Part I

Building up the Country and Regions to Actualize an Abundant Life that Extends to Future Generations

~ Creation of a Country Generating Diverse Synergies among Regions ~

Chapter 1 Current Conditions in Japan such as Declining Population

In Section 1 of Chapter 1, we will give an overview of future demographic estimates and historical reasons for population shifts, then review the serious condition of issues Japan is facing—such as population decline, decreasing birth rate, aging society, the concentration of population and industry in Tokyo —with a particular look at the severe decrease in population of the rural areas compared to the urban areas. In addition, as we analyze the conditions and trends of birth rate, which is the basic cause of population shift, especially in relation to the employment rate of women, we will compare the urban areas with the rural areas.

In Section 2, we will explain the actual effects the progression of population decline has on the rural cities and daily life of the citizens, including daily life-related services, governmental services and local communities, then will raise the issues that continue to rise in the following chapters.

Section 1 Demographics of Japan

1 Japan's Population Shift and Future Demographics

(1) Estimated Future Demographics

(Japan's Demographics)

Japan's total population was in a continual growing trend throughout the First Baby Boom (1947~1949) after World War II and the Second Baby Boom (1971~1974), but since reaching its peak of 128.08 million in 2008, the total population has been in a steady declining trend.
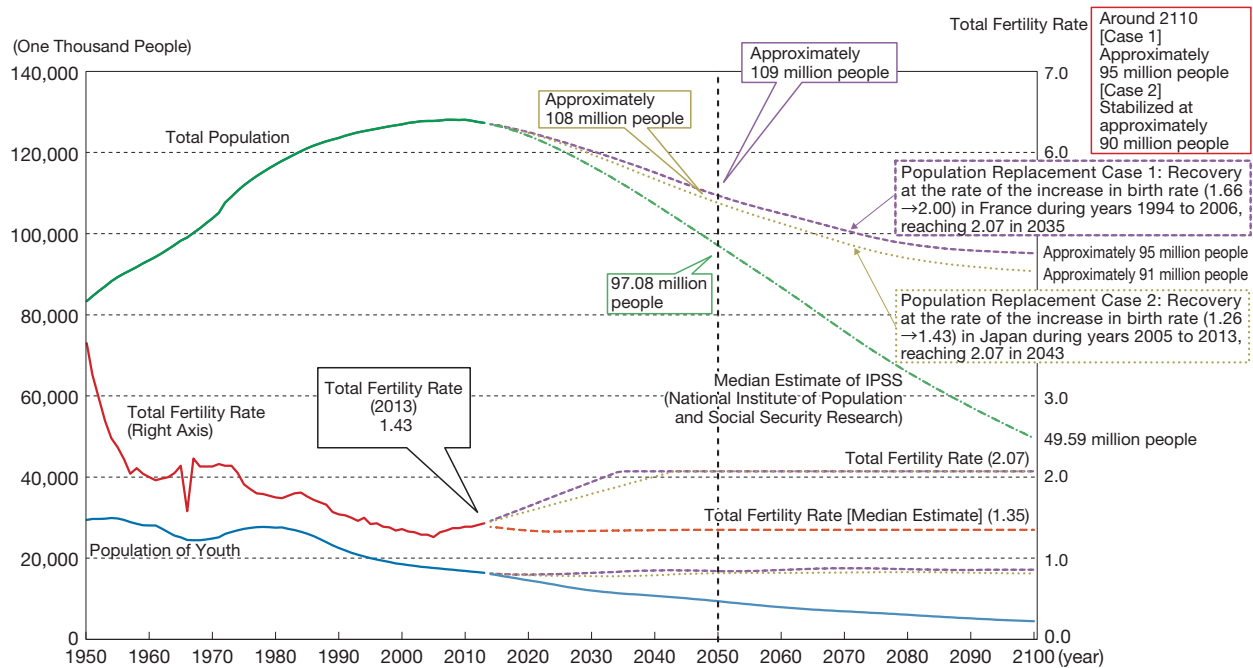
According to "Population Projections for Japan" released by the National Institute of Population and Social Security Research (hereafter "IPSS"), in a midterm estimate with the Total Fertility Rate [Note 1] (hereafter simply referred to as "TFR") projected to shift at 1.35, it is predicted that by 2050 the population will dip below 100 million, and that by 2100, it will decrease to half that, dipping to below 50 million. (Figure 1-1-1).

However, if over the next 20 years there was to be a recovery of the fertility replacement level to TFR 2.07, in Fertility Replacement Case 1 (France's Recovery Rate)" the rate of Population Decline would ease up and the total population would stabilize at about 95 million from 2110. Drastic recovery of TFR will not be easy, and working on actualizing the younger generation's hopes for marriage and childrearing will be vital for promoting TFR [Note 2].

Note 1   Total Fertility Rate is the total of the birth rate of women ages 15 to 49 at each age, and is equivalent to the number of children one woman will give birth to if it is assumed that she gives birth at each age during her life time according to the age level birth rate of that year (Figure 1-1-25)

Note 2   According to "Overcoming Population Decline and Vitalizing Local Economies: Long-term Vision" (December 2014), based on the premise that marriage and child bearing is always based on the free will of the individual, "If the younger generation's hope for marriage and child rearing are actualized, it is projected that Japan's TFR will improve to about 1.8."

Figure 1-1-1   Japan's Population Shift

(Notes) 1 "Median Estimate" is the median estimate (birth median, death median) described in the "Population Projections for Japan" by the National Institute of Population and Social Security Research." The others are simple estimates using hypothetical estimates of birth rate by age and the survival rate according to the 2013 life table found in the above-mentioned median estimates. (Adjusted by multiplying the deviation rate of "median estimates" and simple estimates.) The value of each case is a trial calculation by level adjustment of hypothetical estimates of birth rate to match the assumption of each total fertility rate.

2 "Population Replacement Case 1 (France's Recovery Rate)": An estimate made based on using the 2013 Male Female Population (total population) by Age (each age) as the base population (TFR 1.43) to hypothesize that each year the birth rate will increase by the average rate (0.03) of the change in France's birth rate from 1994 to 2006 (increase from 1.66 to 2.00), reaching Population Replacement Rate (2.07) in 2035 and that the same level will be maintained thereafter.

"Population Replacement Case 2 (Japan's Recovery Rate)": An estimate made based on using the 2013 Male Female Population (total population) by Age (each age) as the base population (TFR 1.43) to hypothesize that each year the birth rate will increase by the average rate (0.02) of the change in Japan's birth rate from 2005 to 2013 (increase from 1.26 to 1.43), reaching Population Replacement Rate (2.07) in 2043 and that the same level will be maintained thereafter.

Source) The actual figures for 1950 to 2013 prepared by MLIT from MIC's "National Census Report" and "Population Projections", MHLW's "Vital Statistics". Estimated figures developed by MLIT from "Population Projection for Japan" (Estimated in January 2013) by National Institute of Population and Social Security Research, MHLW's "Vital Statistics".

(Number of Births and Total Fertility Rate)

The TFR became 4.54 in 1947 during the post-war First Baby Boom with approximately 2.7 million births, reaching the highest for both numbers of birth and TFR during the 3 years of that Baby Boom (Figure 1-1-2).

Since then, after reaching a record of 2.09 million births in 1973 during the Second Baby Boom, the number of births and the TFR has generally continued to show a decreasing tendency.

In 1989, the TFR went below 1.58 recorded in 1966, which was the year of 'Hinoeuma' [Note 3], and this was called the "1.57 Shock," due to the major social repercussion incurred.

In 2005, the TFR was 1.26, the lowest post-war value, and although there has been a marginal increasing tendency since then, the number of births has been the lowest ever for 3 years straight since 2011, and in 2013 reached a record low of approximately 1.03 million births.

Note 3   "Hinoeuma" is a specific horse Zodiac sign year that comes round once every 60 years. Due to a superstition that girls born in the Hinoeuma year have a stormy temperament, it is thought that many couples avoided having children in this year.

| Figure 1-1-2 | Changes in Numbers of Births and TFR |
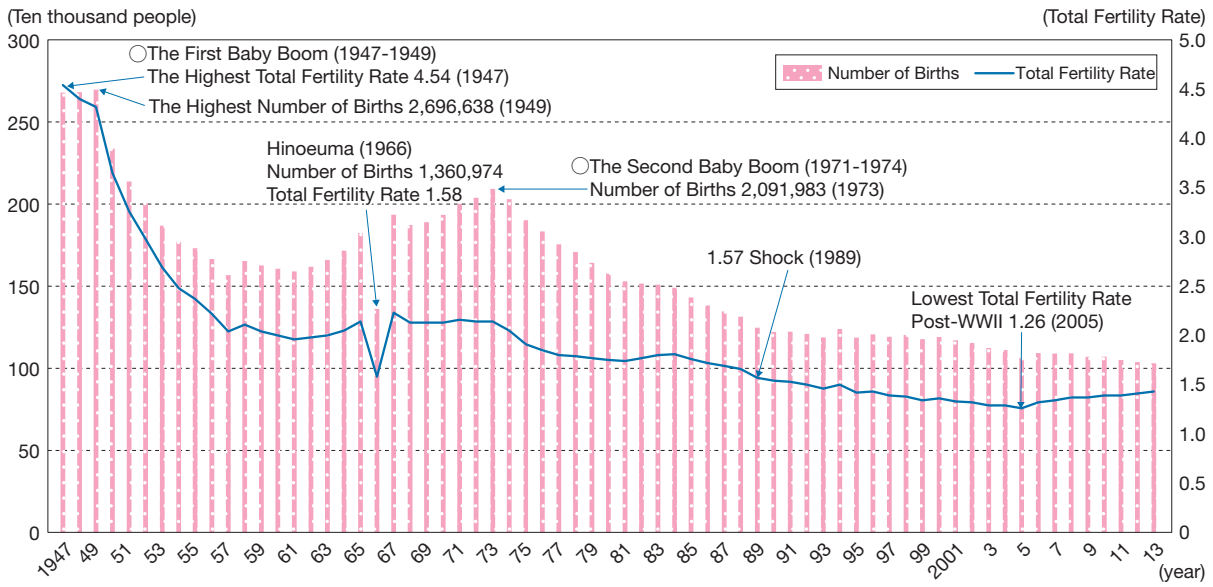
Source) Developed by MLIT from MHLW's "Vital Statistics".

Next is a comparison of the changes by age group for every 50 years, using the so-called "Population Pyramid" (Figure 1-1-3).

In 1950, due to the overwhelmingly large number of youth headed up by the so-called post-war Baby Boomers generation, the graph is "Mount Fuji" shaped. By 2000, although the Baby Boomers and the Junior Baby Boomers lead the total population, due to the sudden drop in the population of those under the age of the 20 to 30 group, the graph is "Bell" shaped. The figure for 2050 based on the median estimates by IPSS (National Institute of Population and Social Security Research) is expected to be "Vase" shaped due to a further decrease in population.

Although the figure is called a "Population Pyramid", in recent years the shape is no longer a pyramid, and is projected that the youth population—which makes the base of the pyramid—will continue to decline.

| Figure 1-1-3 | Changes in Japan's "Population Pyramid" (1950, 2000, 2050) |
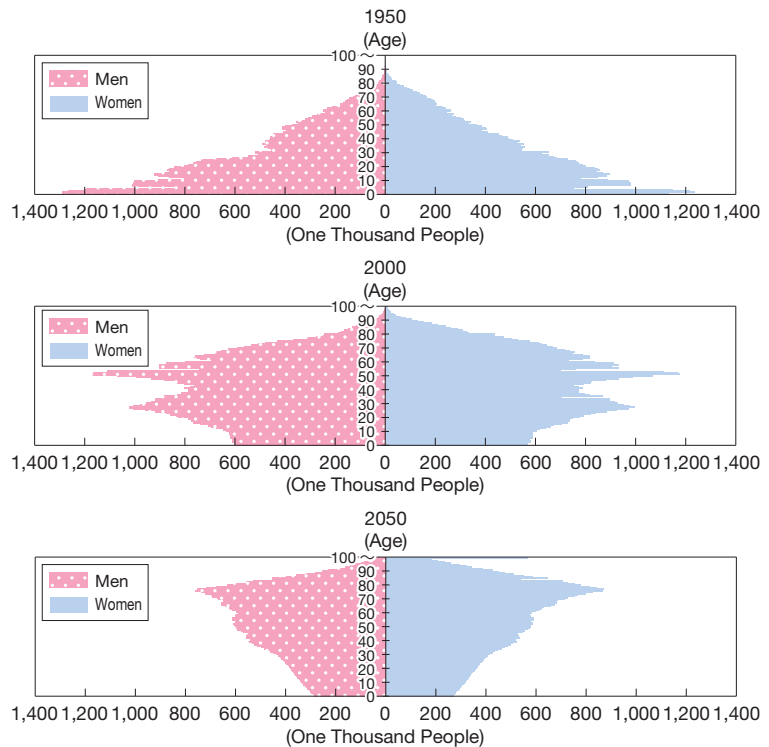
Source) 1950, 2000: Results of "National Census" by Statistics Bureau, MIC.
2050: Developed by MLIT from the median estimate of "Population Projections for Japan" (Estimated in January 2012) by National Institute of Population and Social Security Research.

