultural products
- 6 Developing an environment where people can experience farm work, etc.
- 7 Expanding the opportunity of experiencing farm work in school education, etc..
- 8 Enhancing citizen's understanding and interest
- 9 Encouraging urban residents to acquire knowledge and skills concerning agriculture, etc.
- 10 Enhancing research and study

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Current Status of Agriculture in Tokyo and Challenges

(1) Current status and features of Tokyo agriculture

Agriculture in Tokyo contributes to the citizens of Tokyo through hard-working farmers who develop and manage the characteristics of a region despite the harsh environment where agricultural land has been urbanized, profits have been deteriorating, and insufficient workers, etc.

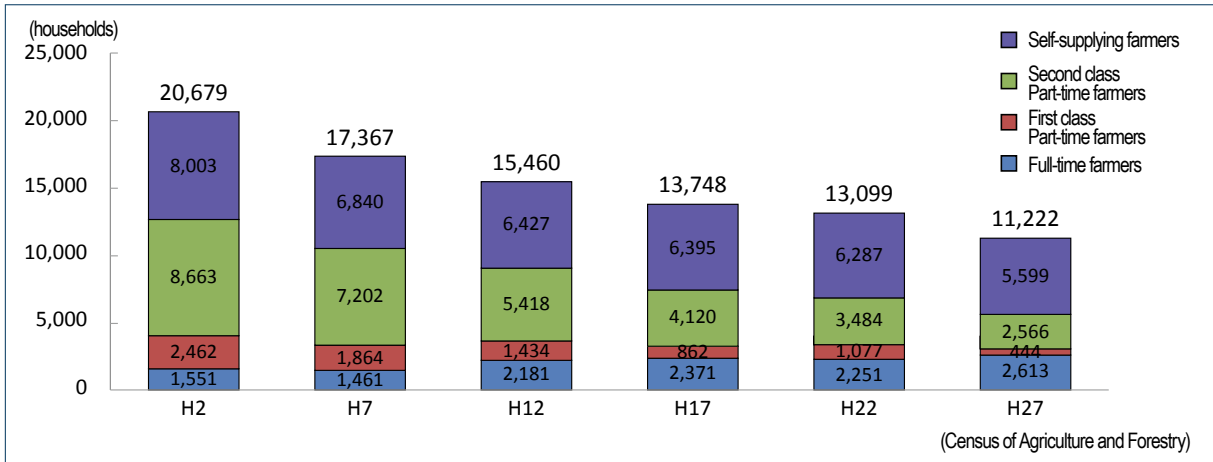
① Increase in hard-working farmers

The average age of farmers in Tokyo is 63.9 years old (2015), and this figure is 3.3 years higher than that of 2005. Despite this aging population, the number of farmers who try to improve management by introducing new plant varieties and new technologies, and finding new markets, etc. through innovation is increasing. Management bodies that are certified by municipalities and aim to improve management are called “certified farmers.” Currently there are 1,506 of them (as of March, 2016), which is a figure that has increased by 2.1 times in the last decade. The certified farmers are expected to support the agriculture in the area.

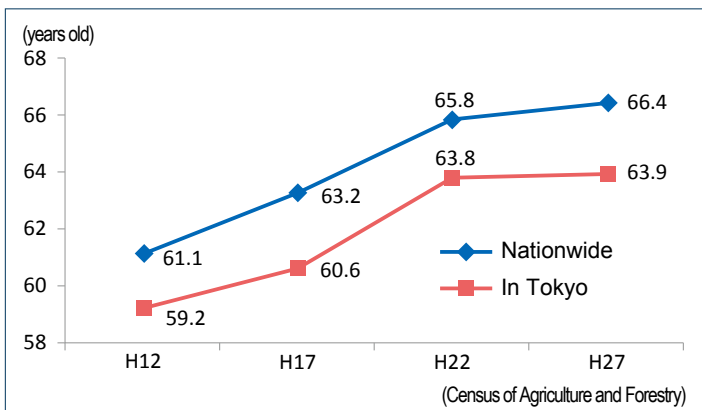
The difficulty of securing agricultural land and housing in Tokyo precludes prospective farmers from entering agriculture in Tokyo. However, recently some people who are not from farming families are

renting agricultural land in Tokyo and have begun farming. The number of such new agriculture workers is anticipated to increase from now on.

