Demography of Northern Noto Area, Ishikawa Prefecture

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1. Introduction

Population decline, mainly due to both a declining birth rate and increased aging, has become one of the biggest problems in Japan, especially in the regional countryside. The problem is also severe in Ishikawa Prefecture, located in Central Japan facing the Sea of Japan, which is the region of focus in this paper.

Table 1 shows changes in population increase and decrease rates in all 19 municipalities of Ishikawa Prefecture from 2000 to 2020 (every 10 years). In the "Kanazawa area," around the city of Kanazawa, the capital of Ishikawa Prefecture, population growth has been slow. However, in three other areas in Ishikawa Prefecture, namely the Kaga area, Central Noto area, and Northern Noto area, many municipalities have experienced a decrease in their population in the past 20 years. Therefore, the population of Ishikawa Prefecture in 2020 was about 1.13 million, that is, a decrease of minus 4.1% compared with that in 2000 (about 1.18 million). Besides, the population of Ishikawa Prefecture decreased by 0.9% from 2000 to 2010, and by 3.2% from 2010 to 2020. This makes regional demographics more serious. Four municipalities in the Northern Noto area, namely the city of Wajima, city of Suzu, town of Anamizu, and town of Noto, have experienced severe population decline in the past 20 years, and that situation is worse than in any other municipalities in Ishikawa Prefecture. The main factors influencing the population decline are the decrease in the number of births and the movement to other areas mainly by the young generation, and a combination of these two factors has resulted in a major population decline.

Generally, population decline, especially in regions, causes continual problems such as the shortage of people who participate in regional traditional arts and festivals, difficulties in playing sports and performing cultural activities, and the resulting negative effect on economic activities, which might, in turn, reduce the vitality of regions.

Of course, the present population decline and its negative effects have been recognized in previous studies, and various policies have been developed to avoid worsening the situation. Whether those policies have worked is not clear yet; however, the tendency of population decline itself has not subsided. Population decline also causes a decrease in the number of further births in the future. Thus, it could be said that the Northern Noto area is caught by such a negative chain reaction. This indicates that the demographic situation of the Northern Noto area cannot improved if the present situation continues.

Therefore, the main aim of this paper is to identify and compare specific demographic problems among four municipalities in the Northern Noto area and propose ways to maintain or recover the population in each municipality and in the entire Northern Noto area.

Table 1. Increase/Decrease of Population Rate in 19 Municipalities in Ishikawa Prefecture

	(Population)			(Increase rate)		
	2000	2010	2020	2000-2010	2010-2020	2000-2020
(Kanazawa Area)	597,553	612,764	618,912	2.5%	1.0%	3.6%
Kanazawa	456,438	462,361	463,254	1.3%	0.2%	1.5%
Kahoku	34,670	34,651	34,889	-0.1%	0.7%	0.6%
Nonoichi	45,581	51,885	57,238	13.8%	10.3%	25.6%
Tsubata	34,304	36,940	36,957	7.7%	0.0%	7.7%
Uchinada	26,560	26,927	26,574	1.4%	-1.3%	0.1%
(Kaga Area)	344,161	345,606	334,502	0.4%	-3.2%	-2.8%
Komatsu	108,622	108,433	106,216	-0.2%	-2.0%	-2.2%
Kaga	78,563	71,887	63,220	-8.5%	-12.1%	-19.5%
Hakusan	106,977	110,459	110,408	3.3%	0.0%	3.2%
Nomi	45,077	48,680	48,523	8.0%	-0.3%	7.6%
Kawakita	4,922	6,147	6,135	24.9%	-0.2%	24.6%
(Central Noto Area)	149,940	135,960	117,998	-9.3%	-13.2%	-21.3%
Nanao	63,963	57,900	50,300	-9.5%	-13.1%	-21.4%
Hakui	25,541	23,032	20,407	-9.8%	-11.4%	-20.1%
Shika	25,396	22,216	18,630	-12.5%	-16.1%	-26.6%
Houdatsushimizu	15,891	14,277	12,121	-10.2%	-15.1%	-23.7%
Nakanoto	19,149	18,535	16,540	-3.2%	-10.8%	-13.6%
(Northern Noto Area)	89,323	75,458	61,114	-15.5%	-19.0%	-31.6%
Wajima	34,531	29,858	24,608	-13.5%	-17.6%	-28.7%
Suzu	19,852	16,300	12,929	-17.9%	-20.7%	-34.9%
Anamizu	11,267	9,735	7,890	-13.6%	-19.0%	-30.0%
Noto	23,673	19,565	15,687	-17.4%	-19.8%	-33.7%
(Total)	1,180,977	1,169,788	1,132,526	-0.9%	-3.2%	-4.1%

Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

2. Basic Demographic Information of Four Municipalities in Northern Noto Area

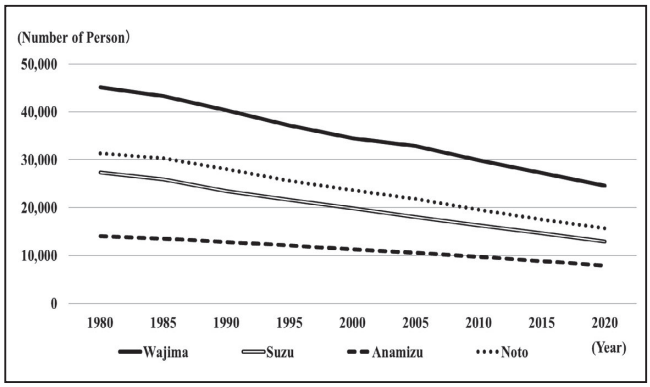
First, the demographic information of four municipalities in the Northern Noto area was drawn from a "Population Census" conducted by the Japanese government from 1980 to 2020 (every five years). The total population of the four municipalities is approximately 61,000 as of 2020; however, there has been a continual population decline caused by the declining birthrate and aging. Compared with the population of the four municipalities in 1980[(1)], the population rate in 2020 was approximately 52% of that of 1980. In particular, the city of Suzu has experienced the most severe population decline (Figure 1), with a population in 2020 of about 47.3% of the population in 1980. In addition, the rate of decline in the male population was slightly higher than that of the female population in the same period. Moreover, because the aging rate has risen continuously, it changed from about 15% in 1980 to about 50% in 2020, which indicates a severe situation, too. In fact, among the four municipalities, the level of aging in the city of Suzu was higher than the three other municipalities in the Northern Noto area (Figure 2). However, the demographic situation is basically the same in each municipality, regardless of a slight difference.

As mentioned earlier, because the population plays an important role in regional revitalization, the continual decrease in the Northern Noto area's population should be regarded as a serious issue. One of the most important factors influencing population decline in the Northern Noto area is the continual decline in the number of births (see Figure 2), as mentioned earlier. For example, comparing the age group of 0–4 years in 2020 with that in 1980, the city of Wajima, which had the largest population among four municipalities in 2020, had only 18.3% of that in 1980, and in the town of Noto, the number in 2020 was only 14.6% of that in 1980 (Table 2). Furthermore, there are some high schools in the Northern Noto area, but no higher education institutions such as colleges and universities within a reasonable distance. Therefore, young people, mainly those aged 18 years, and graduates from high school have to decide whether to leave the Northern Noto area to find a higher education institution, or stay and work around the Northern Noto area. Considering the entrance rate of higher education institutions in Japan, the young generation (within the same age group) in the Northern Noto area tends to leave for other areas. Moreover, statistics report that those who leave the Northern Noto area once do not necessarily return to their hometowns later; for example, after graduating from university. Another reason for the population decline is that there are fewer popular or appropriate jobs for young people in the Northern Noto area because of the weak economy caused by population decline and aging. Such jobs, which young people prefer, seem to be usually found in cities. As a result, the number of young people has decreased in the Northern Noto area, which has, in turn, resulted in reduced births continually for decades, and the aging level has also increased (Figure 3).

Such a vicious circle of population decline would be accelerated if no policies were put in place to address the issue. However, it is not easy to reverse a population decline to a population increase. Therefore, as a first step, these situations should be analyzed in detail to identify the causes.