(Population Aging Rate in Comparison with Other Countries)

Japan has been called an aging society for some time, but how does its population aging rate [Note 4] compare with other countries? (Figure 1-1-4)

Overall, the population aging rates are rising in all the countries compared, however, it is evident that Japan's rate is rising significantly more than the other countries.

By 2010, the population aging rate had already exceeded 20%, which means that currently in Japan one person in five is elderly. Also, according to the median estimates produced by IPSS (National Institute of Population and Social Security Research), the Aging Rate is estimated to be 25.1% in 2013, meaning one person in four would be elderly in Japan. Further, by 2025 the Aging Rate will exceed 30% in Japan overall, and has been projected that by 2050 the rate will reach almost 40%. It is expected that hereafter Japan will progress even further as an elderly society to become a type of society never before experienced by the major countries of the world.

(2) Changes in Demographic Shift for Urban and Rural Areas

(Changes in Demographic Shift for the 3 Major Metropolitan Areas and Rural Areas)

After World War II, during the 1950-1970's, a period of rapid economic growth, along with the rise in Japan's overall population, a sudden population increase occurred in the 3 major metropolitan areas, due to factors such as the youth from rural areas [Note 5] moving to the 3 major metropolitan areas for further education and employment. Due to this demographic shift, the housing supply could not keep up with the demand in the 3 major metropolitan areas, causing large-scale new town developments in the suburbs to thrive. However, from the mid-1970s, the excess numbers of people moving in to the Nagoya and Osaka areas have almost leveled out (Figure 1-1-5).

In the mid-1980s, due to the "Bubble Economy", the excess numbers of people moving in to the Tokyo area increased, but because the property prices in the city center suddenly escalated, a "donut phenomenon" occurred, where the city center area hollowed out due to people seeking housing in the suburbs.

Figure 1-1-4   Changes in Population Aging Rate of Other Countries

Legend: Japan, Korea, Indonesia, Singapore, U.K., France, Germany, U.S., China, India

Sources: For Japan: "Population Projections for Japan" (Estimated in January 2012) by National Institute of Population and Social Security Research.
For countries other than Japan: Developed by MLIT from United Nations " World Population Prospects: The 2012 Revision"
The populations of Japan and countries other than Japan in 2010 are actual figures and after 2010 figures are median estimates.

Figure 1-1-5   Changes in the Excess In-migrants (In-migrants – Out-migrants) of 3 Major Metropolitan Areas and Rural Areas

2014
+109 thousand people (Tokyo Area)
−One thousand people (Nagoya Area)
−12 thousand people (Osaka Area)
−97 thousand people (Rural Areas)

Excess In-migrants (Tokyo Area) peaked in 1962 (390 thousand people)
The First Oil Shock (1973)
The Second Oil Shock (1979)
Economic Bubble Burst (1991)
The Great Hanshin-Awaji Earthquake (1995)
Asia Currency Crisis (1997)
Lehman Shock (2008)
The Great East Japan Earthquake (2011)
Excess Out-migrants (Rural Areas) bottomed out in 1961 (65 thousand people)

Source) Developed by MLIT based on "Basic Resident Register Demographic Shift Report" by MIC.

Note 4   The ratio of elderly (over age 65) population to total population
Note 5   The District divisions are as follows:
Tokyo Area: Saitama, Chiba, Tokyo, Kanagawa; Nagoya Area: Gifu, Aichi, Mie; Osaka Area: Kyoto, Osaka, Hyogo, Nara;
The 3 Major Metropolitan Areas: Tokyo Area, Nagoya Area, Osaka Area; The Rural Areas: All areas other than the 3 Major Metropolitan Areas

After the Bubble Economy burst in the first half of the 1990s, the demographic shift to the Tokyo area declined briefly, but with the drop in property prices and the lowering of interest rates on housing loans, as well as housing prices coming down to an affordable range, the demographic shift to Tokyo started increasing again by the mid-1990s.

Although there have been temporary decreases in excess move-in numbers due to the effect of the Lehman Shock in 2008 and the Great East Japan Earthquake in 2011, in recent years the demographic shift to Tokyo is showing a rising trend.

(Trends in Population Projection for Japan by Regional Block)

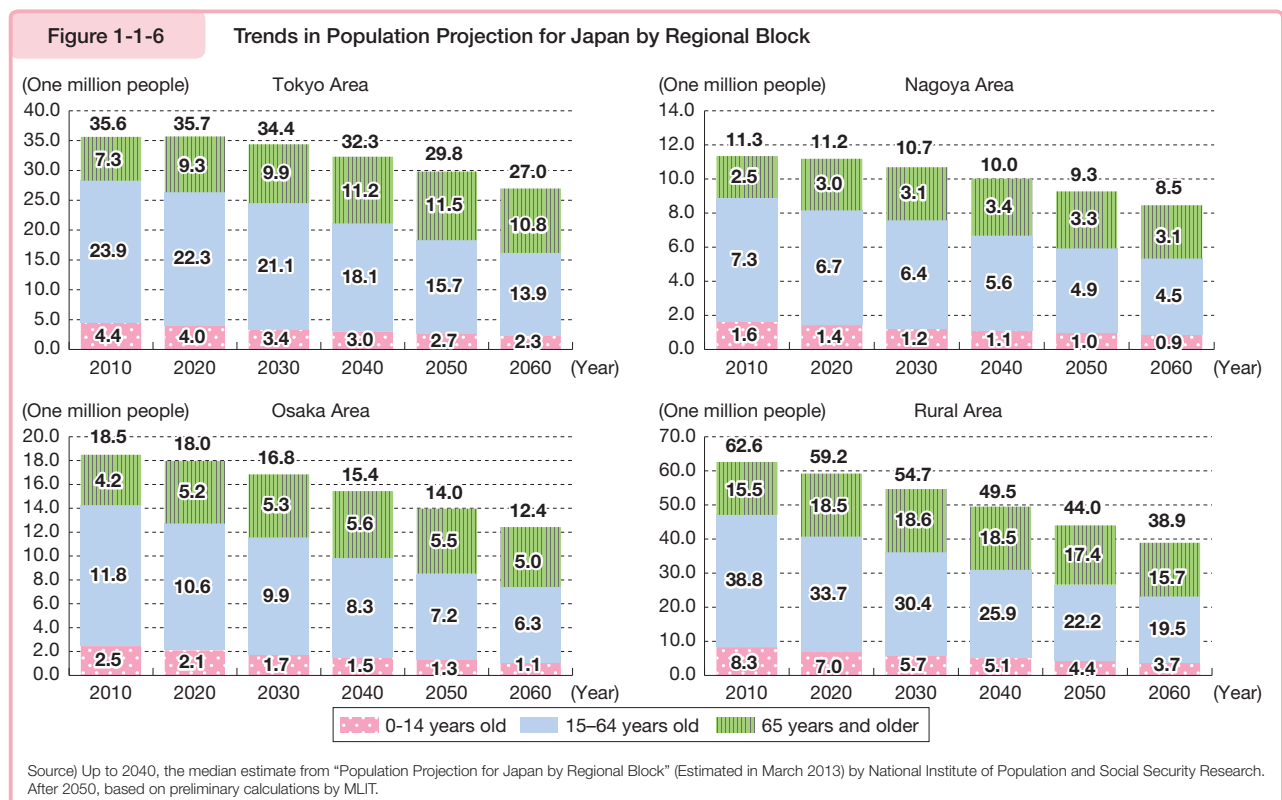The demographic trends of the rural areas and the 3 major metropolis areas differ in tendency.

In looking at the trends of median estimates of estimated future populations for the 3 major metropolitan areas and the rural areas by age groups (ages 0-14, ages 15-65, ages over 65), it is evident that there will be an overall population decline, as well as population aging for all areas from 2010 to 2060 (Figure 1-1-6).

Looking at the actual numbers of elderly people by regional block, the peak for rural areas will be reached in 2030 at 18.6 million, and thereafter there will be a declining trend. However, for the Tokyo area, the elderly population will reach 11.2 in 2040, peak at 11.5 million in 2050, then decrease in 2060, though over 10 million will still be elderly in 2060.

As indicated above, it is clear that the timing of the increase in the number of elderly people are different in the 3 metropolitan areas and the rural areas.

Figure 1-1-6　　Trends in Population Projection for Japan by Regional Block

Source) Up to 2040, the median estimate from "Population Projection for Japan by Regional Block" (Estimated in March 2013) by National Institute of Population and Social Security Research. After 2050, based on preliminary calculations by MLIT.

(Timing Difference in Population Decline for Metropolis and Rural)

Population decline, broken down into broad stages, progresses according to the three stages listed below.

Stage One: The population of youth decreases but the elderly population increases (2010 to 2040)
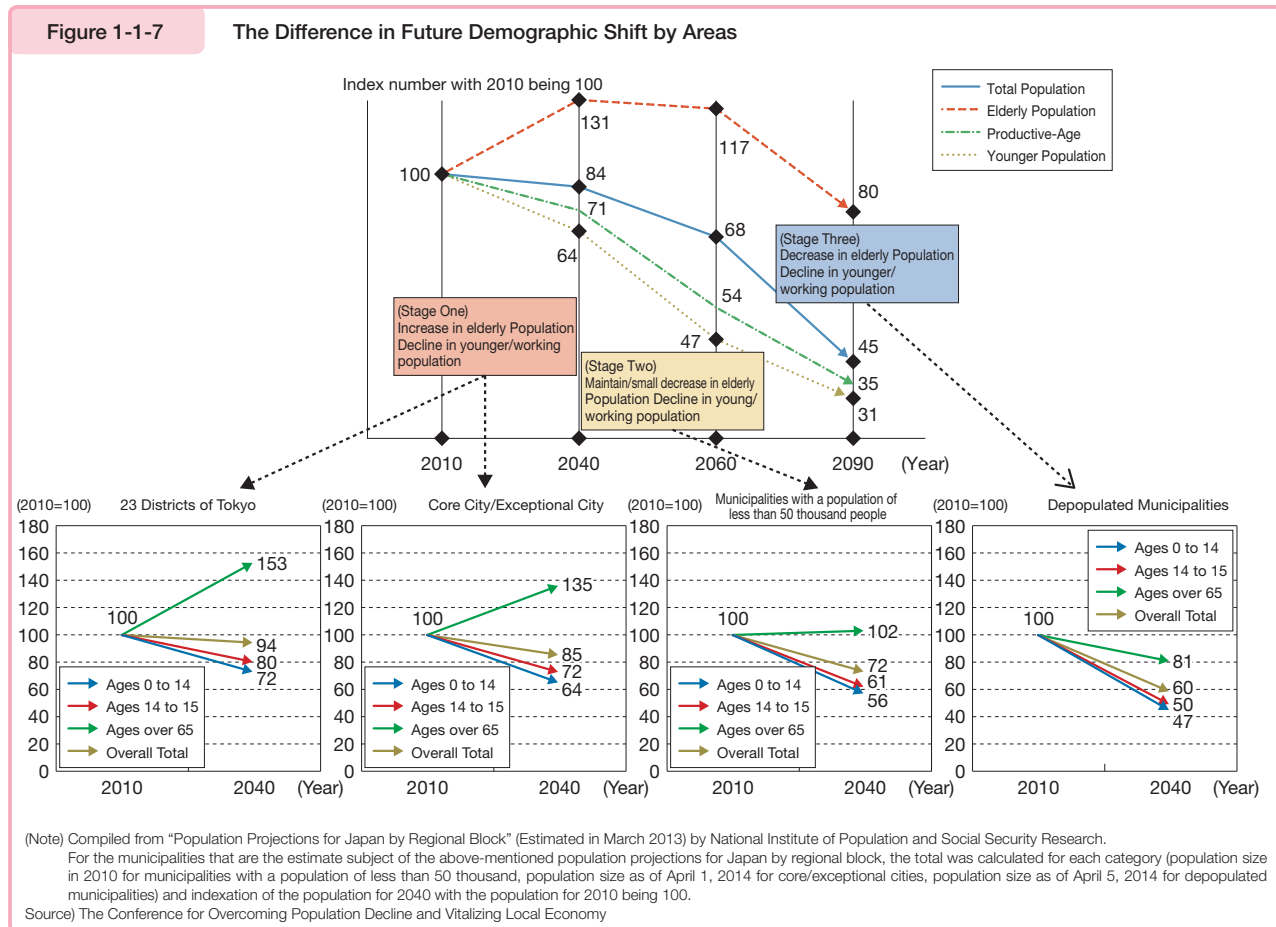Stage Two: The decline of the youth population accelerates while the elderly population remains level or slightly decreases (2040 to 2060)
Stage Three: The decline of the youth population further accelerates and the elderly population also decreases (After 2060)

The Figure below is an indexation of the estimated numbers for each year with 2010 as 100 (Figure 1-1-7).

