

Results of Estimates for the 2020 Food Accessibility Map and the Food Accessibility Problem-Facing Populations

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1. Introduction

In the revised Basic Law on Food, Agriculture and Rural Areas, “food security” is redefined to emphasize access to food. Access to food refers to its physical, social, and economic availability (FAO, 2001), which reflects a shift in the concept of food security, evolving from a focus on national-level quantity to regional- and individual-level quality.

Since 2010, the Policy Research Institute, Ministry of Agriculture, Forestry and Fisheries (PRIMAFF) has been quantifying and visualizing food accessibility problems in Japan by estimating the population facing food accessibility problems (hereinafter referred to as “the problem-facing population”) based on the Food Accessibility Map, which covers all of Japan at a 500-meter mesh scale. In February 2024, PRIMAFF created and published the 2020 Food Accessibility Map, incorporating data from the 2020 census. This report reviews the data underpinning the map, its estimation methods, and an overview of the estimation results. For detailed information, refer to the published data: <https://www.maff.go.jp/j/press/kanbo/kihyo01/240227.html>.

2. Data and definition changes

Since its introduction, the Food Accessibility Map and its associated indicators have been widely used by local governments, businesses, policymakers, and researchers. These indicators provide detailed insights into Japan’s food accessibility problems using concrete figures. However, more than a decade has passed since the first Food Accessibility Map was estimated and published. During this time, changes in the distribution environment and consumption patterns, as well as limitations in the data, have become apparent. As a result, significant updates were made to the data and definitions used for the 2020 Food Accessibility Map.

The first change involves the discontinuation of the “Census of Commerce,” which was used until 2015. For the 2020 estimates, new data sources, such as telephone directory information, were employed to identify store locations. Second, drugstores were newly included in the Map as food sources, reflecting their growing role in providing food items like milk, dairy products, processed meat, and convenience foods such as cup noodles and bread. Additionally, previously used statistics for estimating vehicle use among older adults were discontinued. Alternative data sources, such as the “Survey of Household Economy,” were utilized, and the estimation method was significantly revised (Table 1).

Due to these changes, the 2020 Food Accessibility Map and the corresponding problem-facing population data are not directly comparable to those from earlier years.

The 2020 Food Accessibility Map defines the problems population as older adults aged 65 or older who live more than 500 meters from a store (e.g., stores selling meat, fresh fish, groceries, supermarkets, convenience stores, or drugstores) and who face difficulty using a vehicle. These individuals are counted at the municipal or prefectural level.

Table 1. Changes in the Food Accessibility Map estimation method

| | Year 2005, 2010, 2015 | Year 2020 |
|--------------------------------|---|--|
| Population (data) | Population aged 65 or older (Population Census mesh statistics) | Population aged 65 or older (Population Census mesh statistics) |
| Store purchase location (data) | Fresh food stores Food supermarkets, convenience stores, etc. (Census of Commerce mesh statistics) (National Survey of Family Income and Expenditure) | Left + drugstores (Nippon Super Meikan, telephone directory data, etc.) (National Survey of Family Income, Consumption and Wealth) |
| Vehicle use (data) | Vehicle Use Rates by Age Group (National Survey of Family Income and Expenditure, etc.) | Vehicle Use Rates by Age Group (Survey of Household Economy forms, etc.) |
| Estimated numbers | 8,246,000 (2015) | 9,043,000 |

Source: Policy Research Institute, Ministry of Agriculture, Forestry and Fisheries

3. 2020 food accessibility problem-facing population and its characteristics

The newly estimated 2020 Food Accessibility Map is featured on the cover page of this issue and provides more detailed information by prefecture or municipality on our website:

https://www.maff.go.jp/primaff/seika/fsc/faccess/a_map.html

To summarize the findings, the estimated number of older adults with food accessibility problems in 2020 was 9,043,000 nationwide, with 4,141,000 in the metropolitan areas and 4,902,000 in non-urban areas (Table 2). Among the older adult population, the national average percentage experiencing such problems was 25.6%, or about one-quarter of the total older adult population. Within this group, 5,658,000 individuals were aged 75 years or older, representing 31% of the total older adult population. This indicates that one out of every three individuals aged 75 years or older faced difficulties accessing food. As of 2020, 52% of the older adult population was aged 75 years or older, but this group accounted for 62.6% of the problem-facing population, highlighting a disproportionate representation of late-stage older adults among the affected group. Notably, in the prefectures of Tottori, Shimane, Yamaguchi, Oita, and Miyazaki, more than 70% of the problem-facing population were aged 75 years or older: https://www.maff.go.jp/primaff/seika/fsc/faccess/2020_table04.html