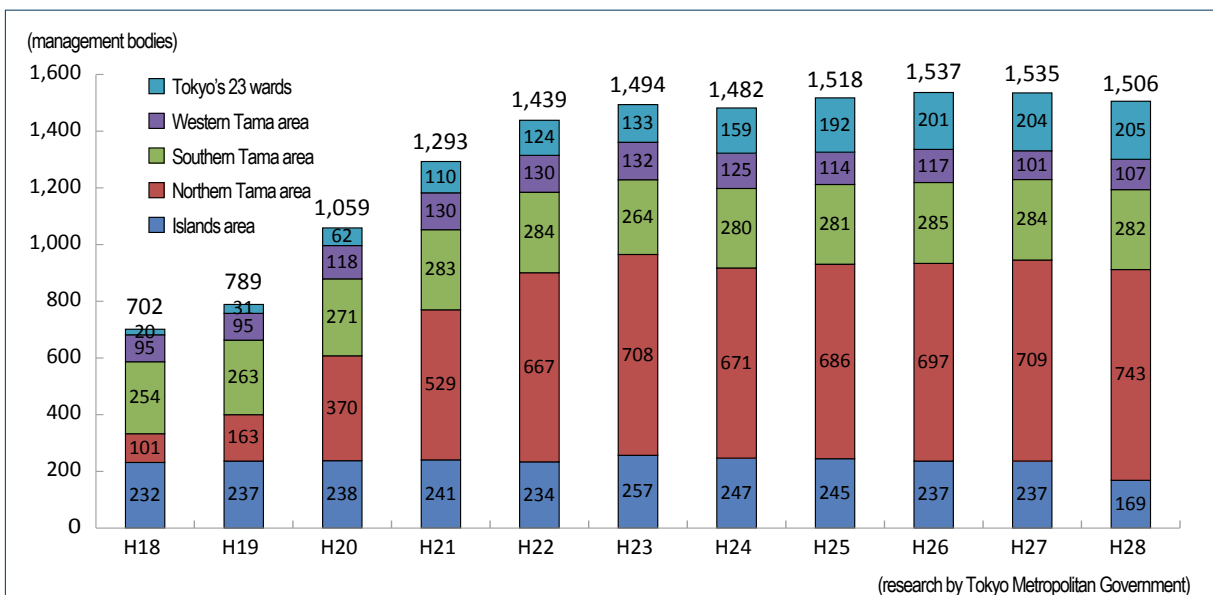
Trends in the number of farming households



Trends in the average age of farmers (agricultural work force)



