

Importance of agriculture in Japan for inbound tourists

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Abstract

Japan is facing an extremely low birthrate and aging population, which is giving rise to a variety of issues. The population in rural areas is particularly declining rapidly, and Japan's primary industries of agriculture, fishing, and forestry are in decline as a result. In this study, an overview of the current state of agriculture is described and the connected people (kankei-jinko in Japanese) are also described. And, the impact of the increase in foreign visitors to Japan is discussed. The connected people means a kind of hometown resident (furusato-jumin in Japanese) system. As Japan aims to continuously increase the number of foreign visitors, it is essential that it provides food that they find satisfying. Food and beverage expenses account for approximately 21 % of travel consumption. This paper describes the trends in foreign visitors to Japan and the current state of agriculture in Japan. Japan's food self-sufficiency rate is declining. The reasons for this include not only a decrease in the number of people working in agriculture but also the aging population. Agricultural workers have long and tough working hours. Agricultural mechanization has hardly progressed, and delays in the introduction of smart agriculture have been pointed out. The Engel coefficient is also the highest among the G7 countries. The coefficient is strongly dependent on the food self-sufficiency rate and aging rate. This study discusses the current situation in Japan, which is facing an aging society, and the importance of agriculture in terms of policies to attract an increasing number of foreign visitors to Japan.

Keywords

foreign tourist, travel consumption, agriculture, Engel coefficient, aging society

1. Introduction

Japan is facing various challenges including the declining birthrate, aging population, and population concentration in urban areas [Kumagai et al., 2025]. The decline of primary industries such as agriculture, forestry, and fisheries has been remarkable due to the declining population in rural areas [Fujii, 2011]. The number of farming households (working population) is decreasing as young people move to urban areas, and the amount of abandoned farmland is increasing [Kiyama, 2008]. A significant decline in the working population has been similarly observed in the fishing and forestry industries. The aging rate of primary industry workers is considerable [Mazumi, 2015]. As a result, the vacant house rate in rural areas including farming villages is on the rise, and a decline of local assets is occurring [Mashita and Akiyama, 2020]. The farmland in rural areas is being destroyed by birds and animals as the population declines, and damage that was previously unrecognized is occurring. There is an urgent need for measures to preserve the human environment in rural areas. Measures to reduce animal damage using ICT and other technologies are necessary [Nakamura et al., 2019]. There are many unique historical and cultural heritages in the areas and local customs have also been passed down. These are attractive not only to city residents but also to foreign tourists (inbound tourists). Urban residents are seeking healing and a change of pace not only through natural

beauty and the culture of rural areas, but also through interactions with rural residents and experiences in primary industries such as agriculture [Ge and Yabe, 2014]. Some policies are needed to increase opportunities for exchange between rural and urban areas. On the other hand, there are complaints about a shortage of people to organize festivals and agriculture in rural areas [Muto, 2016]. There are also an increasing number of communities where people are unable to hold rural festivals. Furthermore, the declining birthrate and aging population have led to stagnant economic activity, and low incomes for agricultural workers compared to the number of hours they work, and rural areas are experiencing a decline in population [Ogawa and Yagi, 2020]. Japan is facing a notable decline in the birthrate and an aging population, and the increase of an exchange population cannot be expected in rural areas [Ajiki et al., 2024]. On the other hand, the number of inbound tourists is increasing rapidly, and there are not only opportunities to experience local culture, but also opportunities to interact with local residents and participation in various events are increasing [Tamaki and Gondou, 2018]. The economic benefits are currently being felt in rural areas although small. It is expected that the access of inbound tourists to regional areas and experiences in the areas will be important. The number of visitors who visit a certain area several times a year for tourism or volunteering, or who stay long-term because of work-related connections to the area has been increasing. They are called “connected people” (*furusato-jumin* in Japanese) [Kohmoto, 2019]. The connected people contribute to local economies and bring prosperity to local areas. The collaboration with local governments can par-

ticularly lead to greater administrative efficiency and the creation of new industries.

