

Future Projections of Rural Population and Agricultural Settlements

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We analyzed trends in population decline and aging in rural areas using reorganized Population Census data by agricultural area type, together with projected population data based on cohort analysis. In addition, focusing on agricultural settlements, which play an important role in maintaining rural communities and regional resources, we projected, by region, the number of settlements in 2050 that are expected to experience significant functional decline or face difficulties in sustaining their existence due to a decrease in members and the progression of population aging.

Accelerating Population Decline and Aging in Mountainous Agricultural Areas

According to population projections by the National Institute of Population and Social Security Research, Japan's total population, which stood at 126.15 million in 2020, is projected to fall below 100 million in 2056 and decline further to 87 million in 2070 (69% of the 2020 level). At the same time, population aging will continue to advance, and the aging rate (the proportion of the population aged 65 and over), which was 28.6% in 2020, is expected to increase year by year and reach 38.7% in 2070.

Although population decline and aging are expected to progress nationwide in Japan, there are significant regional differences in how these trends manifest. Figure 1 presents reorganized Population Census data since 1980 by agricultural area type, together with population projections up to 2050 based on cohort analysis, and shows the population index (with the 2020 population set at 100) and the aging rate at ten-year intervals.

First, an examination of past trends in regional population based on this figure shows that the population in urban areas continued to increase up to 2020, whereas population decline began in flat agricultural areas around 2000 and in intermediate agricultural areas around 1985, and has continued consistently in mountainous agricultural areas since 1980. Population decline in rural areas thus began at an earlier stage than in urban areas, with particularly pronounced rapid decreases observed in mountainous agricultural areas, where living convenience is relatively low.

Furthermore, an examination of projected population after 2025 indicates that population decline is expected in all area types, while disparities among area types will widen further. By 2050, the population index is projected to remain at 88 in urban areas; however, population decline in rural areas is expected to accelerate, falling to 66 in flat agricultural areas, 57 in intermediate agricultural areas, and 44 in mountainous agricultural areas. In mountainous agricultural areas, where the population had already declined by 40% between 1980 and 2020, these projections indicate a striking outcome in which the population will be halved again within less than the next 30 years.

In addition, population aging in rural areas is expected to become a serious issue. In 2020, the aging rate was 36.6% in intermediate agricultural areas and 42.4% in mountainous agricultural areas, meaning that already around 40% of the population in both areas was aged 65 and over; however, by 2050, the aging rate is projected to rise further, reaching 49.6% in the former and 57.3% in the latter. The aging rate in flat agricultural areas is also expected to increase to 45.7%, exceeding that in urban areas by more than 10 percentage points; moreover, the progression of aging is particularly pronounced in mountainous agricultural areas, and if current trends continue, it is feared that, combined with population decline, even the sustainability of local communities themselves may become difficult.