Trends in the number of certified farmers

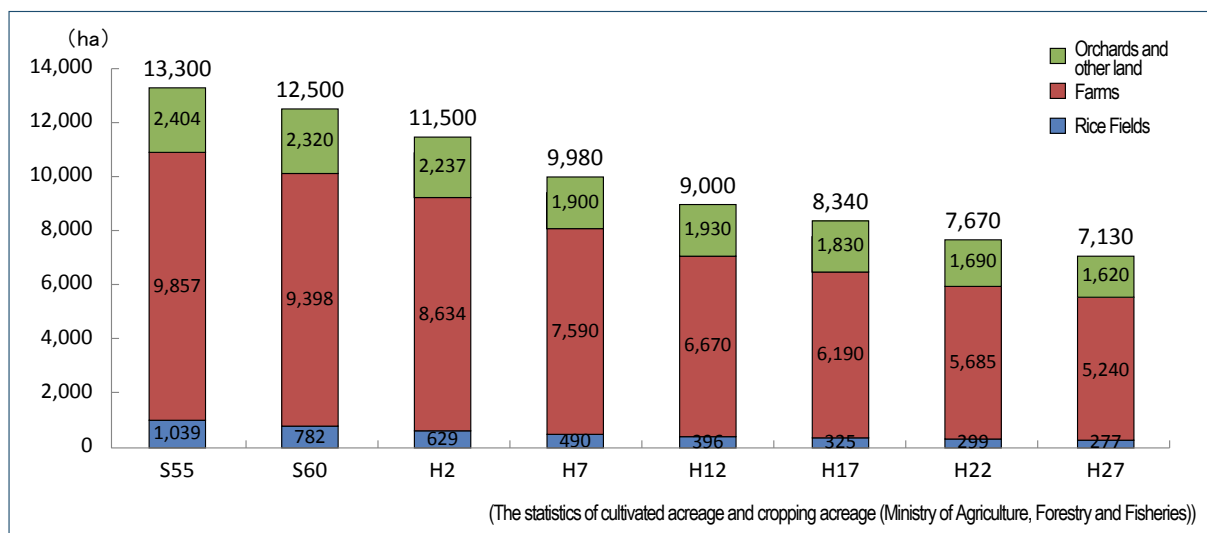


② Decreasing agricultural land

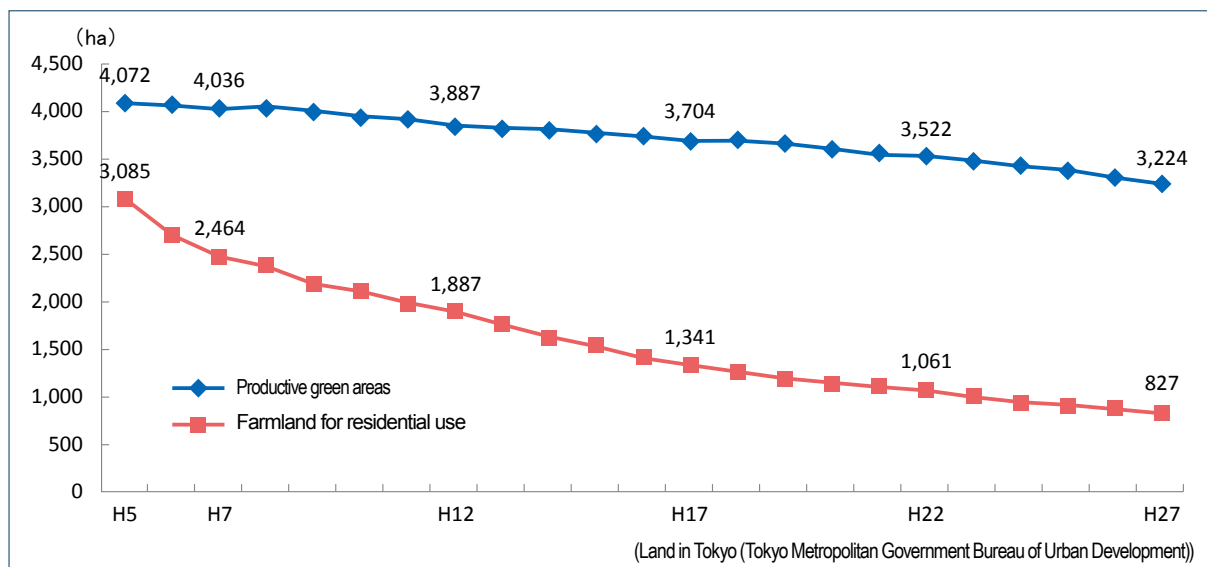
Agricultural land abounds in greenery and various plants, and brings warmth and comfort to the citizens' living environment. It also serves as space for disaster prevention, which is indispensable to a big city. It plays many important roles in citizens' lives. However, the amount of available agricultural land in Tokyo continues to decrease yearly due to urbanization and inheritance. There are concerns that these trends will impair the various functions of agricultural land.

Agricultural land in Tokyo has decreased by 1,210 ha in the decade starting from 2005 and the area of agricultural land in 2015 is 7,130 ha (decrease of 14.5 %). Of this, 993.6 ha of agricultural land has been lost within urbanization promotion areas in the decade, and the area of agricultural land within this region is 4,051.5 ha (decrease of 19.7 %). Especially, 38.3 % of farmland has been repurposed for residential use. Some wards and cities have reassigned farmland for residential use into productive green areas, but under the present circumstances, agricultural land will continue to decline.

Trends in farmland area



Transition of areas of productive green zones and farmland for residential use



③ Environmental conservation agriculture and the trend of local produce for local consumption

The Tokyo Metropolitan Government started the “Tokyo Metropolitan Ecological Agriculture Product Certification System” through environmental conservation agriculture techniques such as making healthy soil and reducing chemical pesticide and chemical fertilizer in 2013, and has certified 480 producers and 2,593 agricultural products (total) by 2016.