Figure 1 illustrates the distribution and percentage of the problem-facing population by prefecture. Although metropolitan areas such as Tokyo and Kanagawa have large absolute numbers of affected individuals, the percentages are higher in prefectures like Nagasaki (41.0%), Aomori (37.1%), and Kagoshima (34.0%). Conversely, Tokyo (17.1%), Ishikawa (19.6%), and Okinawa (20.4%) reported lower percentages of the problem-facing population.

Table 2. Access problem-facing population (2020, by region)

| | Access problems population (a) | Percentage aged 75 or older (b/a) | | | |
|-------------------|--------------------------------|-----------------------------------|----------------------------|--------------------------|-----------------------------------|
| | | Percentage of population | Those aged 75 or older (b) | Percentage of population | Percentage aged 75 or older (b/a) |
| National total | 9,043 | 25.6 | 5,658 | 31.0 | 62.6 |
| Metropolitan area | 4,141 | 24.2 | 2,499 | 28.2 | 60.3 |
| Tokyo area | 2,037 | 22.5 | 1,196 | 25.6 | 58.7 |
| Nagoya area | 787 | 26.4 | 500 | 32.5 | 63.6 |
| Osaka area | 1,317 | 26.0 | 802 | 30.3 | 60.9 |
| Non-urban area | 4,902 | 26.9 | 3,160 | 33.7 | 64.5 |

Source: Policy Research Institute, Ministry of Agriculture, Forestry and Fisheries

Note:

- 1) The term "percentage of the population" refers specifically to the percentage of individuals aged 65 or older, as well as those aged 75 or older, respectively.
- 2) The Tokyo area includes Tokyo, Saitama, Chiba, and Kanagawa; the Nagoya area comprises Aichi, Gifu, and Mie; and the Osaka area consists of Osaka, Kyoto, Hyogo, and Nara.
- 3) Totals may not match exactly due to rounding.