Exchanges between foreigners and local areas go beyond mere tourism, they lead to sister-city agreements and disaster volunteering [Oyabu *et al.*, 2023]. Experiencing traditional Japanese agriculture is also attractive for visitors from Europe and the United States [Zhang and Hoshino, 2019]. This study describes the current state of the agricultural population and the trend in the decline in agricultural land area, and discusses the importance of agriculture from the perspective of food security and the need for a balance between rice production and supply and demand. The necessity to ensure a stable supply of agricultural products, due to the increase in inbound tourists, is also mentioned. The aging and food self-sufficiency rates that affect the Engel coefficient are described. It is important for foreign visitors to Japan to access rural areas.

2. Number of foreign visitors to Japan and consumption trends

2.1 Foreign visitors to Japan

Japan is facing various challenges, including natural disasters and tariff issues with other countries. The lives of the people are in a precarious situation due to rising prices of food items including rice. The only good factor is the increase of foreign visitors to Japan. The increase has had a major economic impact [Oyabu *et al.*, 2019]. The consumption by foreign visitors to Japan within the country is considered to be an export value. The trend in foreign visitors to Japan up to 2024 is shown in Figure 1 [Japan Tourism Agency, 2025]. There has been a temporary decline from 2020 to 2023 due to the COVID-19 pandemic. There were about 36.9 million visitors in 2024, which is the highest so far. The Japanese government has set a target of attracting 60 million foreign visitors to Japan in 2030. The target travel consumption amount is 15 trillion yen. Some measures for overtourism are necessary to achieve the goal. It is necessary to disperse foreign visitors to regional areas. Attractive tourism resources, that give inbound tourists an incentive to visit local areas, have to be provided. There are many attractive natural resources as well as historical and cultural ones in Japan's regions which tourists could enjoy. The "local in and local out" method, in which tourists enter Japan through a local airport and depart from another local one, is

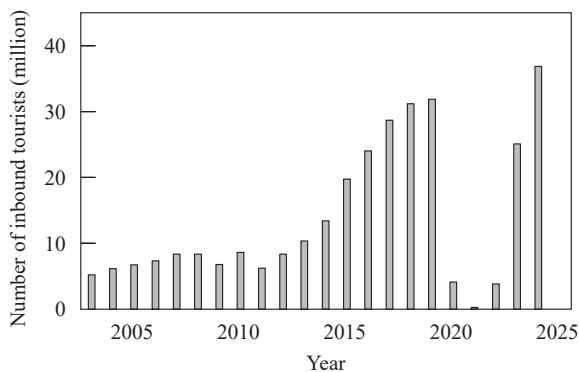


Figure 1: Changes in foreign visitors to Japan

particularly effective. Preferential treatment should be also given to those who use this method [Goso *et al.*, 2023].

2.2 Travel consumption due to inbound tourists

Travel consumption by inbound tourists is very attractive for local areas. Many Japanese regions are experiencing a decline in population and are facing economic difficulties. Local governmental services can no longer be expected as before. It is necessary to immediately review the contents of the services and shift to downsizing. The idea of "connected people" who are involved with a specific region is being considered as a measure against population decline. Connected people are one of the effective measures to ensure economic growth and functioning of local communities even in the era of population decline. The utilization of connected people by foreigners is also expected. The total inbound travel consumption in 2024 was approximately 8.13 trillion yen and the breakdown by country is shown in Figure 2. Tourists from mainland China had the largest consumption which accounted for 21 %. This is followed by Taiwan, South Korea, the United States, and Hong Kong. These top five countries and regions account for 66 %. China, Taiwan, South Korea, and Hong Kong are the main countries and regions from Asia that visit Japan every year.