Also, agricultural products which are produced in Tokyo are supplied to citizens of Tokyo through various channels such as marketplace circulation, contracted shipping to mass retailers, and direct sales, etc. The increase in customer requirements for fresh agricultural products promotes an increase in cooperative direct sales stores opening in each area. In 1995, there were 19 cooperative direct sales stores in Tokyo, and as of 2015, this number has trebled to 57. Now, direct sales accounts for more than 70 % of the distribution methods.

Moreover, 90 % of the elementary and junior high schools in Tokyo use food ingredients produced in Tokyo for school lunch at least once in 2014, and the tendency of locally produced products for local consumption is increasing. In addition, dietary education activities in association with regional agriculture such as teaching agriculture to children through experience are also revitalized.

Elementary and junior high schools in Tokyo using locally produced food ingredients for school lunch (2014 results)

	Elementary schools			Junior high schools		
	The number of schools implementing complete school meals (schools)	The number of schools using locally produced food ingredients (schools)	Proportion (%)	The number of schools implementing complete school meals (schools)	The number of schools using locally produced food ingredients (schools)	Proportion (%)
Tokyo's 23 wards	839	699	83.3	382	346	90.6
Urban areas	428	427	99.8	205	201	98.0
Rural areas	24	24	100.0	20	20	100.0
Total in the whole Tokyo	1,291	1,150	89.1	607	567	93.4

(“The Actual Situation of School Lunches in Tokyo, 2015” (Tokyo Board of Education))

※ “Using locally produced food ingredients” means using food ingredients produced in Tokyo for school lunch at least once in a year.

④ Various styles of agricultural management

Distinctive styles of agriculture are implemented by taking advantage of the characteristics of the area such as islands, hilly and mountainous regions, suburban and urban areas in Tokyo.

The warm climate of islands areas produce special products, such as cut leaves and tropical fruits, etc.

Hilly and mountainous areas produce special vegetables, such as Japanese horseradish and potato.

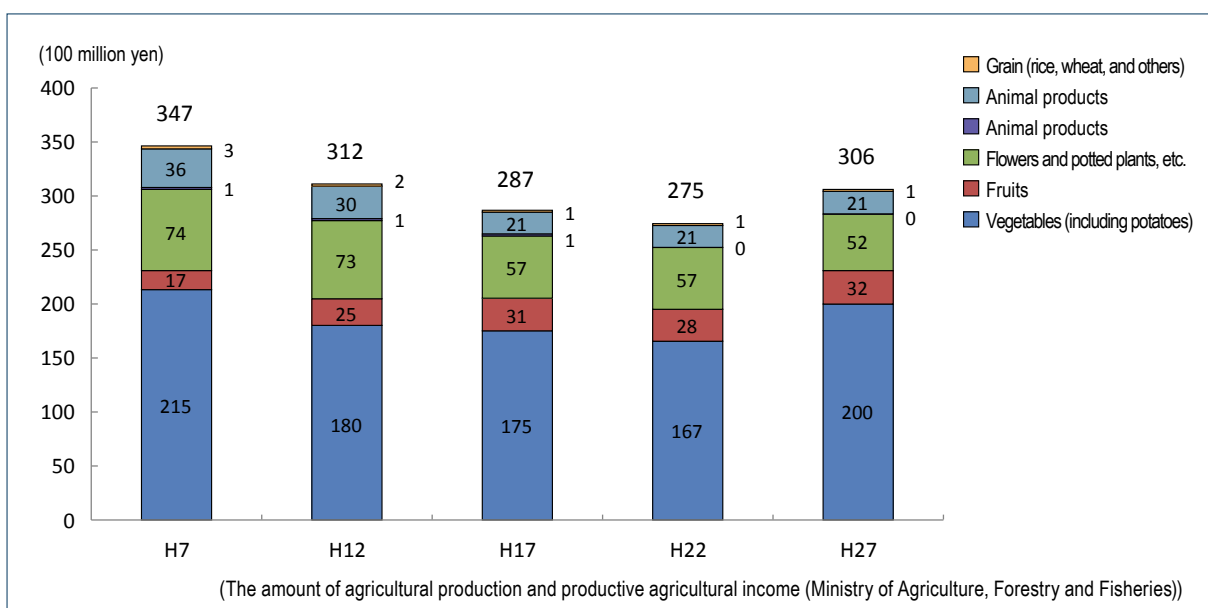
Suburban areas produce vegetables grown outdoors, such as sweet corn and cabbage, as well as various agricultural and livestock products, such as tealeaves, fruit and animal products on comparatively large agricultural areas including agricultural promotion areas.