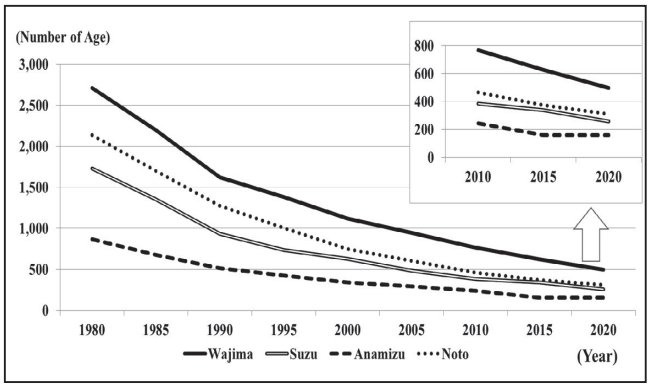
To understand the demographic features of the four municipalities in the Northern Noto area, a "cohort analysis" was used, which is relatively appropriate for understanding the trends of the social movement of people in demography. Cohort analysis is the method used to compare the present year's population with the population five years ago. For example, the population in 2020 is compared with that in 2015. If the number of 15-year-olds was 100 in 2015, and the number of 20-year-olds in 2020 was 120, it means there were 20 more people of the same generation in that area in 2020 than in 2015. Therefore, the analysis shows the basic movement of people over five years. A plus means that they had more people in their hometown compared to five years ago for the same age, and a minus means that they had fewer people.

Figure 1. Number of People in Four Municipalities from 1980 to 2020



Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

Figure 2. Number of People Aged 0–4 in Four Municipalities from 1980 to 2020



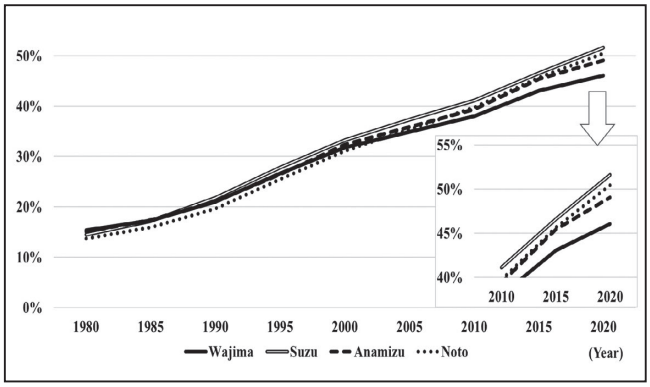
Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

Table 2. Decrease Rate in Ages 0–4 in Four Municipalities

	Wajima	Suzu	Anamizu	Noto
1980-1990	-40.1%	-46.1%	-40.5%	-40.3%
1990-2000	-31.1%	-32.6%	-34.6%	-41.5%
2000-2010	-31.3%	-38.9%	-28.3%	-37.8%
2010-2020	-35.3%	-32.8%	-35.0%	-32.8%
1980-2000	-58.7%	-63.7%	-61.0%	-65.1%
2000-2020	-55.5%	-58.9%	-53.4%	-58.2%
1980-2020	-81.7%	-85.1%	-81.8%	-85.4%

Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

Figure 3. Rate of Aging (over 65 years old) in Four Municipalities



Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

3. Features of Four Municipalities in Northern Noto Area: from Cohort Analysis

At first, based on the analysis by "Population Census" and previous studies, the cohort analysis is set by age of five every year. In addition, because the main purpose of the analysis is to make a chronological comparison, the changes over three year groups, namely 1985–1990, 2000–2005, and 2015–2020, are analyzed.

First, each cohort analysis in the four municipalities indicates that the young generations (15–19 years old and from 20–24 years old) tend to leave their hometowns and a relatively small number of those in the 25–29 years age group comes back. Therefore, many of those who leave do not return to the Northern Noto area; they stay in other areas (generally, big cities such as Tokyo and Osaka). This is one of the major reasons the population in the Northern Noto area continues to decrease.

Second, the number of males and females in both the 15–19 and 20–24 age groups tends to decrease. The pattern is the same to some extent, even though there are some differences among the municipalities or age groups.

On the other hand, a detailed analysis of the tendency of demographic changes in each of the four municipalities shows some differences between the city of Wajima and three other municipalities (Figures 4–7). For

example, in the city of Wajima, the movement of the 15–19 age group between 2015 and 2020 is clearly different from that between 1985 and 1990. This is likely because the high school in the city of Wajima, which also has a dormitory, has some influence. Even in the city of Wajima, it could be inferred that some people in the 15–19 age group leave their hometowns, but the admission to high school in the city of Wajima from other areas in Japan offsets the decrease. However, this also indicates that even if those students start to live in the city of Wajima to attend high school (some might be dormitory residents from other areas), they do not necessarily continue to live in the city of Wajima after graduating from high school. Such a tendency could be understood as the 20–24 age group, which is the age group for entrance into higher educational institutions, has a negative number. In addition, the 25–29 age group, which is not related to high school, increases to some extent. Such a tendency is the same as in three other municipalities. Therefore, the superficial movement seems to be different between the city of Wajima and other municipalities, but essentially, there seems to be little difference among the four municipalities.