Currently, the metropolitan areas such as central Tokyo and other core cities are in the First Stage where the productive population and the child population is already decreasing but the elderly population is expected to increase from now to 2040. However, the small cities and the depopulated districts of the rural areas have already entered the Second and Third Stages where not only the productive and child populations but the elderly population are also just maintaining their numbers or showing a decrease.

In other words, not only are the rural areas going to decline, it is predicted that first the rural areas will decline, then the human resource supply from the rural areas to the metropolis areas will dry up so that urban areas will also start to decline, until finally all of Japan will go into a decline.

Figure 1-1-7   **The Difference in Future Demographic Shift by Areas**

(Note) Compiled from "Population Projections for Japan by Regional Block" (Estimated in March 2013) by National Institute of Population and Social Security Research.
For the municipalities that are the estimate subject of the above-mentioned population projections for Japan by regional block, the total was calculated for each category (population size in 2010 for municipalities with a population of less than 50 thousand, population size as of April 1, 2014 for core/exceptional cities, population size as of April 5, 2014 for depopulated municipalities) and indexation of the population for 2040 with the population for 2010 being 100.
Source) The Conference for Overcoming Population Decline and Vitalizing Local Economy

(Income and Employment Gaps Accompanying Demographic Shift)

The cause for the population shift from the rural areas to the 3 metropolitan areas is largely related to income and employment.

Looking at the relationship between the excess in-migrants ratio and the disparities in income and employment for the 3 major metropolitan areas, there was a high correlation to the income disparities before 1990, and it is evident that when the income disparities became significant, the excess in-migrants ratio increased (Figure 1-1-8).

Conversely, after the 1990s, the correlation to employment disparities became high, so that when the ratio of active job openings to active job applicants became relatively high, the excess in-migrants ratio increased, showing that the demographic shift between the metropolis areas and the rural areas were greatly affected by economic factors.

Figure 1-1-8	Demographic Shift to the 3 Major Metropolitan Areas and the Disparities in Income and the Ratio of Active Job Openings to Active Job Applicants
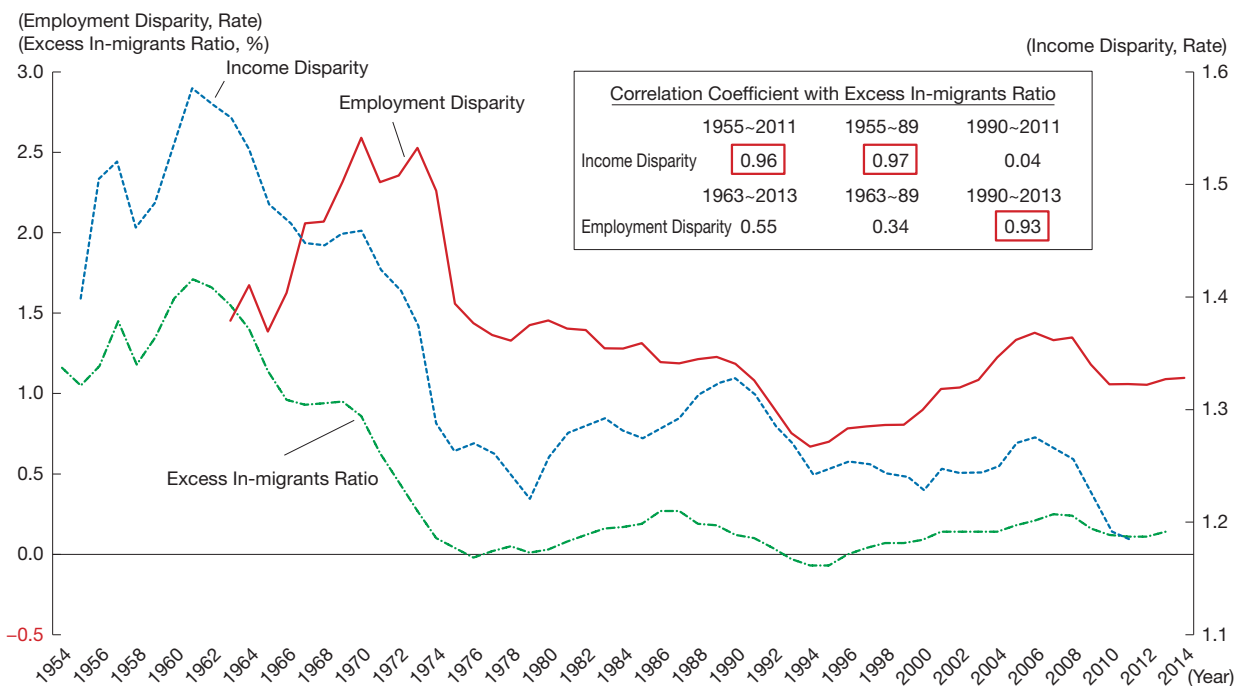
(Notes) 1 The excess in-migrants ratio is calculated as "(in-migrants–out-migrants)/population of Japanese", income disparity is calculated as "the 3 major metropolitan area average of the income of one prefectural resident/national average (excluding the 3 major metropolitan areas)", employment disparity is calculated as (the ratio of active job openings to active job applicants) is "the 3 major metropolitan area average of the ratio of active job openings to active job applicants/national average (excluding the 3 major metropolitan areas)".
2 The numbers of the graph are the correlation coefficient of the excess in-migrants ratio for each period and the disparity index.
Source) Developed by MLIT based on "Basic Resident Register Demographic Shift Report" by MIC, "General Public Employment Placement Conditions (Employment Stabilization Statistics)" by MHLW, "Prefectural Resident Economy Calculations" by the Cabinet Office.

(Demographic Shift Conditions in Rural Areas According to Age)

In the rural areas, there is a correlation between the change in life stages and demographic shift (Figure 1-1-9).

The first major demographic shift period is the population exodus that happens when students leave to go to university. From 1985 to 1990, there was a population drain of 185 thousand people, but since then there has been a yearly decrease so that from 2005 to 2010, 112 thousand people left, a marked decrease in the number of people leaving to about 60 percent of the peak period.

Also, previously those who moved away from the rural areas to pursue higher education returned after graduation to find employment, turning into excess in-migrants, but after 2000, those who moved away from the rural areas more often than not stayed in the metropolitan areas to find employment, changing the trend to additional excess out-migrants.

On the other hand, looking at the retirement period, the population influx to the rural areas has increased by ten thousand people from the periods of 1985 to 1990 and 2005 to 2010, and in recent years there seems to be a trend of returning to rural areas at retirement.

Figure 1-1-9	Demographic Shift Conditions in Rural Areas According to Age
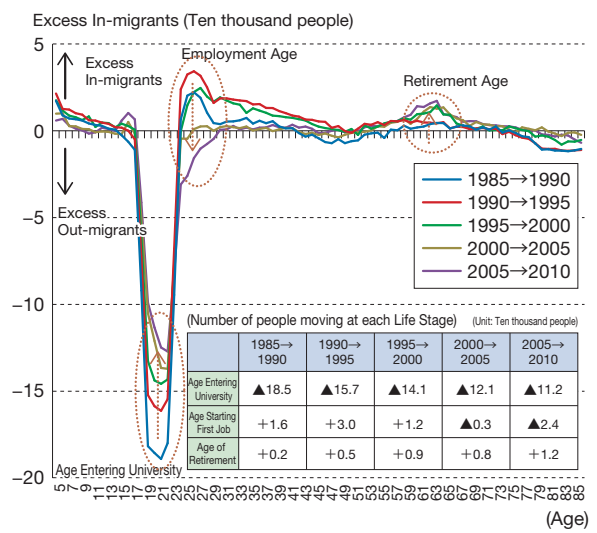
(Notes) 1 For each age, the demographic shift indicates the move from 5 years before.
2 For the graph numbers of the shift for each life stage, it is the average of college entrance ages 19~21, employment ages 24~26 and retirement ages 58~62.
3 The rural area is the total for all prefectures excluding the 3 major metropolitan areas.
Source) Developed by MLIT based on "National Census" by MIC, "Life Table by Prefectures" by MHLW.

(Demographic Shift within the Rural Block)

In terms of the demographic shift within the rural block, a comparison of the 4 blocks in which there are rural core cities ("Hokkaido (Sapporo City)", "Tohoku Area: Miya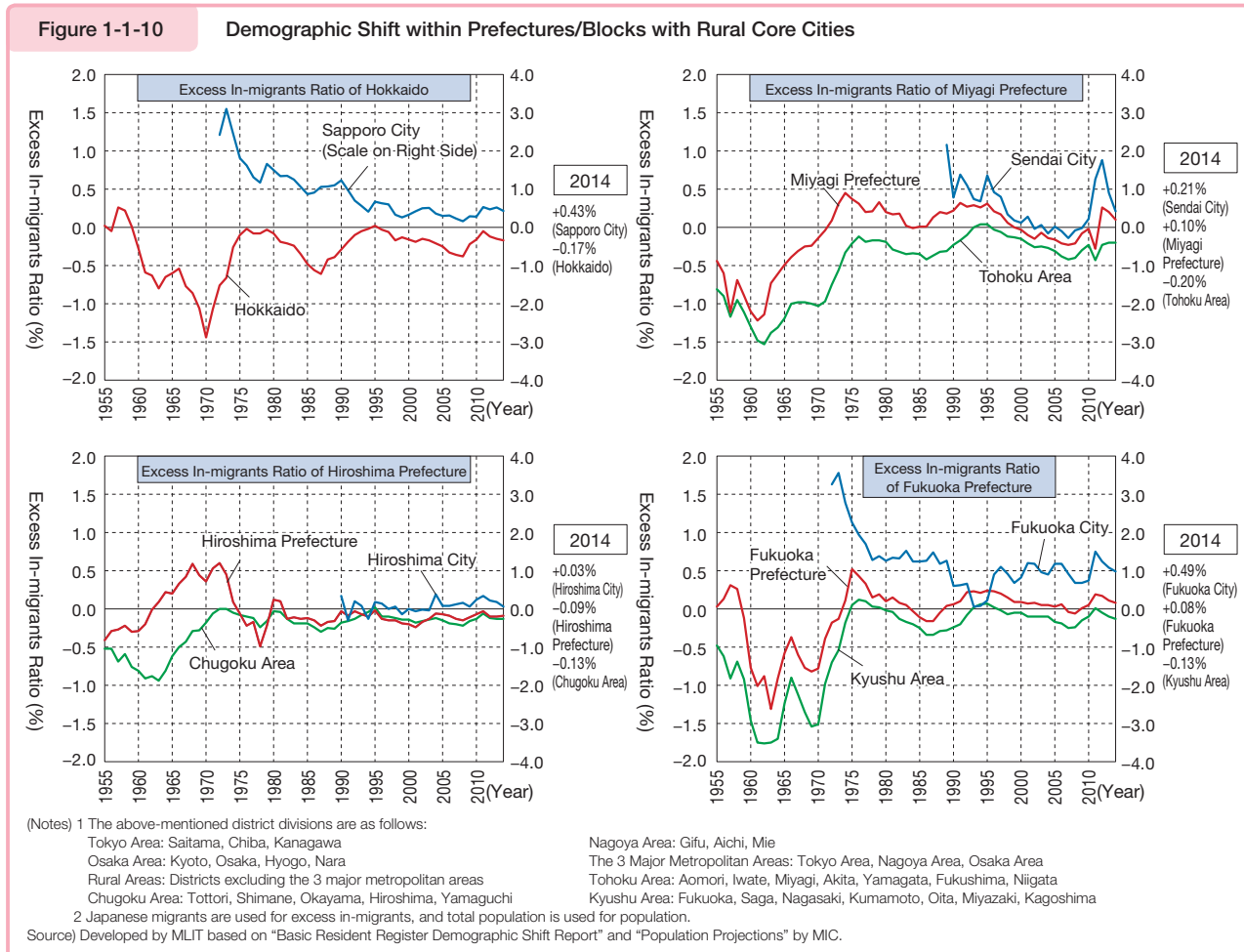gi Prefecture (Sendai City)", "Chugoku Area: Hiroshima Prefecture (Hiroshima City)" and "Kyushu Area: Fukuoka Prefecture (Fukuoka City)" is shown in the chart below (Figure 1-1-10).