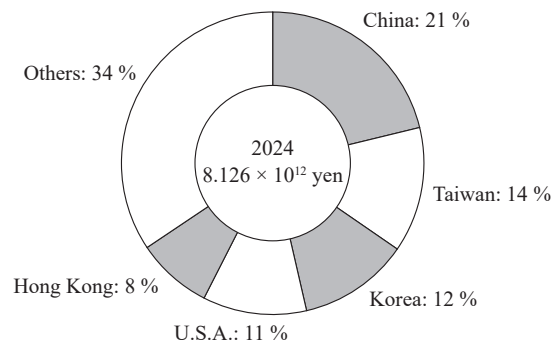


Figure 2: Travel expenditure by tourists from major countries

2.3 Length of travel stay and expenditure

The relationship between the average length of travel stay and the expenditure of visitors from major countries is indicated in Figure 3. Although there are many plots in the figure and it is difficult to grasp, the trend is roughly linear. The visitors from South Korea tend to stay for shorter periods and the travel consumption is less. South Korea is close to Japan and has various means of transportation and it is possible to travel on a day trip. Western visitors stay longer and spend more. Naturally, the longer the stay, the higher the expenditure. It is natural that the consumption becomes larger if the length of stay increases. Vietnam is at a unique position in the figure. The amount of the consumption is significantly less than the length of stay. It can be considered that they may be staying at a friend's house. The correlation coefficient is calculated by removing the plot for Vietnam. The value obtained is $R^2 = 0.3786$ ($R = 0.615$).

The travel expenditure items of inbound tourists are shown

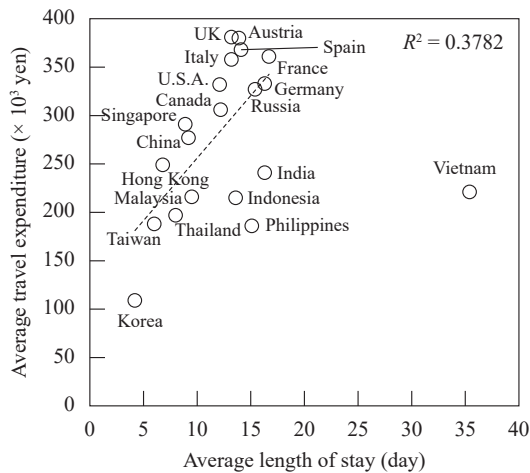


Figure 3: Relationship between average length of stay and average travel expenditure

in Figure 4. The average is about 0.22 million yen per person. The accommodation fee (75 thousand yen) is the highest and accounts for 34 %. Next, the shopping is 64 thousand yen. The food and drink fee is 46 thousand yen. There has been a boom in Japanese cuisine in recent years and the percentage for food and beverage fees has been increasing. This is thought to be one of the reasons for Japan's rice shortage. The vegetables and seasonings that are popular with many foreigners must be considered and strategies that take into account the increased demand and Japan's food self-sufficiency rate must also be considered. A shortage of rice which is a staple food has a major impact on Japan's food security. Agricultural production policies to deal with the increase in inbound tourists are also an urgent issue. The key point is whether Japan can construct a strategy to attract 60 million inbound tourists by 2030. This is an important issue that needs to be considered nationwide.

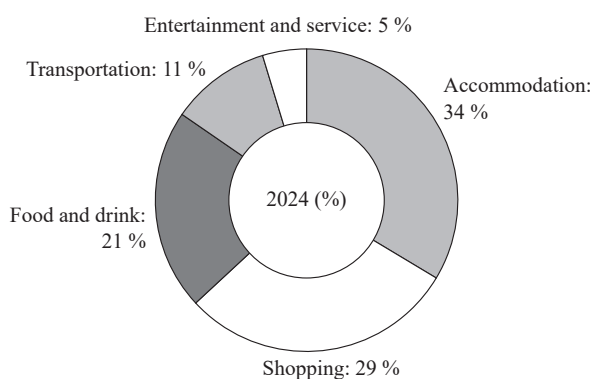


Figure 4: Average travel expenses for tourists visiting Japan

3. Current state of agriculture in Japan

3.1 Number of agricultural management entities and workers

As inbound tourists travel around local areas, the consumption in those areas increases. This will lead to increased consumption of vegetables and other agricultural products (especially rice). Japanese agriculture is, however, in decline. An

important factor is the decline in the agricultural population and people are not cultivating all the land that was previously farmland, and the area of abandoned land is steadily increasing. The background to this issue is low profitability and a low adoption rate of smart agriculture. Agriculture is hardly automated at all. In addition, most sales are made through fixed channels such as agricultural cooperatives (JA), and branding of the products is weak. On the other hand, as the number of inbound tourists increases, the amount of rice and vegetables consumed during their stay is also increasing. The consumption of alcoholic beverages (*sake*, wine, whiskey, etc.) and beverages such as juice are also increasing in addition. The share of agricultural product consumption by foreign visitors is increasing.