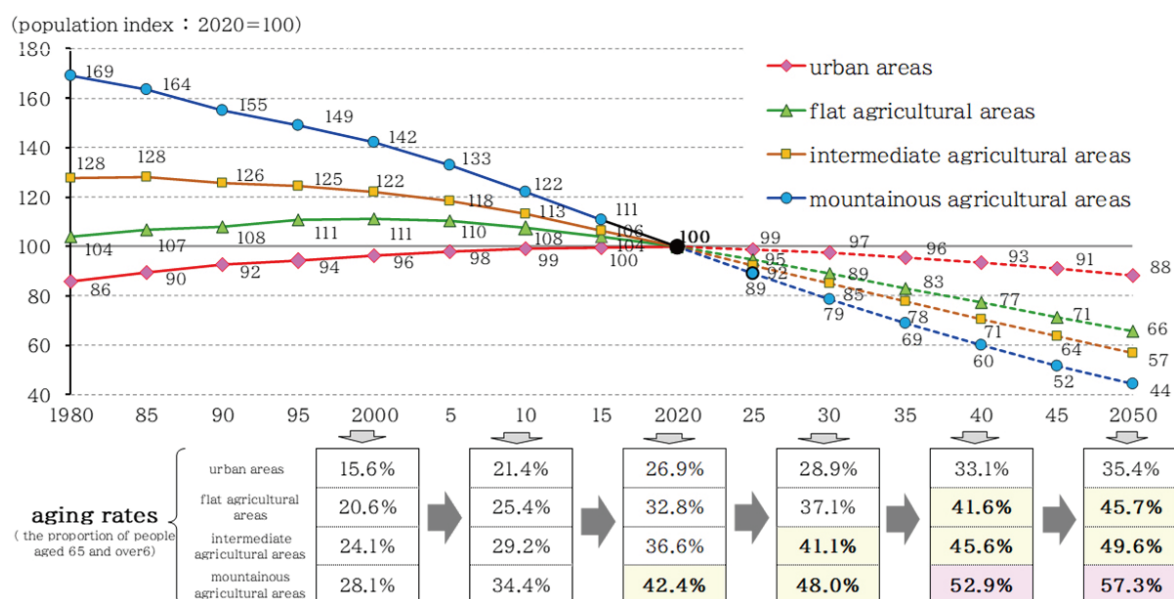


Figure 1. Trends and Future Projections of Population and Aging Rates by Agricultural Area Type

Source: Compiled from the Population Census and Population Projections for Japan (National Institute of Population and Social Security Research).

Notes: (1) Population figures after 2025 are estimates derived from cohort analysis based on demographic trends during 2015–2020. (2) Population by agricultural area type was aggregated using municipal boundaries as of 2000 and area classification codes revised in April 2007.

The Number of Settlements at Risk of Disappearance Will Quadruple Over the Next 30 Years

Population decline and aging in rural areas are progressing rapidly, albeit with regional disparities, and as a result, the shrinking and aging of agricultural settlements—the fundamental social units of rural society—are also advancing. In agricultural settlements where the number of households has decreased and only a very small number of elderly members remain, there is a tendency for the functions and activities of the settlement to weaken rapidly; therefore, as population decline and aging continue, not only stagnation of settlement activities but also the very survival of settlements themselves is a matter of concern.

Against this background, using projected population data for each settlement from the “Database for Viewing, Understanding, and Utilizing Regional Agriculture” (Statistics Department, Ministry of Agriculture, Forestry and Fisheries), following the previous projection for 2045 based on agricultural settlements defined in the 2015 Census of Agriculture and Forestry (2015 projection), we conducted a projection for 2050 based on agricultural settlements defined in the 2020 Census of Agriculture and Forestry (2020 projection).

The settlements estimated in this analysis are those in which significant deterioration in functions and activities is anticipated due to the shrinking of settlements and the progression of declining birthrates and aging, as well as those where the very sustainability of the settlement is considered to be at risk; these were defined as follows.

“Extremely Small Settlements”: agricultural settlements with a population of nine or fewer.

“Super-Aged Settlements”: agricultural settlements in which 70% or more of the population is aged 65 and over (aging rate of 70% or higher).

“Settlements with Severe Population Decline”: agricultural settlements in which the population is projected to decline to less than one-third over the next 30 years.

“Settlements Without Children”: agricultural settlements, among inhabited settlements, in which the population aged 0–14 is zero.

“Settlements at Risk of Disappearance”: agricultural settlements that meet both of the above criteria for extremely small settlements and super-aged settlements (population of nine or fewer and an aging rate of 70% or higher (Note)).

(Note) In the 2015 projection, the aging criterion for settlements at risk of disappearance was set at 50% or higher; however, given that the average aging rate of agricultural settlements in mountainous agricultural areas had already reached 50% in the 2020 Census of Agriculture and Forestry, and that an examination of settlement activities by aging rate indicates that rapid stagnation of activities occurs in agricultural settlements where the aging rate is 70% or higher, the aging threshold was raised to 70% or higher in the present 2020 projection in order to define settlements at risk of disappearance.