The highly profitable urban areas cultivate Japanese mustard spinach and tomato, etc. in facilities that make the most of the limited amount of agricultural land.

Of production items, vegetables account for approximately 65 % of the 30.6 billion yen total agricultural production in Tokyo (2015). Other than vegetables, a wide range of products, such as fruit, flowers, potted plants, and animal products are produced, distinguishing the rich variety of agriculture in Tokyo. Also, various styles of agricultural management that take advantage of Tokyo's position as a major consumer base are implemented, such as diversified management covering processing, direct sales, and tourism.

Moreover, a hand-on farm work experience garden is gaining traction as a new management style because it can satisfy the citizens' desire to try farm work. At the end of FY 2015, the number of such gardens was 107, and many of them are in urban areas. This figure has increased by 1.4 times in the last five years, and is still steadily increasing.

Trends in the amount of agricultural production



Gardens for experiencing farm work

	Total number of gardens	The number of plots (plots)*	Total area (ha)
Tokyo's 23 wards	28	2,258	9.1
Western Tama area	61	3,066	12.8
Southern Tama area	15	481	2.9
Northern Tama area	3	85	0.4
Islands area	0	0	0
Total	107	5,890	25.2

(At the end of March, 2016 (research by Tokyo Metropolitan Government))

Gardens for experiencing farm work are established by the farmers themselves (agricultural landowner) as part of agricultural management. Here people can experience a variety of farm work under the guidance of a farmer throughout the year.

Allotment gardens

	Total number of gardens	The number of plots (plots)	Total area (ha)
Tokyo's 23 wards	201	11,572	27.5
Western Tama area	128	8,302	16.5
Southern Tama area	69	3,241	12.8
Northern Tama area	47	2,541	7.4
Islands area	2	13	1.9
Total	447	25,669	66.0

(At the end of March, 2016 (research by Tokyo Metropolitan Government))

Allotment gardens were established by a municipality or an agricultural cooperative association. They rent agricultural land from a farmer (agricultural landowner) and divide the land into small plots (10 to 15 m² each) for use as recreational places for urban citizens. Users can decide what to grow, and are relatively free to cultivate their own produce.