The trends in the number of agricultural management entities and the number of core agricultural workers are shown in Figure 5. The plot for 2019 is slightly different, but both factors have been decreasing linearly since 2020. It is obvious that there is a linear relationship between the number of agricultural businesses and the number of core agricultural workers. The COVID-19 pandemic has restricted various movements since 2020, and many industries including agriculture have been in decline. The COVID-19 pandemic accelerated the downward trend.

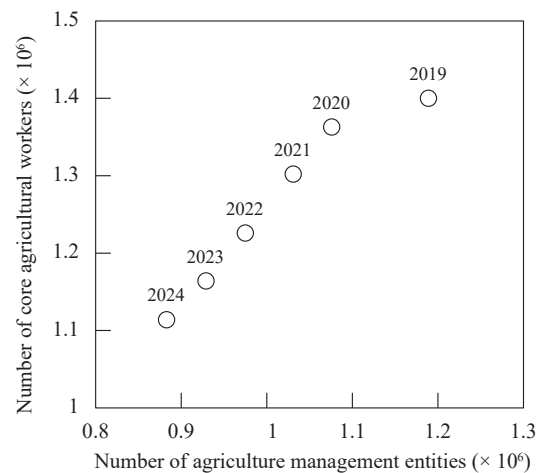


Figure 5: Relationship between number of agriculture management entities and number of core agricultural workers

3.2 Rice consumption

The amount of rice eaten per person is decreasing in Japan. The reasons for this include not only population decline, but also the westernization of the diet. A major factor in this reason is the shift from traditional foods centered on rice and fish to a diet centered on bread, meat, dairy products, and fats and oils. However, many Japanese people are obsessed with rice as their staple food. Rice consumption is gradually declining despite the boom in Japanese food. The changes in rice consumption in Japan are shown in Figure 6. It decreased until 2022, but increased slightly in 2023. This is thought to be due to the in-

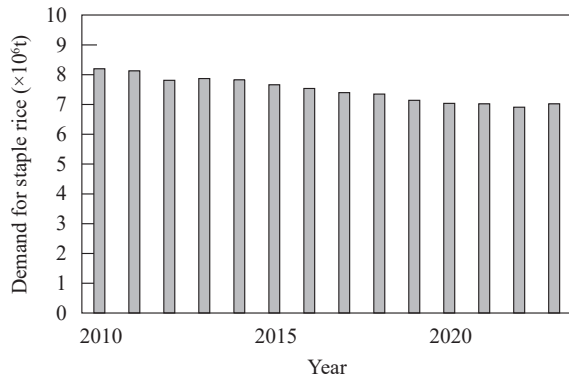


Figure 6: Changes in rice consumption in Japan

crease in eating out and the increase in foreign visitors to Japan since the end of the COVID-19 pandemic. The consumption of rice as a staple food is on a downward trend and also continued to decline in 2024. The main reason for this is the soaring price of rice. It was sold at double the price of the previous year in early 2025. Japanese people are gradually moving away from rice. The price and quality of rice in Japan are issues that are directly linked to food security. Furthermore, it is necessary to maintain the quality of rice to satisfy inbound tourists with the global boom in Japanese cuisine.

3.3 Farmland and abandoned farmland

One of the reasons for the decline in rice production is the increase in abandoned farmland. This increase has led to a decrease in rice production and it causes the prices to rise especially for branded rice, and leads the consumers to refrain from purchasing. There are also other factors contributing to the price-hike such as logistics costs and manipulation of rice prices. It is necessary to provide a rice distribution system that offers prices that are acceptable to producers and consumers. The government's strategy is always expected to achieve this. The changes in farmland area and abandoned farmland are shown in Figure 7. The plots are made every five years from 2000 to 2020. There had been an almost linear downward trend