Looking at the demographic shift from 1955 to 2014, each of the core cities all show the tendency towards excess in-migrants. However, within each block there is an excess out-migrants tendency.

Figure 1-1-10   Demographic Shift within Prefectures/Blocks with Rural Core Cities

(Notes) 1 The above-mentioned district divisions are as follows:
Tokyo Area: Saitama, Chiba, Kanagawa
Osaka Area: Kyoto, Osaka, Hyogo, Nara
Rural Areas: Districts excluding the 3 major metropolitan areas
Chugoku Area: Tottori, Shimane, Okayama, Hiroshima, Yamaguchi
Nagoya Area: Gifu, Aichi, Mie
The 3 Major Metropolitan Areas: Tokyo Area, Nagoya Area, Osaka Area
Tohoku Area: Aomori, Iwate, Miyagi, Akita, Yamagata, Fukushima, Niigata
Kyushu Area: Fukuoka, Saga, Nagasaki, Kumamoto, Oita, Miyazaki, Kagoshima
2 Japanese migrants are used for excess in-migrants, and total population is used for population.
Source) Developed by MLIT based on "Basic Resident Register Demographic Shift Report" and "Population Projections" by MIC.

(In-migrants/Out-migrants by Prefecture and Total Fertility Rates)

In looking at the excess in-migrants/out-migrants by prefecture (Bar Figure: Left Axis) for 2013 and 2014, the excess in-migrants are extremely large for Tokyo, making it very clear that the population is heavily concentrated in the Tokyo metropolitan area (Figure 1-1-11).

Other than Tokyo, in the metropolises of Miyagi Prefecture, Saitama Prefecture, Chiba Prefecture, Kanagawa Prefecture, Aichi Prefecture, Osaka Prefecture (2013 only) and Fukuoka Prefecture, there was an excess of out-migrants, while other districts show a decrease. Especially in 2014, in addition to excess in-migrants decreasing in prefectures outside of Tokyo Area, Osaka Prefecture had an excess of out-migrants, which shows that the population concentration in the Tokyo Area is progressing right from the surrounding areas.

Looking at the birth rate (Line Graph: Right Axis) for 2013, the rate is extremely low in Tokyo and tends to be low for all the other prefectures that also have excess in-migrants.

| Figure 1-1-11 | Comparison of In-migrants/Out-migrants by Prefecture and Total Fertility Rates |

Source) Developed by MLIT based on MIC: "Basic Resident Register Demographic Shift Report" (Excess In-migrants/Out-migrants) and MHLW: "Vital Statistics (Total Fertility Rate)"
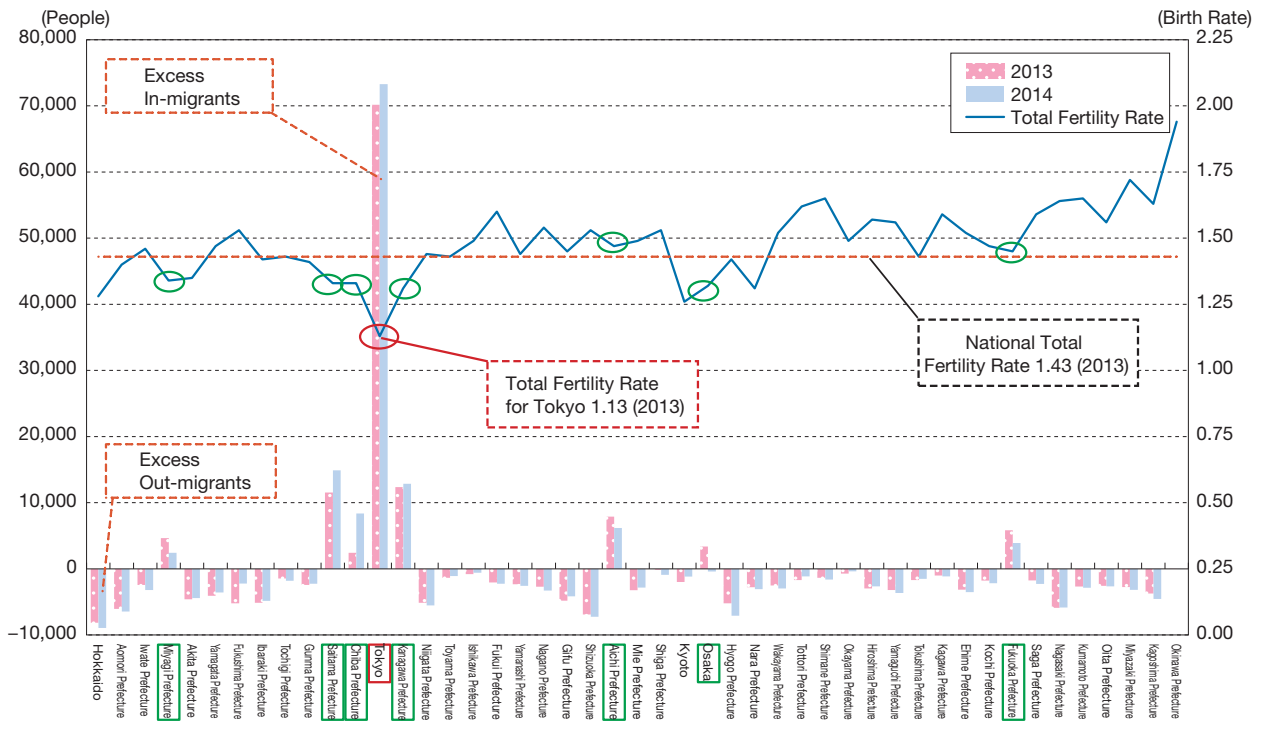
Based on the above, it can be said due to causes such as the post-WWII economic growth, Japan's population, lead by its younger generation, are being drawn to the Tokyo Area—with its good income and employment conditions—from the Rural Areas, and although there are minor fluctuations due to social and economic conditions, the tendency to concentrate in Tokyo is continuing.

In order to slow down the population decline, it is important to remedy the tendency to concentrate everything in Tokyo and promote the shift of people to the rural areas where the birth rate is relatively high.

2   Total Fertility Rate and Women's Employment

(1) Current State/Tendency of Total Fertility Rate

Looking at the TFR [Note 6] for 2013 by prefecture, it is high in Okinawa, Minami Kyushu and Sanin while being lowest in Minami Kanto, Kinki and Hokkaido (Figure 1-1-12).

Comparing the birth rate with the rate of unmarried people between ages 20 and 49 in the prefecture shows that areas with low birth rates tend to have high rates of unmarried people (Figure 1-1-13) [Note 7].

| Figure 1-1-12 | Total Fertility Rate by Prefecture (2013) |

Total Fertility Rate
1.6~2
1.5~1.6
1.35~1.5
1~1.35

Source) Developed by MLIT from "Vital Statistics" by MHLW
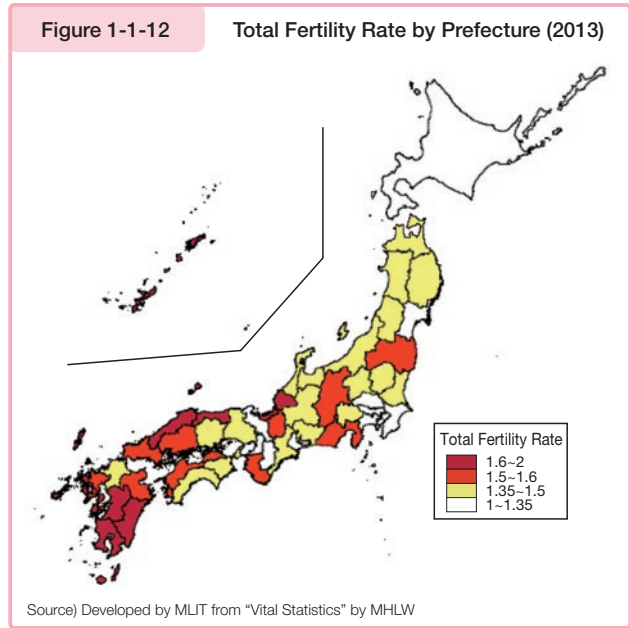
| Figure 1-1-13 | TFR and Rate of Unmarried Men and Women Ages 20 to 49 (2010) |

* Horizontal dotted line is National Numbers   Men: Blue Women: Pink
Source) Developed by MLIT from "National Census" by MIC, "Vital Statistics" by MHLW
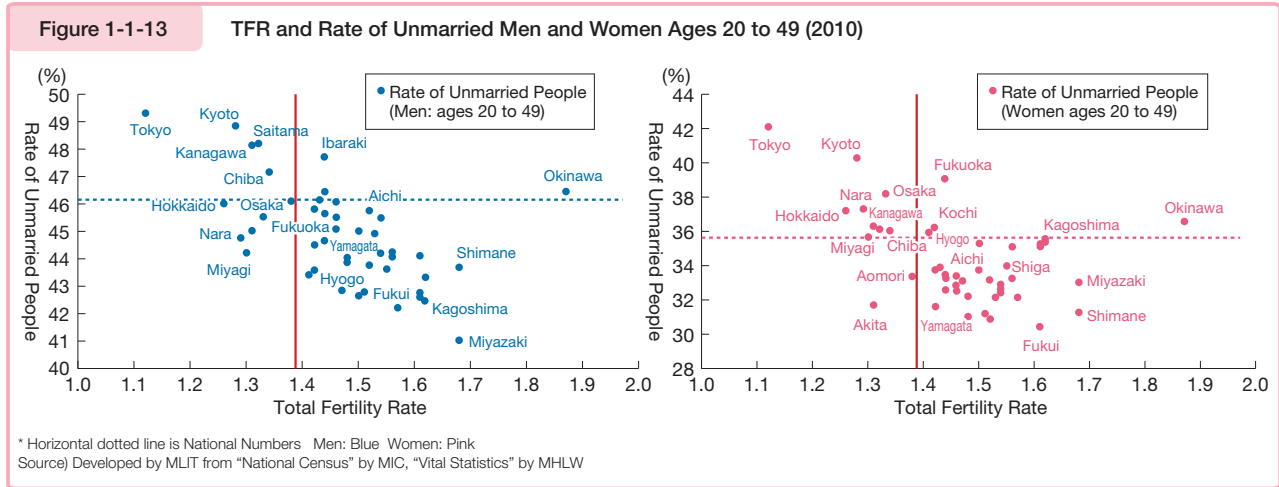
Note 6   As defined in "1. (1)" of this section, within the text of "2.", Total Fertility Rate is listed as Birth Rate.
Note 7   In this section, the solid line (pink) indicates the national numbers.