Based on these definitions, the number of agricultural settlements in 2050 was estimated by agricultural area type, and the results are presented in Figure 2 in comparison with the current situation (2020). The results indicate that the number of settlements at risk of disappearance is projected to increase more than fourfold, from 2,879 settlements in 2020 to 12,550 settlements in 2050. Among these, in mountainous agricultural areas alone, 6,511 settlements—equivalent to one-quarter of the total number of agricultural settlements in the region—are estimated to fall into the category of settlements at risk of disappearance.

In addition, the number of extremely small settlements is projected to increase substantially from 4,047 in 2020 to 18,732 in 2050, and the number of super-aged settlements from 4,731 to 39,614. Furthermore, settlements with severe population decline are expected to emerge in approximately 42,000 cases, accounting for about 30% of all agricultural settlements, and the number of settlements without children is projected to increase to 33,006 in 2050, more than double the current level.

A large proportion of agricultural settlements facing significant functional decline or at risk of disappearance are located in intermediate or mountainous agricultural areas, with 88.7% of settlements at risk of disappearance, 87.0% of extremely small settlements, 73.8% of super-aged settlements, 73.3% of settlements with severe population decline, and 71.9% of settlements without children being situated in these areas in 2050. However, all of these proportions have declined compared with 2020, indicating that settlements expected to face difficulties in sustaining their existence and maintaining their functions are spreading to flatter agricultural areas as well.

Furthermore, when the number of settlements at risk of disappearance in 2045 is estimated using the previous criteria and compared with the results of the 2015 projection, the current estimate is higher by 2,917 settlements. The difference between the two projections is particularly large in intermediate and mountainous areas, confirming that the pace of population decline and aging in these regions has accelerated further over the past five years. (Noboru Hashizume, Visiting Researcher)

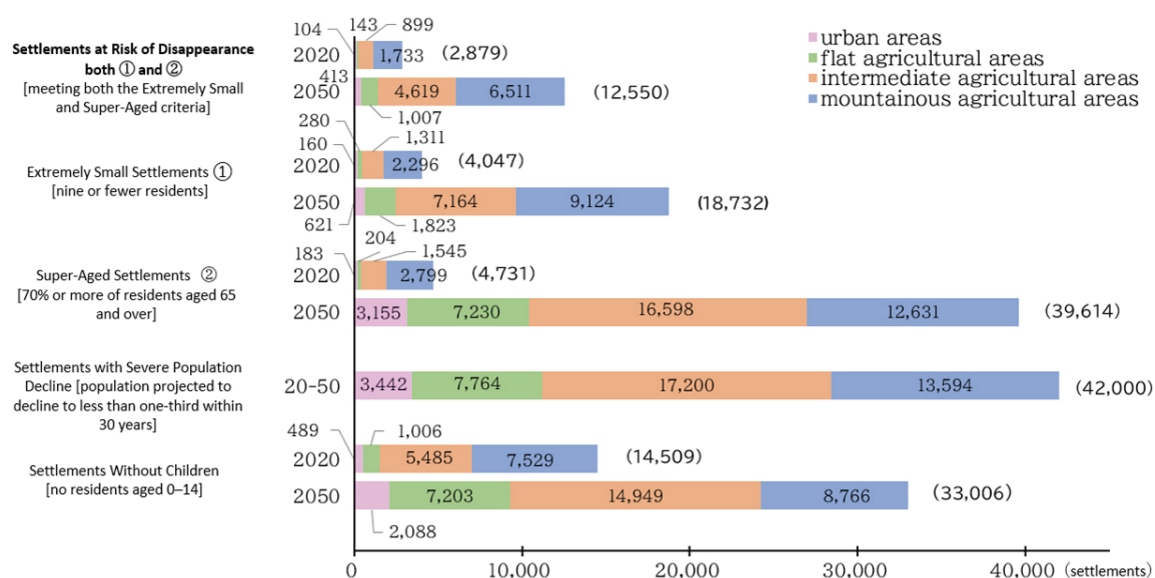


Figure 2. Changes in Agricultural Settlements Resulting from Population Decline and Population Aging (National Estimates of Settlement Numbers)

Source: Database for Viewing, Understanding, and Utilizing Regional Agriculture (2020 settlement basis), Statistics Department, Ministry of Agriculture, Forestry and Fisheries.