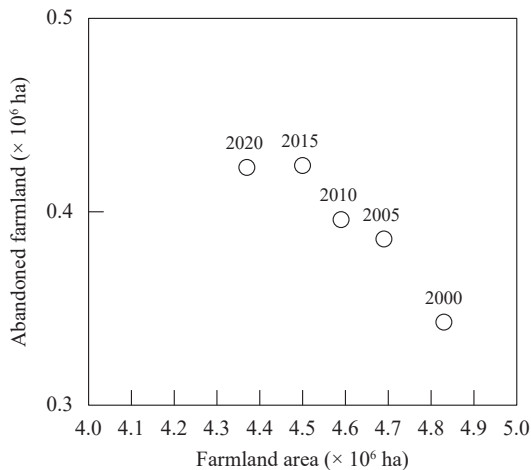


Figure 7: Scatter plot of farmland and abandoned farmland

with farmland decreasing and abandoned farmland increasing up until 2015. The amount of abandoned farmland has not increased, but rather farmland decreased in 2020. A farmland bank system was put into use to rent out the farmland to motivated people due to the COVID-19 pandemic. It is also thought that the number of part-time farmers (those who work part-time as farmers while also working as salaried workers) has increased due to the pandemic. The abandoned farmland accounts for approximately 10 % of the whole farmland.

Japanese rice has the highest quality in the world and is stored under strict control before being delivered to consumers. When Japan faces a rice shortage due to unseasonable weather or other reasons, it has to rely on imports. Rice has been imported several times so far, but there has been opposition from rice producers and restrictions such as 'minimum access rice' (import volume of about 770 thousand tons) have been imposed. It is currently imported from Thailand, the United States, China, and other countries. The world's rice exporting countries and their ratios are shown in Figure 8. There are many Asian countries. The quality must be taken into consideration, but the importing countries must be examined from multiple angles and contact must be maintained from the point of view of food security reasons. It is also necessary to continue to study the taste and quality preferences of neighboring exporting countries and Japanese people.

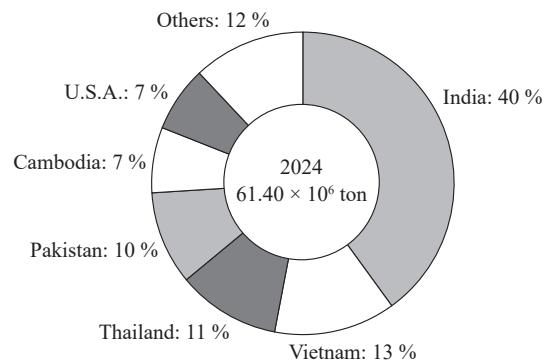


Figure 8: Breakdown of world rice exports

3.4 Food self-sufficiency rate and Engel coefficient

It is necessary to increase Japan's food self-sufficiency rate to around 70 % in order to ensure food security for Japan and to ensure that people have a stable and sufficient supply of food. Japan's food self-sufficiency rate in 2023 was 38 % on a calorie basis and 61 % on a production value basis. The Engel coefficient (the percentage of total household expenditures that are spent on food) also has to be considered. The trend of the Engel coefficient (2022) based on the aging rate of the six countries of the G7 excluding Canada, is shown in Figure 9. Japan has the highest aging rate in the world at about 30 %. It has the highest Engel coefficient among the G7 countries and a high proportion of food expenses, and the level of living is considered low. The income of elderly households is generally low

and limited to pensions, and food expenses account for a large proportion of their income. Although the aging rate of Japan is high, the Engel coefficient is kept relatively low because the prices are relatively low. There are efforts to help seniors buy cheaper food. The correlation between the aging rate and the Engel coefficient excluding Japan is $R^2 = 0.99$ in the figure. It has a high correlation.

The relationship between the food self-sufficiency rate and Engel coefficient also shows some interesting characteristics. It is shown in Figure 10. The Engel coefficient increases as food self-sufficiency decreases when the plots for France are excluded. There is also a strong correlation. It is also necessary to increase food self-sufficiency in order to lower the Engel coefficient. France has a high food self-sufficiency rate and a relatively high Engel coefficient. French people considerably spend a lot of money on food. The correlation coefficient R^2 is 0.92 when excluding France. It is natural that the correlations