Also, for the average age for the first marriage, nationally the husband is one or two years older than the wife, with the distribution showing the same tendency for both the husband and wife, and in regions with a low birth rate such as Minami Kanto area, and Kyoto, Osaka prefectures the age for getting married for the first time tends to be higher (Figure 1-1-14).

| Figure 1-1-14 | Total Fertility Rate and Average Age of First Marriage (2012) |

Source) Developed by MLIT from "Vital Statistics" by MHLW
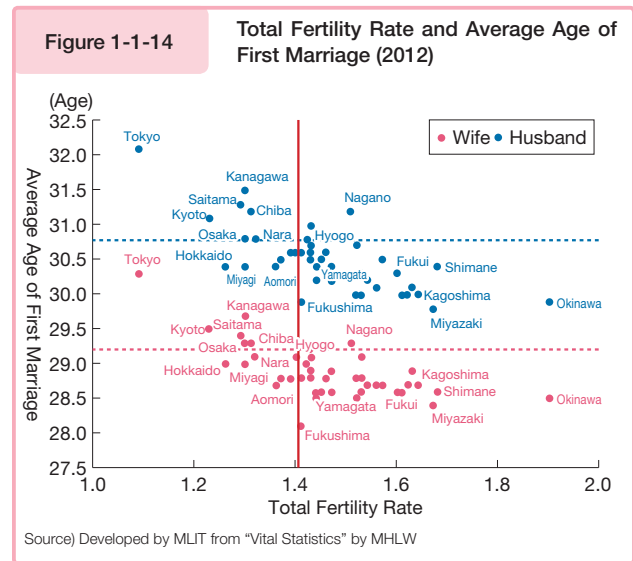
(2) Relationship of Total Fertility Rate and Women's Employment

Within the progressing population decline and the expected decrease in the population of the child bearing age group, women hold the greatest potential, and that social participation by women is thought to be effective even for building up rural societies that are maintainable. Recognizing that it is vital to improve the birth rate in this social environment, we will analyze the relationship between birth rates and the employment of women using the data from each prefecture as the base.

(Comparisons of Male/Female and Married/Unmarried)

First, if we compare the rate of employment [Note 8] for men and women between the ages of 20 and 49 with whether they are married or not, for unmarried people, whether men or women, the employment rate exceeds 70%, and there is no difference in the national employment rate of unmarried men and women (Figure 1-1-15).

However, in the married person category, the employment rate for men is over 96%, even in Okinawa where the employment rate for men is lowest, while for women there is a large gap between the lowest employment rate of 55.3% in Hyogo Prefecture, to the highest rate of 80.2% in Yamagata Prefecture, and there is a tendency for women's employment rate to be low in areas where the birth rate is low (Figure 1-1-16).

Note 8　Where the chart is compiled from "Employment Structure Basic Survey" by MIC, "Employed Rate" is listed as "Employment Rate" in the title of the text and chart.

Figure 1-1-15　TFR and Employment Rate of Men and Women Ages 20 to 49 (without spouse) (2012)

* Horizontal dotted line is National Numbers　Men: Blue　Women: Pink
Source) Developed by MLIT from "Employment Structure Basic Survey" by MIC, "Vital Statistics" by MHLW

Figure 1-1-16　TFR and Employment Rate of Men and Women Ages 20 to 49 (with spouse) (2012)

* Horizontal dotted line is National Numbers　Men: Blue　Women: Pink
Source) Developed by MLIT from "Employment Structure Basic Survey" by MIC, "Vital Statistics" by MHLW

Hereafter, while following the birth rate and its related factors, we will conduct the analysis with a focus on the employment rate of women with spouse.

(Tendencies of Each Area)

In order to look at the birth rate and employment tendencies of each area, we will plot only the employment rate of women with spouse from Figure 1-1-16 to at it closely (Figure 1-1-17). Looking at this figure, there is an obvious distribution tendency that many of the Metropolitan Area prefectures such as Tokyo are in the lower left where both the birth rate and the employment rate of women with spouse are lower than the national average, while many of the Rural Area prefectures such as Chugoku Area tend to be in the upper right, where both rates are higher than the national average. In other words, it is evident that while the birth rate and employment rate of women with spouse are low in the Metropolitan Area prefectures, the birth rate and employment rate of women with spouse both tend to be higher in the Rural Area prefectures.

Figure 1-1-17　Relationship between TFR and Employment Rate Women (with Spouse) Ages 20 to 49 (2012)

Source) Developed by MLIT from "Employment Structure Basic Survey" by MIC, "Vital Statistics" by MHLW
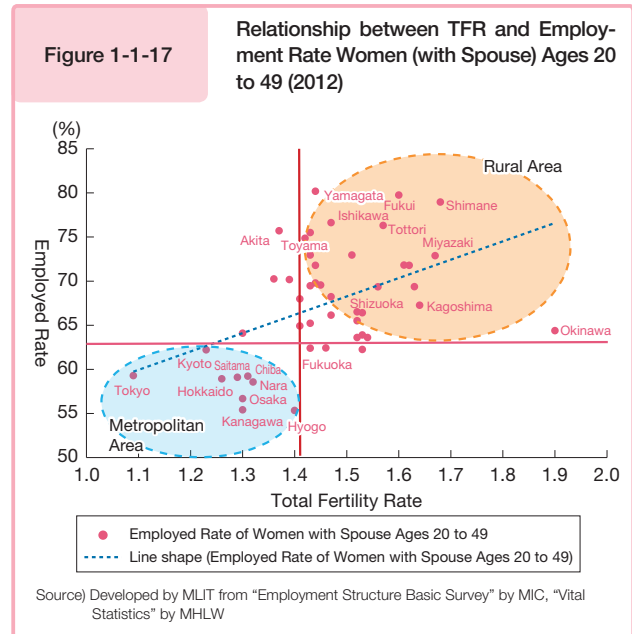
(Relationship with a Woman's Life Stage)

Next, under the assumption that a woman's lifestyle changes greatly between the "marriage" phase and "childbirth, child-rearing" phase, we will consider the relationship between these factors and employment rate/birth rate.

First, by combining only the data on women from Figure 1-1-15 and Figure 1-1-16, it becomes clear that areas with lower birth rates have a greater difference between the employment rates of women without spouse and women with spouse (Figure 1-1-18).

Next, looking at the average working hours [Note 9] of employed people over the age of 15 on a weekday by men and women, and by different life stages, the working hours for men becomes longer in the "child-rearing stage [Note 10]" than in the "single stage [Note 11]" but there is no significant difference in the tendencies of the average working hours by regions.

On the other hand, the average working time for women becomes shorter in the "child-rearing stage" than in the "single stage" and, along with the large decrease of working hours in the regions with low birth rates, the distribution tendencies change a great deal (Figure 1-1-19). When analyzed in conjunction with Figure 1-1-18, regions with a lower birth rate not only have lower employment rate in general for women, but also an added factor that even the employed women have shorter working hours.

In other words, we can infer that in regions with a lower birth rate there is a large possibility that many women quit working or change to jobs with shorter working hours after getting married or giving birth.

Figure 1-1-18　TFR and Employment Rate of Women Ages 20 to 49 (With/Without Spouse) (2012)
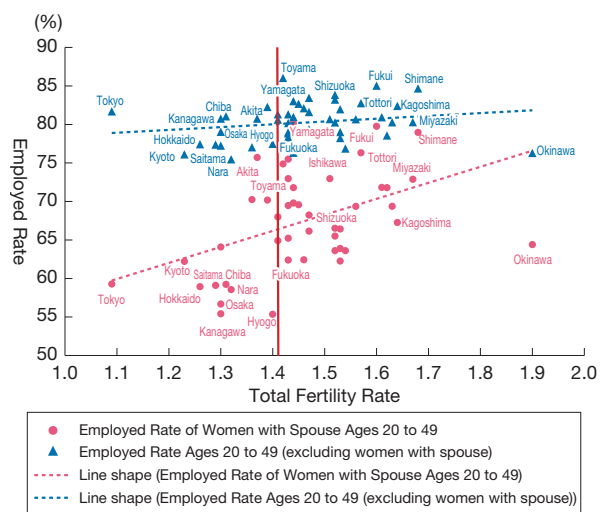
* Dotted line is approximate curve (linear approximation) of the data.
Source) Developed by MLIT from "Employment Structure Basic Survey" by MIC, "Vital Statistics" by MHLW

Figure 1-1-19　Total Fertility Rate and Average Working Hours of Employed People Over Age 15 (Weekday Men Women According to Life Stage) (2011)
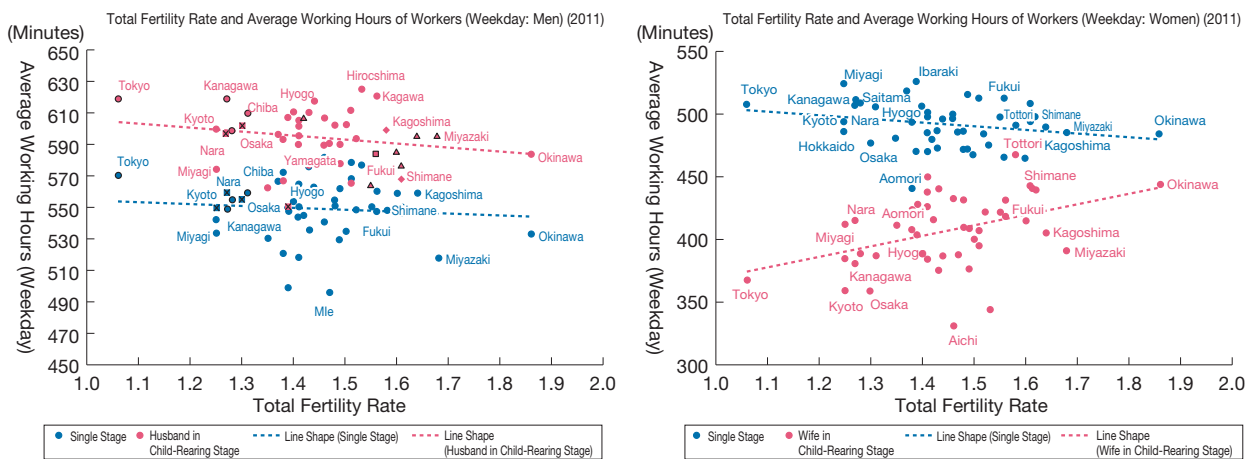
Source) Developed by MLIT from "Civil Life Basic Survey" by MIC, "Vital Statistics" by MHLW

Furthermore, in order to take a more detailed look at the relationship between the birth rate and the employed rate of women with spouse (hereafter referred simply as "employment rate" in the text of this section), we will take examples from the Metropolitan Areas and the Rural Areas, Tokyo/Osaka and Shimane/Fukui prefecture respectively, for comparison and analysis.

First, looking at the birth rate of each age range [Note 12] and the employment rate of women, in areas where the birth rate and employment rate are both low, the graph shows a tendency towards a "M-shaped" curve because the employment rate becomes extremely low for the last half of the 20s to the 30s which are seen to be related to child-bearing and child-rearing. In the areas where both the birth rate and employment rate are high, this "M-shaped" curve is not seen (Figure 1-1-20).

Note 9　Average Working Hours of Workers is the average number of working hours per worker for one day.
Note 10　Child-Rearing Stage means having a spouse and an unemployed child under the age of 30.
Note 11　Single Stage means having no spouse or child.
Note 12　The birth rate referred to here is the numbers of birth for 1,000 women in each age range.