In addition, the valleys in the cohort analysis, which represent the typical age group to leave the Northern Noto area, decrease annually for each municipality. However, this does not necessarily imply that relatively many young people remain in their hometowns. Because the population of that age group itself has decreased, the frequency of their movement has decreased, too. Figures 8–11 show how much the age groups moved every five years from 1985 to 2020 (1985–1990, 2000–2005, and 2015–2020), by gender. Even if the analyzed year is changed, the ratio of the population movement in each age group has a similar pattern. However, in the case of the city of Wajima, it is important to note that there is an annual increase because the influence of the high school mentioned above is relatively higher.

The decrease in the birthrate in each analyzed year could be mainly a result of the decrease in the number of young people. On the other hand, the average number of births per woman in the four municipalities is sometimes higher than the prefectural average; for example, in the case of the city of Wajima, the total fertility rate in 2017 was 1.68 and the prefectural average was 1.54. It could be inferred that the main factor influencing the declining birth rate would be the decrease in the number of births among young people rather than a decrease in the number of births per woman. To confirm this assumption, considering the relationship between the 0–4 and the 15–49 age groups, which is often useful for the analysis of birthrate trends, a relatively strong correlation between both age groups can be seen in each municipality. The correlation coefficients are 0.984 in the city of Wajima, 0.971 in the city of Suzu, 0.965 in the town of Anamizu, and 0.976 in the town of Noto (Figures 12–15).

Additionally, the real numbers every five years from 1990 to 2020 are below the approximated straight line in the case of the city of Wajima. On the other hand, in three other municipalities, the real numbers are above the approximated straight line of each municipality after 2005 and 2010. On average, this indicates that the decrease rate in the 0–4 age group is lower than that in the 15–49 age group. The slight difference might simply be due to a calculation error; however, there might be a slight possibility that the present situation might improve in the future.

Based on the former analysis, some factors could be considered to maintain the present population level. First, there is a high correlation coefficient for maintaining the population in the 0–4 and 15–49 age groups.

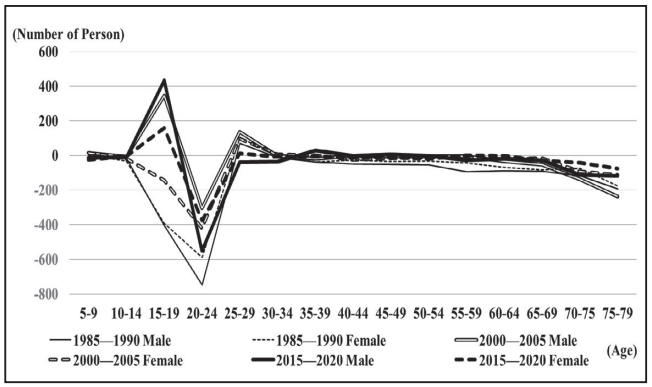
Second, if this is the case, it is important to develop policies to require, for example, those in the 24–29 age group, who tend to leave their hometowns of the Northern Noto area, to go back to their hometowns. The cohort analysis shows that there is only a small change in the population of those in the 30+ age group, which means that people in this age group generally do not tend to leave the Northern Noto area.

It is important to ensure that policies and efforts to increase the population focus on the target age and those who live in other areas but might hope to come back to their hometowns if there are good opportunities; for example, a good job. While it is difficult to find such people directly, making the specific target area might be an effective method. Considering that, those who live in the same prefecture, that is, those who left the Northern Noto area but live in the same prefecture, would be more likely to come back to their hometowns if there is an opportunity, from the perspective of the "Sense of Distance."

Therefore, it is necessary to obtain information about the areas to which the population flows and from which areas the population flows into the Northern Noto area.