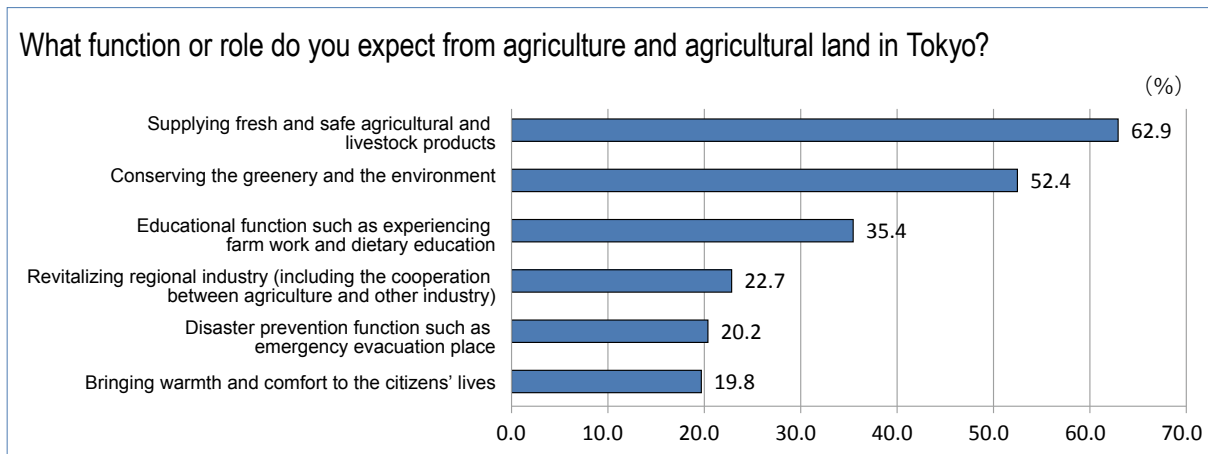
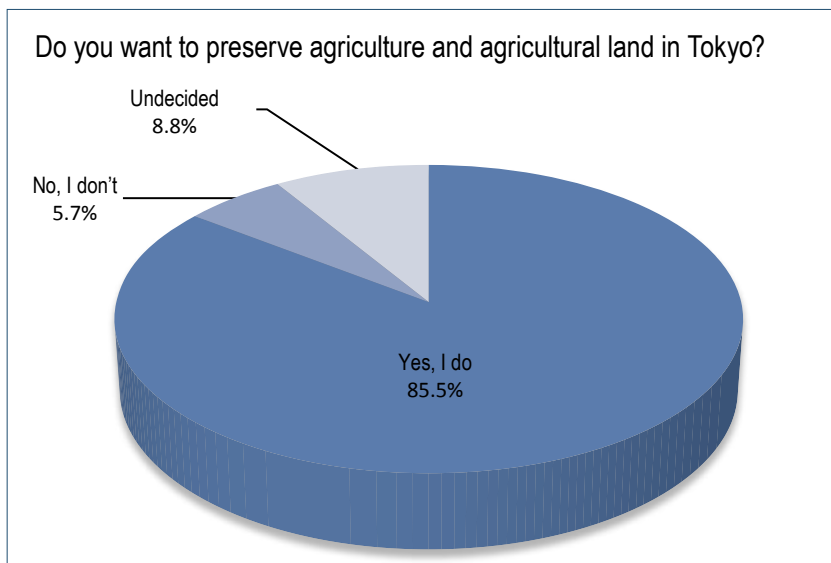
⑤ Awareness of the citizens of Tokyo

According to the Internet monitoring questionnaire regarding the administration of Tokyo 2015, 85.5 % of the respondents answered that they “want to preserve agriculture and agricultural land in Tokyo,” which is an increase from 84.6 % in 2009. Furthermore, “supplying fresh and safe agricultural and livestock products (62.9 %),” “conserving the greenery and the environment (52.4 %),” and “educational function such as experiencing farm work and dietary education (35.4 %)” are higher scoring answers to the question “What function or role do you expect from agriculture and agricultural land in Tokyo?” Moreover, 20.2 % answered “disaster prevention, such as emergency evacuation points” to the same question, which is an increase from 13.0 % in 2009. Expectations for agriculture in Tokyo have been increasing in recent years.

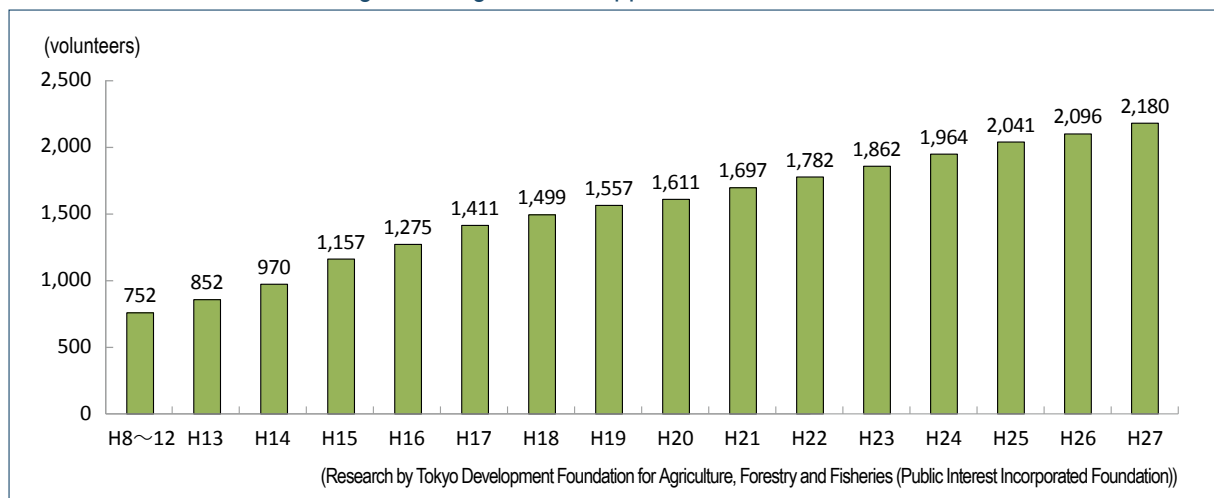
As a show of the awareness of the citizenry, enthusiastic agriculture volunteers in each region of Tokyo actively help with farm work and support agriculture in Tokyo. At present, Tokyo Development Foundation for Agriculture, Forestry and Fisheries (Public Interest Incorporated Foundation) work on training agriculture support volunteers in association with municipalities. There were 2,180 registered supporters of agriculture in Tokyo at the end of fiscal 2015.