Figure 1-1-20	Comparison of Birth Rate by Age Range and Employment Rate of Women with Spouse

Source) Developed by MLIT from "National Census" by MIC, "Vital Statistics" by MHLW
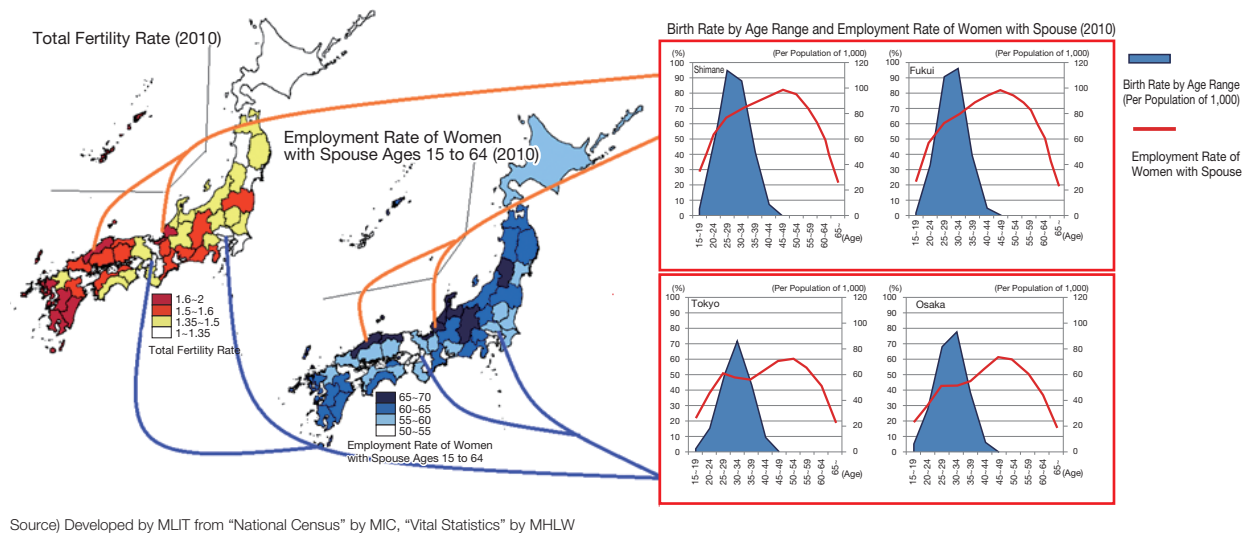
Further, in looking at the employment conditions (ratio of regular employment to non-regular employment), areas with the higher birth rates have a higher rate of regular employment for both men and women. Also, in areas where the birth rate is low, in the age range of the latter half of 30s—age at which women are assumed to be in their child-rearing years—there is a reversal of the ratio between regular and non-regular employment, while in areas with high birth rates, women with regular employment maintain a level around 50% up to their early 50s (Figure 1-1-21). The context for the increase in those with non-regular employment with the increase in one's age in the former areas (where the birth rate is low), is that when the women re-enter the work force after full-time child-rearing has ended, there seems to be a tendency to choose jobs with shorter working hours, or that there is a tendency that only non-regular jobs available.

Figure 1-1-21	Comparison of Birth Rate by Age Range and Condition of Employment

Source) Developed by MLIT based on "National Census" by MIC and "Vital Statistics" by MHLW.
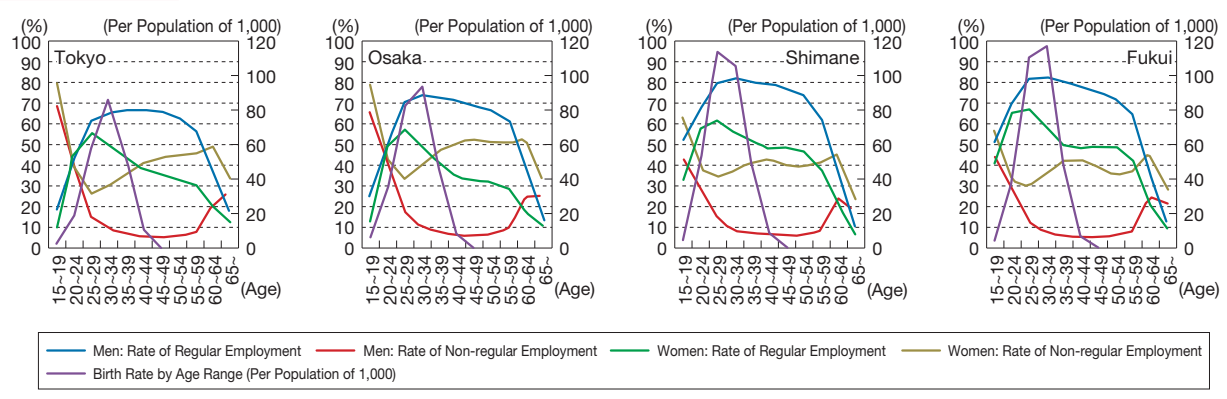
From the above information, it can be inferred that in the prefectures with a high employment rate, the rate of leaving jobs for childbirth and child-rearing is low, and due to having an environment where women can continue in regular employment, results in lowering the opportunity cost incurred for childbirth and child-rearing. On the other hand, in the prefectures with a low employment rate, it can be inferred that for some reason, there are obstacles to pursuing both "childbirth and child-rearing" and "work" so that women are compelled to make a choice between the two.

(Causal Analysis ~"Childbirth/Child-rearing" or "Work"~)

What then are the factors that make it possible for women to give birth and raise children without quitting their jobs?

In general, the main reasons suggested are things like the rate of multi-generational families and the rate of available childcare facilities [Note 13]. These two factors are thought to directly influence the rate of employment for women (Figure 1-1-22).

Another consideration is that the birth rate and employment rate are low in places like Kanagawa, Nara, Tokyo, and Osaka, all prefectures that require longer time for commuting to work, while the employment rate and birth rate are both higher in prefectures like Shimane, Fukui and Miyazaki with shorter commute times. (Figure 1-1-23). In Miyazaki and Kagoshima prefectures, although the rate of multi-generational families and available childcare facilities are not high, the average commute time is shorter, making it clear that the proximity of workplace and home also affects the employment rate for women.

Figure 1-1-22	Employment Rate of Women and Rate of Multi-generational Families/Potential Acceptance Rate of Fixed Number of Children by Childcare Facilities (2010)

Source) Developed by MLIT from "National Census" by MIC and "Social Welfare Facilities Survey" by MHLW.

Figure 1-1-23	Employment Rate for Women Aged 15 to 64 and Commute Time (Average Time for Workers)
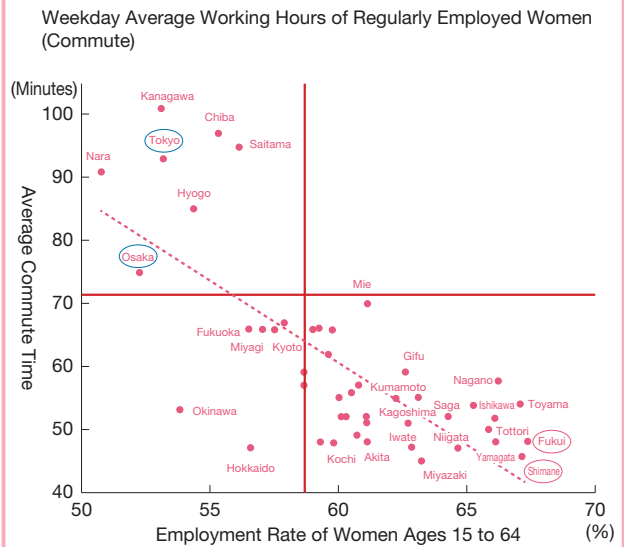
Source) Developed by MLIT from "Civil Life Basic Survey (2011)" and "National Census (2010)" by MIC

Note 13   The Potential Acceptance Rate of Fixed Number of Children by Childcare Facilities is the fixed number of children to be accepted by childcare facilities divided by the population of women ages 20 to 39. Potential Acceptance Rate of Fixed Number of Children by Childcare Facilities = Fixed Number of Children to be accepted by childcare facilities/Population of Women Ages 20 to 39.

To add an explanation to the scatter diagram in Figure 1-1-17 based on the above factors, areas with a birth rate and employment rate for women that are lower than the national average—showing in the bottom left quadrant of the chart—are areas where combining child-rearing and working is difficult. In the same way, we can infer that areas showing in the upper right quadrant of the chart with birth rate and employment rate for women that are higher than the national average are areas where combining child-rearing with working is easier. (Figure 1-1-24) [Note 14].

Figure 1-1-24 Relationship between TFR and Employment Rate of Women (with Spouse) Ages 20 to 49 (2012)

Employment Rate of Women with Spouse Ages 20 to 49
Line Shape (Employment Rate of Women with Spouse Ages 20 to 49)

Source) Developed by MLIT from "Employment Structure Basic Survey" by MIC, "Vital Statistics" by MHLW.
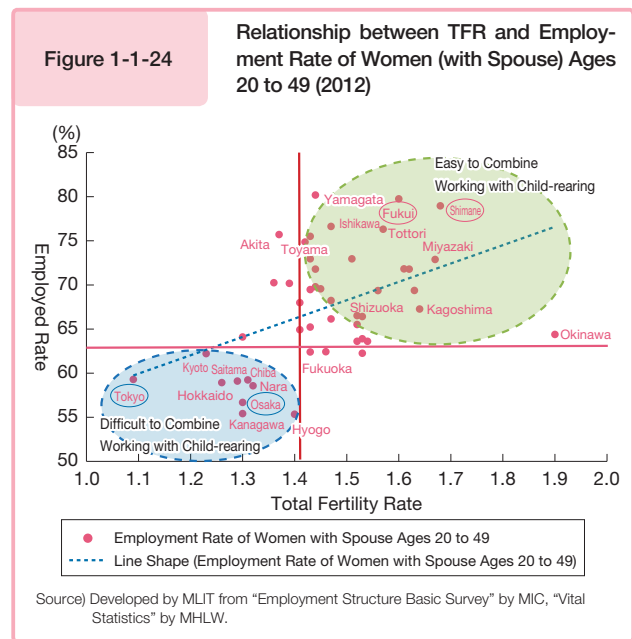
(Conclusion)

As seen above, factors such as the rate of multi-generational families and acceptance rate of fixed number of children by childcare facilities and the proximity of work to the home seem to be related to whether women can continue working while having and raising children.

In the Rural Areas where this kind of environment seems relatively obtainable, it is important to build an attractive community that will make it easy for young people and women to come from the city by enhancing these attractive qualities and securing the employment environment.

On the other hand, in the Metropolitan Areas, in view of combining child-rearing and work, it is important to improve the above factors, for example by building urban communities that make it possible to have work and home in closer proximity.

Either way, as the population decline progresses in the future, if there is a demand for work opportunities for women, it will be important to build an environment that both women and men are able to combine work and child-rearing by promoting various flexible ways of working to further improve work-life balance, and one which does not force women to choose between "childbirth/child-rearing" and "work".

Note 14　The data for the TFR and Employment Rate of Married Women Ages 20 to 49 in the 47 prefectures for 2012 (Figure 1-1-24) indicates a positive linear slope on the chart, but no real correlation can be seen in the coefficients.
For reference, if the coefficients are calculated by excluding Okinawa Prefecture, which has a TFR much higher than the national average, a weak correlation can be detected. However, a correlation does not necessarily mean a causal relationship exists. The TFR for Okinawa Prefecture is 3 times the standard deviation value of the national average.

[Reference] Regarding the Total Fertility Rate

The Total Fertility Rate [Note 15] focuses on the birth conditions of a certain period of time (one year), limited to the women of each age (age 15 to 49) during that year and adds up the birth rate for each age. It projects the number of children a woman will have over her lifetime (Figure 1-1-25). This shows the "birth rate of that year", excluding the difference in age range construct of the female population, and is used to make comparisons on a yearly, international, and regional basis.