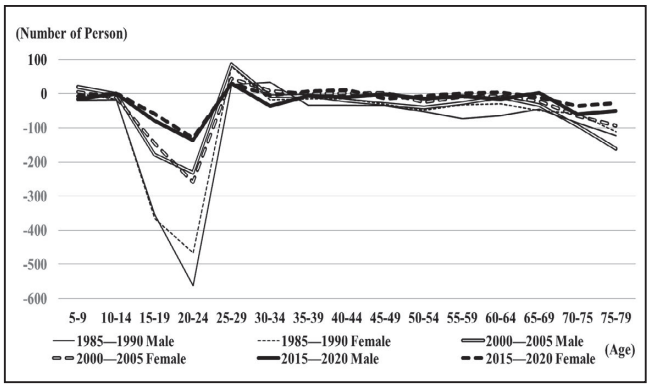
In addition, it is important to analyze, as a policy target, how many people who leave the Northern Noto area would go back from different municipalities in the same prefecture or different municipalities in different

Figure 4. Cohort Analysis of the City of Wajima



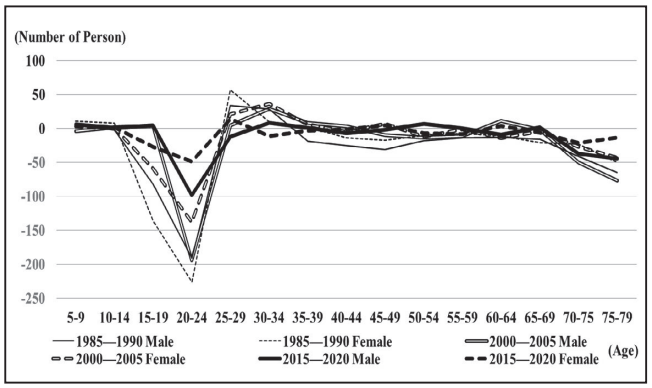
Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

Figure 5. Cohort Analysis of the City of Suzu



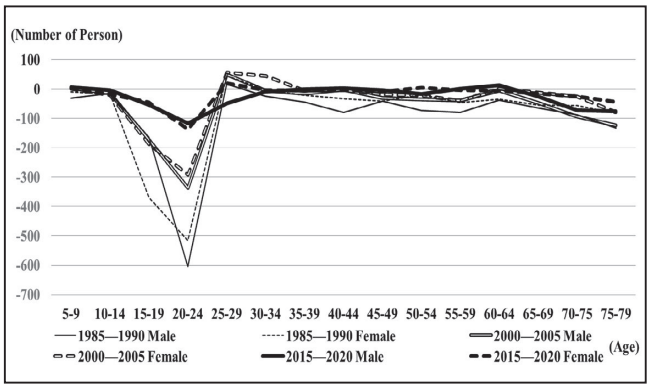
Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

Figure 6. Cohort Analysis of the Town of Anamizu



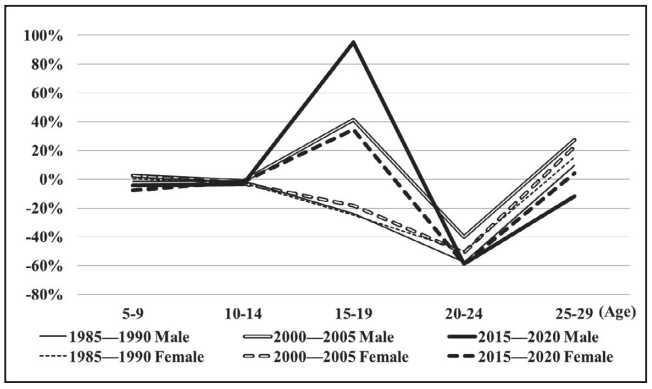
Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

Figure 7. Cohort Analysis of the Town of Noto



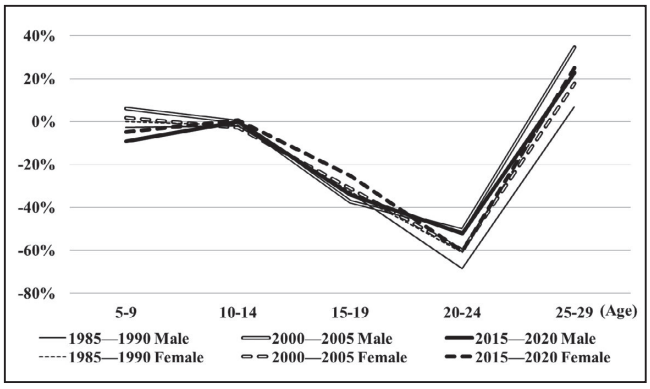
Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