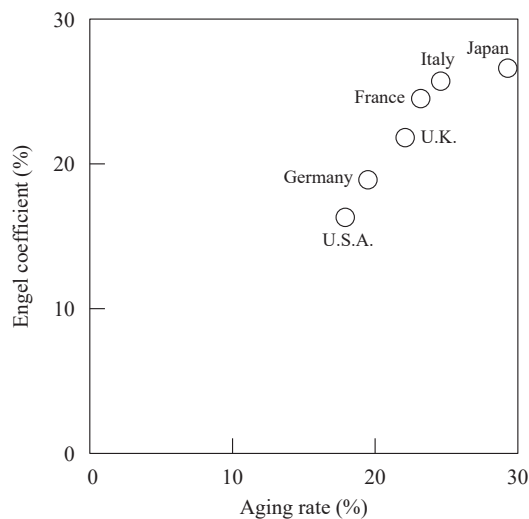


Figure 9: Engel coefficient for ageing rates in G7 countries (except Canada)

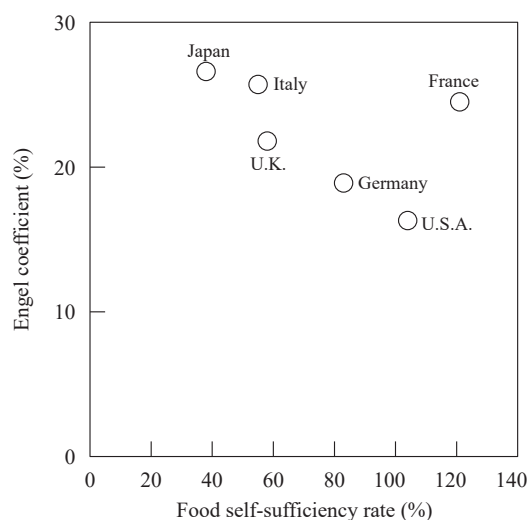


Figure 10: Relationship between food self-sufficiency rate and Engel coefficient in G7 countries (except Canada)

improve if certain factors are removed, but the contribution rate of each factor should be considered and reflected in a strategy. Japan needs to urgently consider ways to improve its food self-sufficiency rate. The rice shortage has a particularly serious impact on the people. Furthermore, measures must be put in place to address the increasing food and beverage spending of inbound tourists and provide them with satisfactory service.

3.5 Rural tourism

Japan should consider agritourism to take advantage of the increasing number of foreign visitors. The following mechanism is necessary, namely to encourage foreign visitors to visit rural areas and become involved in agriculture. There are few examples (cases) of agritourism in Japan, but there are some pioneering examples in Europe and elsewhere. Agritourism is known as 'rural tourism' in Europe. The case in South Tyrol, Italy, is particularly well known. The tourism strategy contributes to revitalizing the local economy [Goso et al., 2023]. It is a bottom-up 'regional revitalization program' that aims to maintain local resources and promote independence and improvement of the lives of residents. The following three elements are focused on to create an area that does not rely on subsidies.

- Financial resources
- Relationship with central government ministries
- Lack of human resources

The area is revitalized by comprehensively utilizing the people, things, environment and culture, etc. that have accumulated in the region. Rural tourism is not tourism, but a strategy for 'enhancing regional strength.' Japan's rural areas also need to adopt strategies that take these three elements into consideration.

4. Conclusion

The issues related to inbound tourists and rice production are discussed in this study. Rice is an important product for Japan and accurate forecasts of the production volume are required. Although the prediction can be difficult due to climate and global conditions, there is a constant need to improve the accuracy of production forecasts and distribution systems. This is an important issue from the perspective of food security. A stable supply of rice is required not only for Japanese people but also for inbound tourists. On the other hand, there is a shortage of farmers and production is on the decline. As the Japanese diet becomes more westernized, people are moving away from rice. This is a serious situation in terms of food self-sufficiency. The westernization of diet will further reduce food self-sufficiency. The Engel coefficient is also considered in this paper. In other words, the results indicate that it is essential to increase the number of people working in agriculture and improve food self-sufficiency. The background to this point is low labor productivity in agriculture. There is an urgent need to continuously consider a wide range of issues, such as the in-

roduction of smart agriculture, reducing abandoned farmland by utilizing connected people, and introducing a stable distribution system, in order to improve food self-sufficiency and establish food security. The increase of the number of small-scale farms (family farming system) and supporting them is also effective. The government has focused on and supported only large-scale agricultural operations until now. Measures to increase the number of people working in agriculture and improvements of the self-sufficiency rates are also effective. It is a measure to increase the population that supports agriculture.

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