Figure 1-1-25	Calculation of Total Fertility Rate for the Period

Total Fertility Rate=Total of (Number of births by mother's age/ population of Japanese women of that age on October 1st to present) for those ages 15 through 49

Age	Sector Population of Women A	Number of Births B	Rate of Births C=B / A
15	39,344	5	0.000127
16	40,106	36	0.000898
17	40,676	87	0.002139
18	41,811	17	0.000407
19	46,389	435	0.009377
46	51,558	9	0.000175
47	53,871	2	0.000037
48	59,589	2	0.000034
49	67,541	0	0
Total			1.240455

Section 2 The Affect of Population Decline on the Cities and Life in the Rural Areas

1 The Awareness of Citizens Regarding Population Decline

As seen in the previous section, it is predicted that the population is going to rapidly decrease in Japan. Under such conditions, there is a rising sense of crisis regarding population decline among the citizens, and according to the public opinion survey conducted by the Cabinet Office in August 2014, over 90% of the citizens responded that "population decline is not desirable" (Figure 1-2-1).

On the other hand, especially in the Urban Areas, there seem to be relatively few instances in the daily life and cities where people live where citizens actually feel the effects of population decline, in comparison to the large number of people responding that "population decline is not desirable". According to the questionnaire conducted by MLIT (hereafter "Public Awareness Survey") [Note 16], the ratio of those responding that they "have" or "have somewhat" felt the effects of

Figure 1-2-1	Awareness of Population Decline

Population decline is not desirable: 94.3%

33.1	18.6	23.5	19.1	2.3 2.2 1.1

Population decline is not desirable and efforts should be made to increase
Population decline is not desirable and the current level of population should be maintained
Population decline is not desirable and efforts should be made to lower the rate of decrease
Population decline is not desirable but cannot be helped
Population decline is desirable
It doesn't matter whether the Population Declines or increases
Do not know

(Note) The numbers have been rounded up so the totals may not match with the fractions.
Source) "Public Opinion Survey Regarding the Future Image of Japan's Population, Economic Society, Etc." by Cabinet Office

Figure 1-2-2	Actual Experience of Population Decline
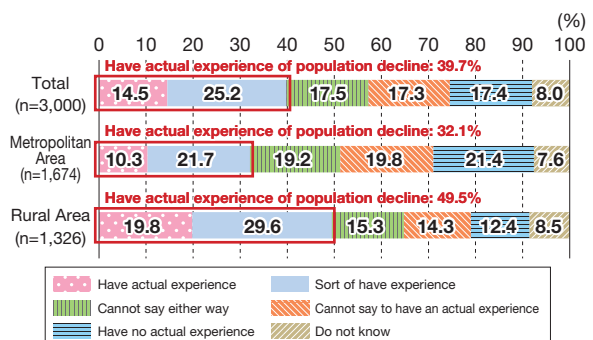
Have actual experience of population decline: 39.7%

Total (n=3,000)	14.5	25.2	17.5	17.3	17.4	8.0

Have actual experience of population decline: 32.1%

Metropolitan Area (n=1,674)	10.3	21.7	19.2	19.8	21.4	7.6

Have actual experience of population decline: 49.5%

Rural Area (n=1,326)	19.8	29.6	15.3	14.3	12.4	8.5

Have actual experience
Sort of have experience
Cannot say either way
Cannot say to have an actual experience
Have no actual experience
Do not know

(Note) The numbers have been rounded up so the totals may not match with the fractions.
Source) "Public Awareness Survey" by MLIT

Note 15 The Total Fertility Rate explained here is "term" total fertility rate. Other than this, there is the "cohort" total fertility rate but, in general, in referring to Total Fertility Rate, the "term" total fertility rate is used, therefore the "cohort" total fertility rate is not explained here. For details, refer to MHLW's website (http://www.mhlw.go.jp/toukei/list/81-1a.html).
Note 16 Conducted using internet in February 2015 with target population of all individuals in Japan. (3,000 responses).

population decline was only 32.1% in the Urban Areas, while in the Rural Areas [Note 17] it was up to 49.5%, almost half the respondents, showing there is a discrepancy between the Urban Areas and the Rural Areas with how the effects of the population decline are actually experienced (Figure 1-2-2). However, for both the Urban Areas and the Rural Areas, there seems to be a gap between the sense of crisis as seen in Figure 1-2-1 and having an actual sense of experiencing the effects.

2 The Effects of Population Decline on the Cities and Daily Life in Rural Areas

The following are some of the main areas that are expected to be specifically affected in the cities and daily life of rural areas if the population decline continues to progress.

(1) Reduction of Services Related to Daily Life (Stores, Restaurants, Recreation, Medical Facilities, etc.)

The various services necessary for conducting our daily lives are provided based on a certain population size. The necessary population size varies depending on the type of service, and Figure 1-2-3 shows the distribution condition of these services. For example, for a general hospital with over 80% placement probability to be placed in a city, the population size has to exceed 27,500 people (population of over 5,500 people necessary for over 50% probability of placement). When the population decline cuts into the population base necessary to establish daily life-related services, the service industries will progressively withdraw from the district, causing daily life to become more inconvenient by making it difficult to get the products and services necessary for daily living.

Figure 1-2-3   Population Size and Location of Service Facilities (Excluding the 3 Major Metropolitan Areas)

(Note) The 3 Major Metropolitan Areas: Saitama, Chiba, Tokyo, Kanagawa, Gifu, Aichi, Mie, Kyoto, Osaka, Nara, Hyogo
Source) MLIT

Note 17   In the "Public Awareness Survey", the 3 Major Metropolitan Areas are called Urban Areas and all areas outside of the 3 Major Metropolitan Areas are called the Rural Areas.

In addition, the tertiary industries such as service industries make up over 60% of employment in the Rural Areas. The withdrawal of these service industries will lead to a decrease in employment opportunities in the region, which could lead to further Population Decline (Figure 1-2-4).

Figure 1-2-4	The Industry Type Ratio of Rural Areas (2010)

Tertiary Industry 67.4%

| 6.8 | 0.1 | 8.7 | 17.1 | 0.5 | 5.3 | 1.5 | 17.0 | 2.3 | 1.4 | 11.9 | 23.6 | 4.0 |

0   10   20   30   40   50   60   70   80   90   100 (%)

Legend:
- Agriculture, Forestry and Fishery
- Construction Industry
- Electricity, Gas, Heating, Water Industry
- Transport Industry, Postal Industry
- Financial Industry, Insurance Industry
- Medical, Welfare
- Public Administration (excluding those included in other categories)
- Mining, Quarrying, Gravel Extraction Industry
- Manufacturing Industry
- Information and Communication Industry
- Wholesale Industry, Retail Industry
- Real Estate Industry, Rental Supply Industry
- Service Industry

(Notes) 1 For expediency, the industries included in "Service Industry" includes "Academic Research, Specialty/Technical Service Industry", "Accommodations, Food and Beverage Service Industry", "Daily Life-Related Services, Entertainment Industry", "Education, Learning Support Services", "Combined Services Industry" and "Service Industry (those not included in any other category)".
2 Rural Areas: All areas excluding the 3 Major Metropolitan Areas (Saitama, Chiba, Tokyo, Kanagawa, Gifu, Aichi, Mie, Kyoto, Osaka, Nara, Hyogo)
Source) Developed by MLIT from "2010 National Census" by MIC

(2) Falling Standard of Administrative Services Due to Decrease in Tax Income

A decline in population also has a major impact on the finances of the local government. With population decline and its resulting shrinkage of economic/industrial activities, the tax income of the local public entities will decrease. Meanwhile, social security expenses are expected to rise because of the growing elderly population, so that condition are expected to become even tougher on local governments. Should these conditions continue, it is projected that social services that had been previously provided will be abolished or more fees charged, making daily life more inconvenient as a result.

In addition, under these difficult financial conditions of local governments, the issue of aging infrastructures, such as the public facilities, roads, bridges and sewage systems built in the high economic growth period, will also need to be addressed.

(3) Down-Sizing, Withdrawal of the Local Public Transportation

Until now, local public transportation has mostly been supported by private businesses. However, if the decrease in the population of children, students and working-aged people progresses because of the population decline, the number of commuters will decrease. This will make it difficult for private businesses to offer transportation services based on profit performance, and it is predicted that the unprofitable routes of local railways and bus lines will either be shutdown or decrease the frequency of service. In Rural Areas, with the growth of the aging population, there is a growing need for public transportation as the means of mobility for the elderly people who cannot drive cars. Therefore, the deterioration of local public transportation services has an even greater effect on daily life than in the past.

(4) Increase in Vacant Houses, Vacant Stores, Old Factory Sites, Deserted Arable Land

While on one hand the population is decreasing, by contrast the total number of housing is increasing, and the number of vacant housing units continues to grow consistently across the country. In particular, the number of units categorized as "Other Housing", which includes housing that have not been inhabited for long periods for lack of renter or buyers, has been growing. "Other Housing" also includes units without clear plans for maintenance or disposal, and tend to be poorly maintained compared to the vacant housing units in other categories (Figure 1-2-5).

In addition, due to the shrinkage in local economic and industrial activities, as well as lack of successors, there is an increase in vacant stores, old factory sites and deserted arable land. This, along with the increase in vacant housing, leads to the regional landscape becoming unsightly, public safety hazards, increase in accidents such as building collapses and fires, and serves to lower the overall attractiveness of the district.

| Figure 1-2-5 | Shift in Number of Vacant Houses According to Type |

(Note)　Secondary Housing: Vacation homes and other housing (Housing where people reside once in a while); Housing for Rent or Sale: New or old housing that is vacant in order to rent or sell; Other Housing: Housing that remains vacant other than for the reasons above, for example homes that are left vacant for long periods of time for reasons like job relocation or hospitalization, or left vacant to be demolished for rebuilding.
Source) Developed by MLIT from "Housing and Land Survey" by MIC
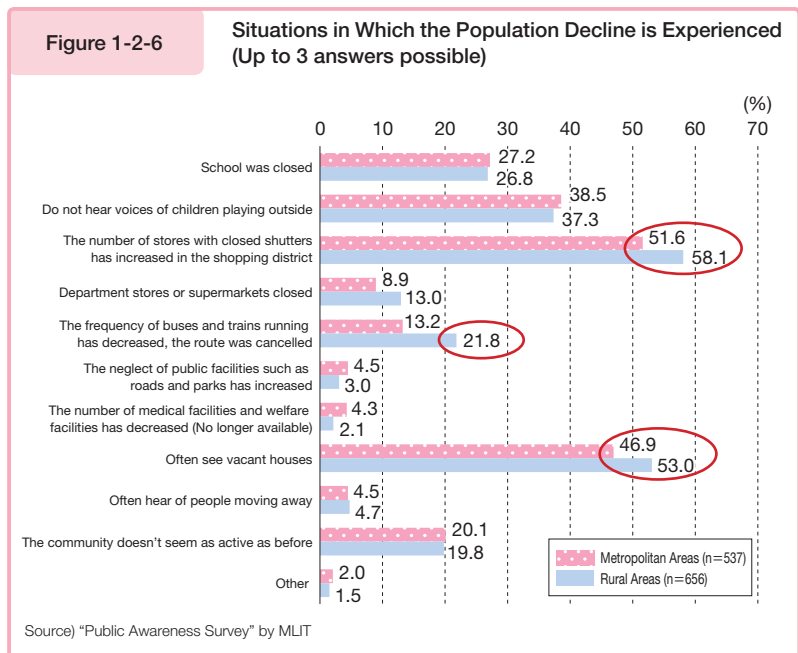
(5) Functional Decline of Local Communities

Population decline has a major impact on the functional decline of the local communities. Not only will the cooperative capabilities of citizens' organizations such as the neighborhood and residents associations suffer for the lack of leaders, the decrease in the numbers of local volunteers for the community firefighting squad threatens to reduce the district's capability to handle emergency situations.

Also, as the decrease in numbers of children and students progress, the number of classes will decrease, classroom sizes will shrink, and may eventually lead to the elimination and consolidation of schools. This decline in the youth population will make it difficult to pass on the local history and traditional culture, and could cause a problem in carrying on traditional events such as local festivals.

In this way, the decline in residents engaging in local activities will decrease the number of opportunities for interaction among the residents, and the enthusiasm and affection for the area will be lost.