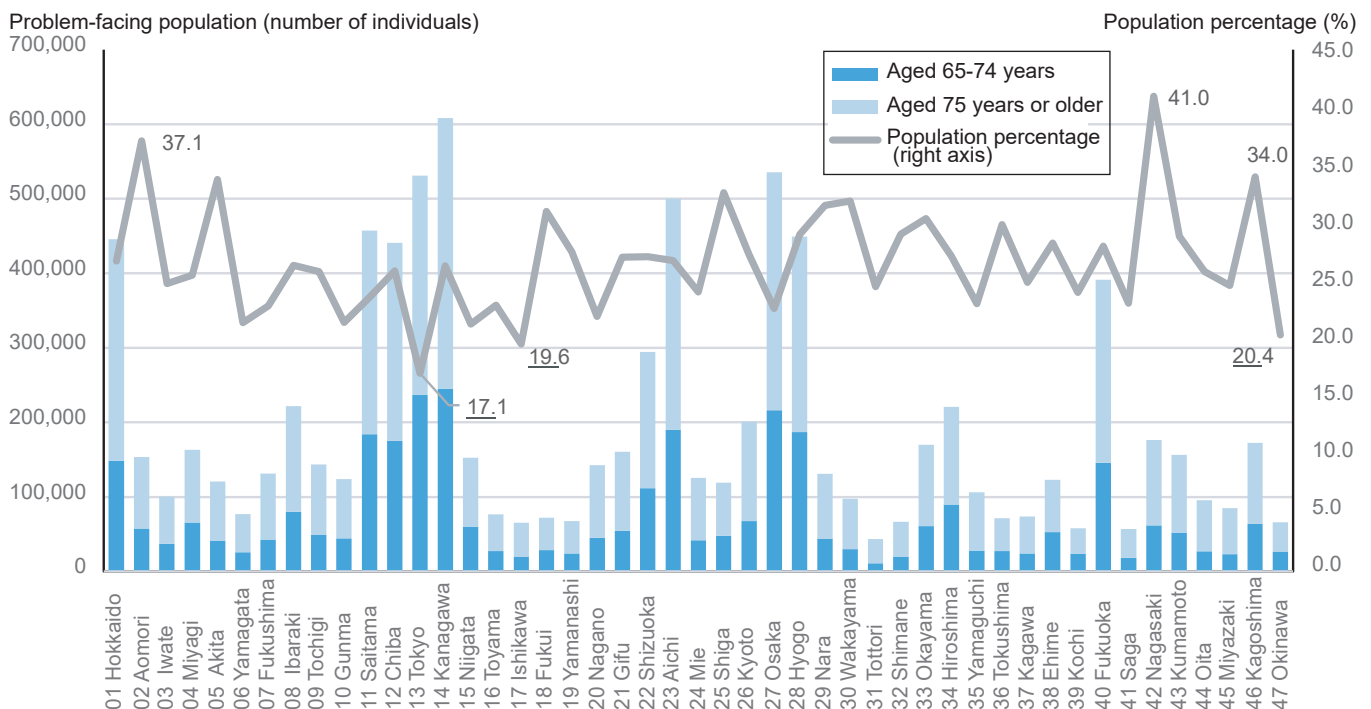


Figure 1. Food accessibility problems: population and percentage by prefecture (2020)

Source: Policy Research Institute, Ministry of Agriculture, Forestry and Fisheries

4. Conclusion

Although direct comparisons are challenging due to changes in data and definitions, it can be understood that Japan’s problem-facing population has consistently increased since 2005, particularly among late-stage older adults aged 75 and older (Figure 2). However, in 2020, a decreasing and leveling-off trend was observed in urban areas such as Tokyo and Kanagawa, where urban mini-supermarkets are being established at a high rate. At the same time, new patterns have emerged, such as a rapid increase in the problem-facing population in prefectures within Kitakanto and Tokai regions, warranting further detailed analysis.

From a food security perspective, it is essential to examine the relationship between food access and local as well as individual food environments, along with their broader impacts. Additionally, while the physical aspects of food access are outlined in Food Accessibility Map, it is equally critical to consider the social and economic access factors.

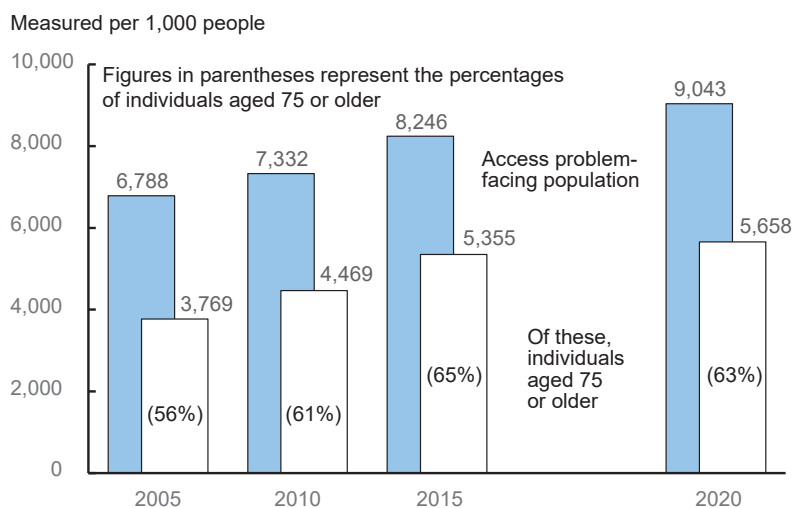


Figure 2. Trends in the access problem-facing population

Source: Policy Research Institute, Ministry of Agriculture, Forestry and Fisheries

Note: Data before 2015 and for 2020 are not continuous due to differing data sources.

[References]

FAO (2001) The state of food insecurity in the world 2001.
<https://www.fao.org/4/y1500e/y1500e00.htm>