Necessity of agriculture and agricultural land in Tokyo, Expected roles of agriculture and agricultural land in Tokyo

(From the Internet monitoring questionnaire about administration of Tokyo 2015, "Agriculture in Tokyo" (Tokyo Metropolitan Government Bureau of Citizens and Cultural Affairs))



Trends in the number of the registered agriculture support volunteers



(2) Challenges faced by Tokyo agriculture

Approximately 60 % of agricultural land in Tokyo is located in urbanization promotion areas. The challenges are peculiar to the metropolis, such as limitations concerning the land tenure system and tax structure, and considerations to the environment.

① Utilizing agricultural land in urbanization promotion areas and securing and training human resources

The system for leasing agricultural land based on the “Strengthening of the Agricultural Management Base Promotion Law” ^(Note) is not applicable to agricultural land in urbanization promotion areas. Therefore it is difficult to lease such land in the present circumstances. For that reason, some farmers who want to expand the scale of their operation have no choice but to rent suburban agricultural land in urbanization control areas located comparatively far from their houses to produce farm products.

Also, small-scale farmers have special difficulty in gaining sufficient profits, which in turn makes securing their successors difficult.

(Note) Leasing agricultural land based on the “Strengthening of the Agricultural Management Base Promotion Law,” a guide for utilizing and integrating farm land to enthusiastic farmers. Agricultural land rented under the farmland utilizing and integrating plan (established by municipalities according to the law) is automatically restituted to its owner after a defined period. This allows owners to lend agricultural land safely, which leads to greatly increased leasing of agricultural land.

② Conservation of urban farmland and implementation of multifaceted functions

Agriculture in Tokyo faces the same national challenges such as deteriorating profitability, aging farmers and a shortage of new workers. Additional challenges peculiar to the metropolis include the worsening of the production environment following urbanization, heavy taxation on inheritance tax. Therefore, it is difficult to conserve urban farmland through efforts by individual farmers under present circumstances, and more than 100 ha of farmland is disappearing every year.

Further, even when multifaceted functions are implemented, some farmers expend a great deal of energy and money on a garden for schoolchildren to help with their dietary education, yet struggle to keep it running.

③ Practicing environmental conservation agriculture and promoting local produce for local consumption

In urban agriculture, farm products are cultivated on farmland located near consumers. This requires a reduction in usage of chemical pesticides and fertilizers as well as fossil fuel for transportation, etc. necessary to implement environmental conservation agriculture.

Also, the distribution of agricultural and livestock products produced in Tokyo to areas without agricultural land is a challenge when promoting local produce for local consumption in Tokyo.

④ Promoting agriculture in each area

On islands, agricultural products are produced as allowed by the natural environment and agriculture is a key industry. However, the advanced age of farmers and a shortage of successors make the future of the industry uncertain. Also, an improved steady distribution method for agricultural products is necessary because current methods (air and sea) are easily affected by weather conditions.

In hilly and mountainous areas, agriculture is implemented on small-scale farmland, which is mostly on sloping land. While the farmers are getting older, damage caused by birds and animals reduces the farmers' motivation for agriculture, and the amount of neglected farmland increases. Therefore, finding a way to curb damage from wildlife is a problem in need of urgent attention.

In suburban areas, comparatively large-scale farming and animal husbandry are implemented on "large areas of land suitable for farming," often in areas for comprehensively promoting agriculture. Continuous promotion of improving agricultural bases and facilities is required to enhance productivity.

In urban areas, efficient and profitable farming is implemented even on small agricultural areas. Various requisite revisions to the urban farmland system should be implemented promptly in order to conserve the decreasing agricultural land.