Figure 8. Level of Change Rate among Three Generations in the City of Wajima



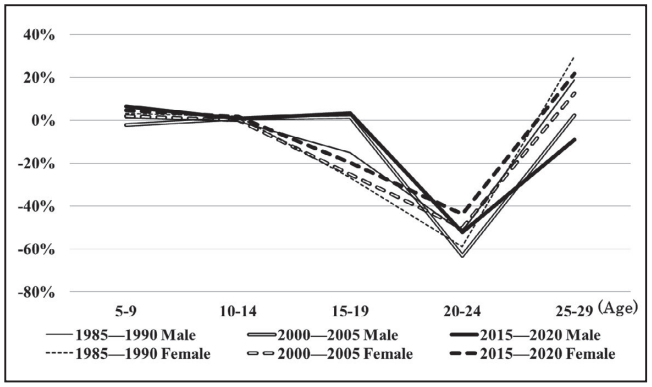
Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

Figure 9. Level of Change Rate among Three Generations in the City of Suzu



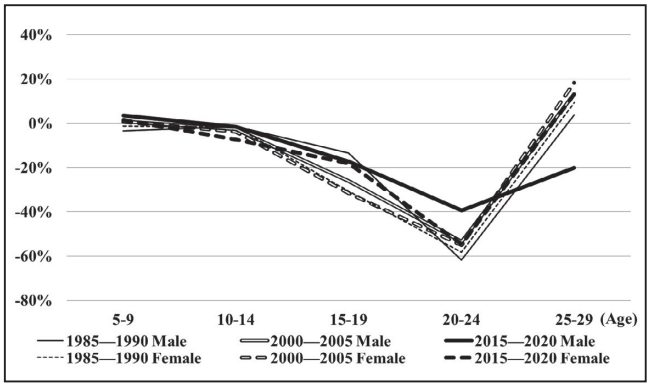
Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

Figure 10. Level of Change Rate among Three Generations in the Town of Anamizu



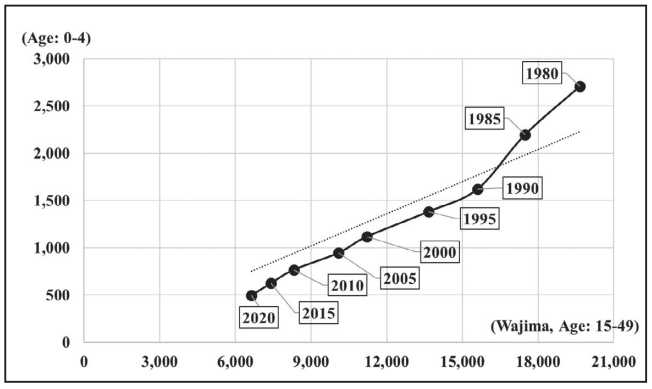
Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

Figure 11. Level of Change Rate among Three Generations in the Town of Noto



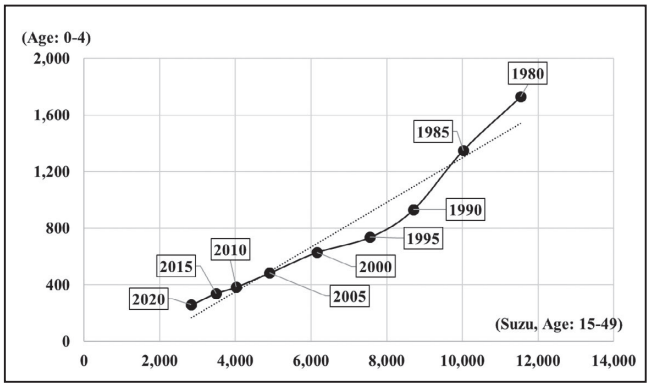
Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

Figure 12. Relationship between Ages 0–4 and 15–49 in the City of Wajima



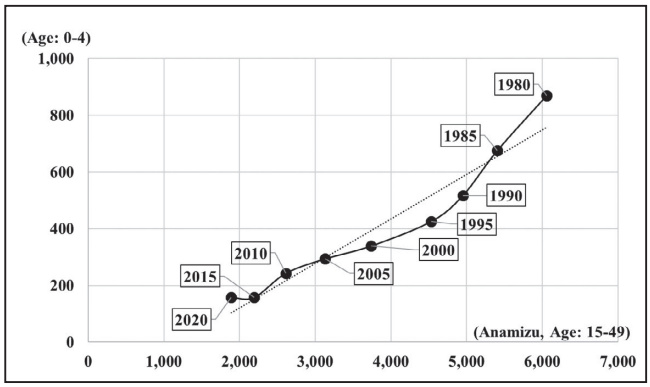
Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