As evident from above, population decline can have various effects on the cities and the daily life in the Rural Areas, some that have already manifested and others that yet to become apparent. Of those in Figure 1-2-2 who responded that they "have" or "have somewhat" experienced the effects of population decline, when asked in what situations they experienced the decrease in population, a high percentage answered "the number of stores with closed shutters has increased in the shopping district" and "often see vacant houses", and an especially high percentage in the Rural Areas answered that "the frequency of buses and trains running has decreased, the route was cancelled" (Figure 1-2-6).

| Figure 1-2-6 | Situations in Which the Population Decline is Experienced (Up to 3 answers possible) |

Source) "Public Awareness Survey" by MLIT

The various effects of population decline on the cities and daily life of the Rural Areas may lead to a vicious cycle of further reducing the population of these regions, due to the diminishing quality of life and attractiveness. Figure 1-2-7 is an illustration of this cycle.

| Figure 1-2-7 | Illustration of the Vicious Cycle of Population Decline |

Source) MLIT
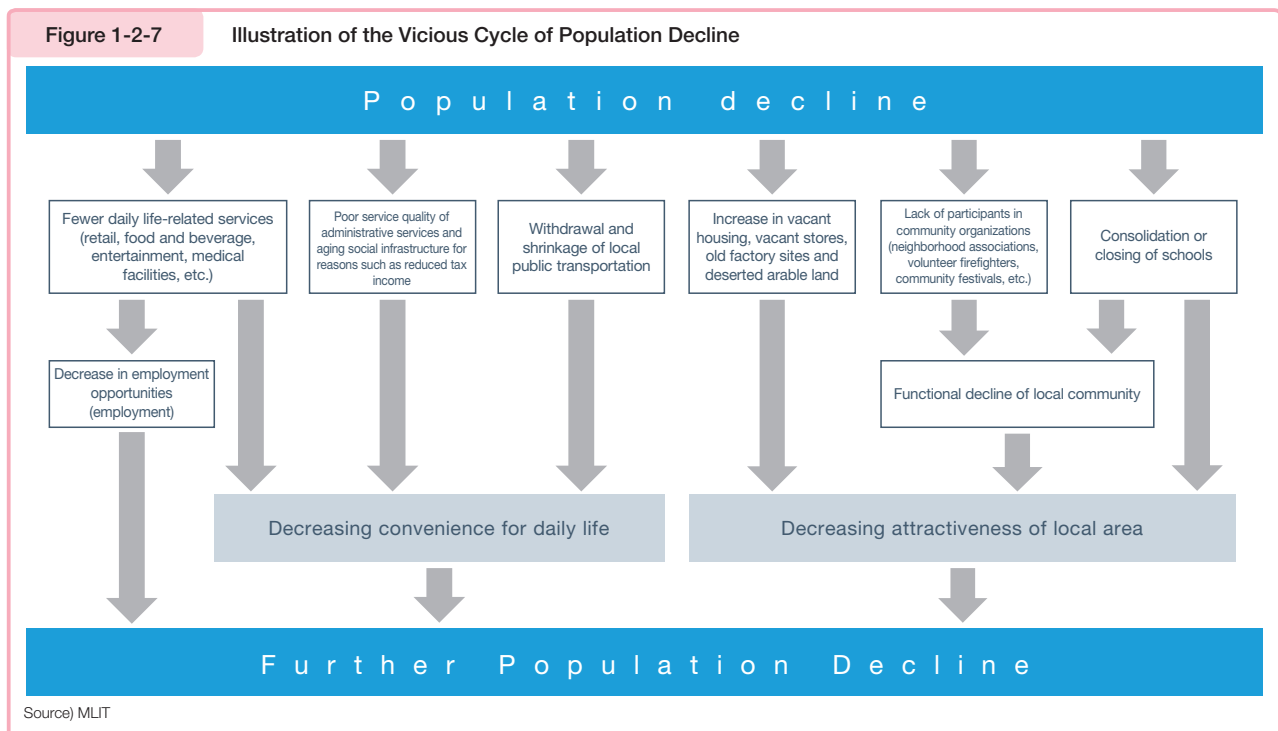
Since the effects and the degree of said effects will depend on the characteristics of the locale, the process depicted in the illustration will not apply to all districts. However, it is important to not just have a vague sense of crisis regarding population decline, but to share an awareness that this is an imminent problem that may occur in one's own resident district. Then, based on that shared awareness, work on facing the problems caused by population decline as a unified district.

As outlined in the following chapters, Ministry of Land, Infrastructure, Transport and Tourism understands the importance of realizing prosperous living that extends to future generations, and will work to promote the building of attractive districts by making cities more compact to consolidate administrative functions, and securing local daily life services by strengthening the transportation network.

Column

The Current Conditions of Vacant Housing and the Establishment of the "Act on Special Measures concerning the Promotion of Measures for Vacant Buildings, etc."

In recent years, the number of vacant housing units is increasing all over the country, and countermeasures are becoming necessary due to the possibility of various problems arising (external diseconomy) such as the collapse of buildings due to poor management or dilapidation, the riotous growth of weeds causing local landscape to be ruined and creating hygiene issues from illegal dumping, as well as the endangering public safety due to trespassing and arson.

The vacant housing units that create these kinds of issues are mainly "Other Housing" that have been left vacant for long periods due to job transfers or hospitalization of the residents, or have been scheduled for demolition or rebuilding. These vacant housing units would not be problematic if they are being taken care of properly, however if they are abandoned and insufficiently maintained, there is the possibility of incurring external diseconomy.

In 2013, the ratio of vacant housing to the total number of housing by prefecture (Vacant Housing Rate), Yamanashi had the highest rate at 22.0% followed by Nagano at 19.8%. However, this Vacant Housing Rate includes "Secondary Housing" and "Housing for Rent or Sale". When looking at the "Other Housing" rate (hereafter "Rate of Vacant Other Housing"), Yamanashi and Nagano prefectures—despite having the highest Vacant Housing Rate—are not even in the top 10 prefectures for the Rate of Vacant Other Housing. These statistics are most likely due to a large number of vacation homes being located in these two prefectures, as both are easily accessible from the Tokyo Area. In looking at the Composition Ratio of Vacant Housing, the percentage of "Secondary Housing" is extremely high compared to other prefectures. The percentage of actual "Other Housing" in Yamanashi was 36.2% and 38.4% in Nagano, both which are lower than the national average of 38.8%.

Figure1-2-8   Composition Ratio of Vacant Housing and the Rate of Vacant Other Housing

Secondary Housing   Housing for Rent or Sale   Other Housing   Rate of Vacant Other Housing (Right Axis)

Source) Developed by MLIT from "2013 Housing and Land Survey" by MIC

Looking at the relationship between the "Rate of Vacant Other Housing" and the "Rate of Population Increase-Decrease" by prefecture, it is evident that the prefectures with a high "Rate of Population Decline" have the tendency to also have a high "Rate of Vacant Other Housing". Also, looking at the relationship between the "Rate of Vacant Other Housing" and the "Aging Population Rate", it is evident that the prefectures with a high "Aging Population Rate" tend to also have a high "Rate of Vacant Other Housing". Based on this correlation, it is predicted that with the expected acceleration of decrease in the overall population and increase in the aging population in the Rural Areas, the number of vacant housing will rise even more.

I

Chapter 1   Current Conditions in Japan such as Declining Population

For the vacant houses that are likely to incur external diseconomy, until recently rural public organizations have individually formulated ordinances regarding the appropriate management of vacant houses to deal with the issue. However, due to (1) difficulty in identifying the owner or manager, (2) reluctance in taking forcible measures against private property such as giving orders based on ordinances, the national government had been appealed to, to provide legislation that dealt with vacant housing that incurred external diseconomy.

In response to this, the "Act on Special Measures concerning the Promotion of Measures for Vacant Buildings, etc." was enacted by House Members on November 19, 2014, and went into partial enforcement on February 26, 2015, then full enforcement from May 26, 2015. Furthermore, based on Article 5 Paragraph 1, the "Basic Guidelines to Comprehensively and Systematically Enforce the Ordinances Regarding Vacant Housing" was established.

This ordinance, after defining "Vacant Housing" as a building and/or attached structure as well as its premises that are not ordinarily being used as a residence or for other purposes (Article 2 Paragraph 1), states that municipalities can decide on a countermeasure plan for vacant housing based on the above Basic Guidelines (Article 6). This countermeasure plan includes the basic guidelines regarding vacant housing, a planning period, an investigation of vacant housing, the promotion of appropriate management and use, measures for "Special Vacant Housing", how to handle inquiries from citizens, and an implementation system for ordinances, so that it not only provides measures for poorly managed vacant housing, it also provides preventative measures.

"Vacant Housing" that is identified as fulfilling the 4 conditions of: (1) in a condition that, if left as is, may become a serious threat to public safety in ways such as collapsing, (2) in a condition that, if left as is, may become a serious hygiene hazard, (3) in a condition that is seriously damaging the local scenery due to lack of adequate maintenance, (4) in any other condition where neglect would be inappropriatet in light of conserving the living environment of the vicinity, are defined as "Special Vacant Housing" (Article 2 Paragraph 2).

For "Special Vacant Housing", the mayor of the city has been given the right to handle the process from providing advice and guidance, giving warning, to giving orders and execution by proxy in taking necessary steps such as disposal, repair and cutting of standing trees (Article 14). If action is not taken after advice and guidance has been given, then the procedures of issuing a warning and then further giving an order will be followed, but first steps are taken to encourage the property owner to handle the issue. Also, if a person who has been given an order does not implement improvements without good reason, the mayor of the city can enforce the law by proxy.

MLIT supports the efforts of the local public organizations in promoting the use or removal of vacant Housing. An example of this is the adding of an Actual Conditions Investigation of Vacant Housing—needed by municipalities for formulating an Vacant Housing Countermeasure Plan—as a subject to support the Vacant Housing Reclamation Promotion Project. Furthermore, due to the partial revision of the "Rural Tax Law" which was enacted on March 31, 2015, it has been ruled that in cases where the city mayor took the necessary steps according to this law in giving warning to the owner of "Special Vacant Housing" and the owner does not make the required adjustment by January 1st of the following year, the land that is used as the premises of the Special Vacant Housing will be excluded from being eligible as an exceptional residential land for the purpose of fixed property tax. By combining and making use of these systems, we expect that the municipalities will work even harder to promote the Vacant Housing Countermeasures.

Figure1-2-9   Rate of Vacant Other Housing by Prefecture and Relationship to Population Increase-Decrease Rate I (2013)
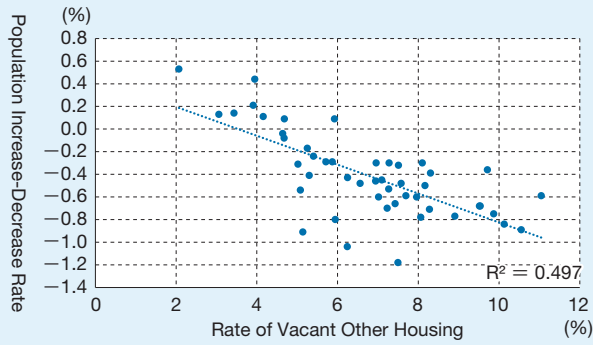
Source) Developed by MLIT from "Population Projections (as of October 1, 2013)", "2013 Housing and Land Survey" by MIC

Figure1-2-10   Rate of Vacant Other Housing by Prefecture and Relationship to Aging Population Rate (2013)
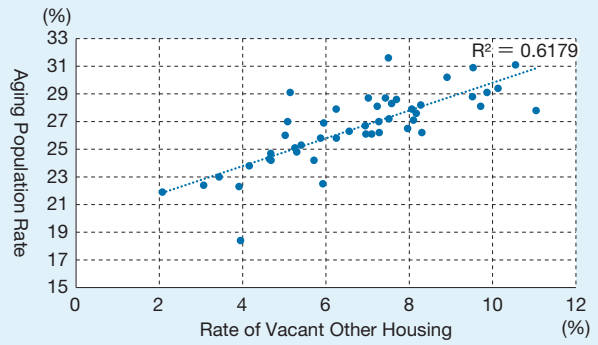
Source) Developed by MLIT using "Population Projections (as of October 1, 2013)", "2013 Housing and Land Survey" by MIC

Chapter 1   Current Conditions in Japan such as Declining Population