Figure 13. Relationship between Ages 0–4 and 15–49 in the City of Suzu



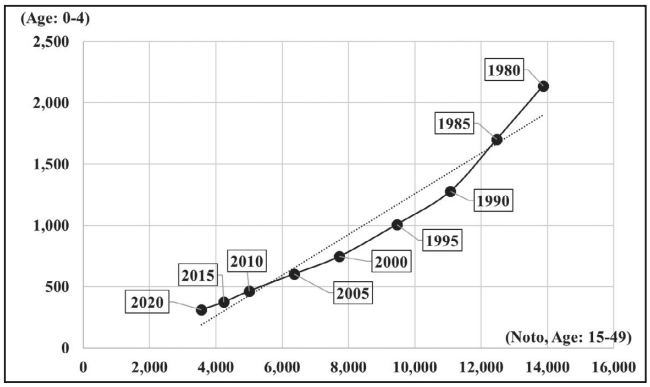
Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

Figure 14. Relationship between Ages 0–4 and 15–49 in the Town of Anamizu



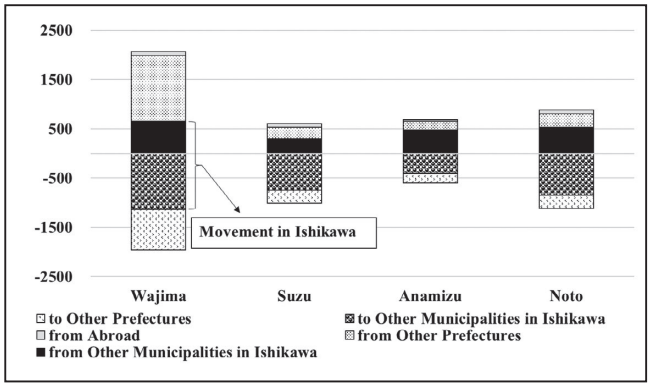
Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

Figure 15. Relationship between Ages 0–4 and 15–49 in the Town of Noto



Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

Figure 16. Demographic Changes in Four Municipalities from 2015 to 2020



Source: Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020)

prefectures. The Population Census provides data on the number of people who moved to the Northern Noto area in the past five years and where they lived before moving to the area[(2)]. Based on the Population Census of 2020, Figure 16 shows the number of people who left the Northern Noto area in the past five years and those who moved to the Northern Noto area during the same time. As shown in Figure 16:

1) The increase or decrease in the population of the city of Wajima is larger than that of the other three municipalities.
2) The overall inflow to and outflow from other municipalities in the same prefecture is relatively higher than that of other prefectures.
3) In the case of 2020, the number of outflows from the Northern Noto area is higher than that of inflow to the area.

4. Conclusion

In this paper, the basic demographic characteristics of the four municipalities of the Northern Noto area were analyzed, and the policies that should be put in place were discussed. Except in the case of the high school generation in the city of Wajima, four municipalities have the following similarly severe population issues:

1) When young people graduate from high school, some leave their hometowns to enter higher educational institutions in other areas, thus reducing the number of young people in their hometowns. After graduating from the institution, some return to their hometowns while others remain. This tendency has not helped the maintain or restore the number of young people in their hometowns. As a result, the number of births and, in turn, the total population have continued to decrease. While this has occurred in many municipalities in Ishikawa Prefecture, it is more severe in the Northern Noto area.
2) Compared with the past, the number of young people moving from the Northern Noto area seems to be decreasing; however, the slight movement is still likely to reduce the population in that particular age group. The ratio of movement tendency to other areas has not changed.
3) Overall, not much difference was observed in the tendency of movement to other areas in terms of gender, except in a few cases in some years and some areas.
4) Some of those who move to the Northern Noto area live in other municipalities in the same prefecture (Ishikawa Prefecture); thus, they find it easier to come back to their hometowns than those who live in farther areas.

Various policies have been practiced for many years to address population issues. Such policies should continue. However, it is necessary to examine whether policies for young people who move within the same prefecture might have greater effects on population increase in the Northern Noto area. It may be helpful to analyze the above points in greater detail.

Notes

(1) Each municipality before the municipality merger is integrated with the present municipality.
(2) Statistics also includes the analysis of those who come to the Northern Noto area from other areas in Japan.

Reference

Statistics Bureau, Ministry of Internal Affairs and Communications (1980–2020), “Population Census.”