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A REPORT ON THE INFLUENCE OF AGING AND DEPOPULATION TO LANDSCAPE IN JAPAN

RAPORT O WPŁYWIE NA KRAJOBRAZ DEPOPULACJI I STARZENIA SIĘ SPOŁECZEŃSTWA JAPOŃSKIEGO

Abstract

Japan nowadays suffers from problems caused by long-term depopulation and especially aging. Though shrinking national economy, social welfare, pension, or future cost is regarded as the most serious problem in general at this time, the paper focuses on some "visible" problems derived from depopulation and aging, i.e. landscape and urban planning. In many towns and villages in rural regions, half of the residents are already older than 60 years old and have much difficulty to maintain daily life activities such as shopping, housekeeping, repairing their houses, etc. Especially those who are over 75 years old have often problems of their health and they need nursing, but few young people can be found in their region. These phenomena are now starting to be found also in suburban towns and cities of metropolitan areas. In some new towns in Osaka metropolitan areas, which mostly consisted of young families at the beginning, population aging is increased rapidly and results in many living problems. Among countermeasures related to landscape and urban planning are to enhance immigration of younger generation to rural areas, to utilize existing housing and infrastructure stock by developing and spreading renovation techniques or to guide population and development to the city center in order to reduce the cost for public service. It is obvious that cities may functionally and visually change due to population aging and a new perspective of landscape in the era of depopulation and its realization approaches are needed.

Keywords: depopulation, aging, marginal settlement, townscape

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Streszczenie

Starzenie się społeczeństwa i niski przyrost naturalny jest jednym z większych problemów społecznych i ekonomicznych w Japonii. Mimo kryzysu gospodarczego, który szczególnie mocno dotknął ten kraj, kwestie świadczeń socjalnych, zabezpieczenia emerytalnego i kosztów służby zdrowia oraz opieki nad seniorami są dla Japończyków aktualnie najbardziej palącymi zagadnieniami. Artykuł porusza kwestie przemian demograficznych, określanych mianem depopulacji, w odniesieniu do widocznych skutków tych procesów, czyli zachodzących w związku z tym przemian w krajobrazie i planowaniu miast. W wielu miastach i miasteczkach w regionach wiejskich połowa mieszkańców przekroczyła 60 rok życia i z trudem boryka się ze sprawami życia codziennego takimi jak remonty domów, ich utrzymanie czy robienie zakupów. Wielu ludzi powyżej 75 roku życia zaczyna mieć kłopoty zdrowotne i potrzebuje opieki, tymczasem brakuje ludzi młodych, którzy mogliby się taką opieką zapewnić. Te zjawiska zaczynają się nasilać także w obszarach podmiejskich i na obrzeżach wielkich metropolii. Także w nowych miastach, które były zakładane np. na obrzeżach Osaki wyraźnie widać, że pierwotnie zasiedlające je młode rodziny starzeją się, a dzieci migrują. Skutki krajobrazowe to przede wszystkim opustoszałe dzielnice i niezamieszkałe domy, opuszczone budynki gospodarcze i przemysłowe. Aby tym procesom przeciwdziałać podejmowane są działania zachęcające ludzi młodych do osiedlania w obszarach wiejskich, przygotowywane są odnowy substancji mieszkaniowej oraz infrastruktury, a także postulowana jest koncentracja obszarów zamieszkałych w centrach miast tak, aby redukować koszty usług publicznych. Jest zatem oczywiste, że w związku ze zmianami demograficznymi miasta japońskie zmieniają swoje oblicze i konieczne jest nowe podejście do kształtowania ich krajobrazu.

Słowa kluczowe: depopulacja, starzenie się społeczeństwa, osiedla peryferyjne, krajobraz miejski

1. The First Country of Long-Term Depopulation

Japan will be the first country who will suffer from long-term depopulation and super-aging. The number of population in the whole country started to decrease from 2005, and the aging rate becomes steadily higher and higher. After the end of the World War II, the population of Japan increase from 83 million (1950) to 128 million (2004) through the recovery from the damage of the war and high economic growth. But the growth rate during the term is gradually decreased from 1.75% (1950) to 0.07% (2004) and it stop to grow and turned to decrease on 2005. A national research institute in charge of population forecast (National Institute of Population and Social Security Research) periodically issues the result of their population study and analysis, and that of 2006 concluded that the population of Japan will be 118 million (2030) and 98 million (2055), which means the population of Japanese will be around three fourth of today after the half century. Aging population is 20.2% (2005) but will become 31.8% (2030) and 40.4% (2055), based on the same forecast. Two out of five Japanese will be 65 years old or older.

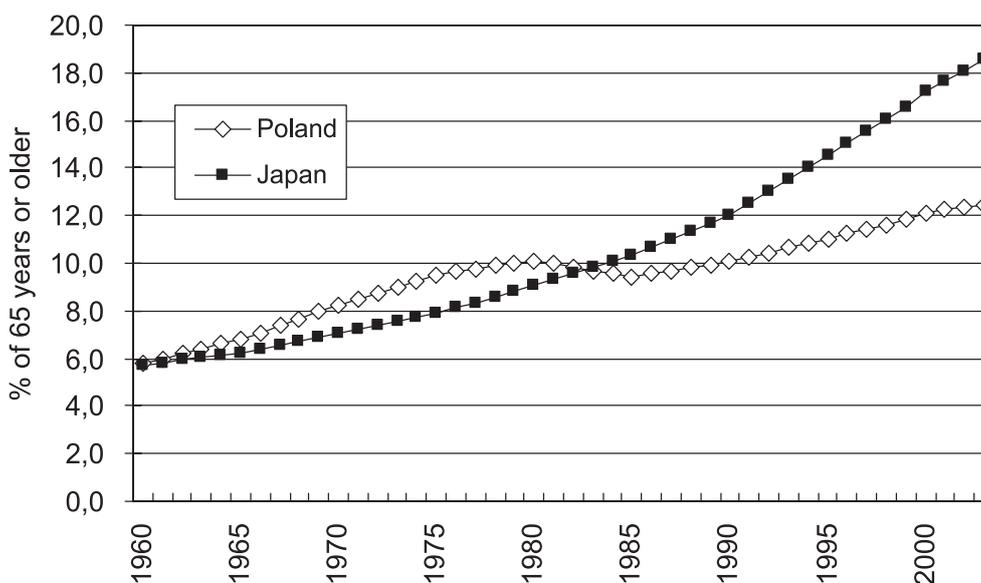


Fig. 1. The Transition of Ageing Rate of Poland and Japan from to 2003
(source: World Bank, 2005, „World Development Index“)

Rys. 1. Zmiany wskaźnika starzenia się społeczeństwa w Polsce i Japonii od 2003 r.

There are said to be some reasons for depopulation and super-aging. The main reasons are both the decline of birth rate and the increase in longevity. Birth rate became below 2 in the middle of 1970s and has been never recovered from that time, nevertheless of many birth dearth countermeasures done by the central and municipal government. Increase in longevity is of course preferred in itself, but most of them need help not only from their families but also from the society, especially after they became 75 or older (defined as “the latter-stage elderly” in Japan).

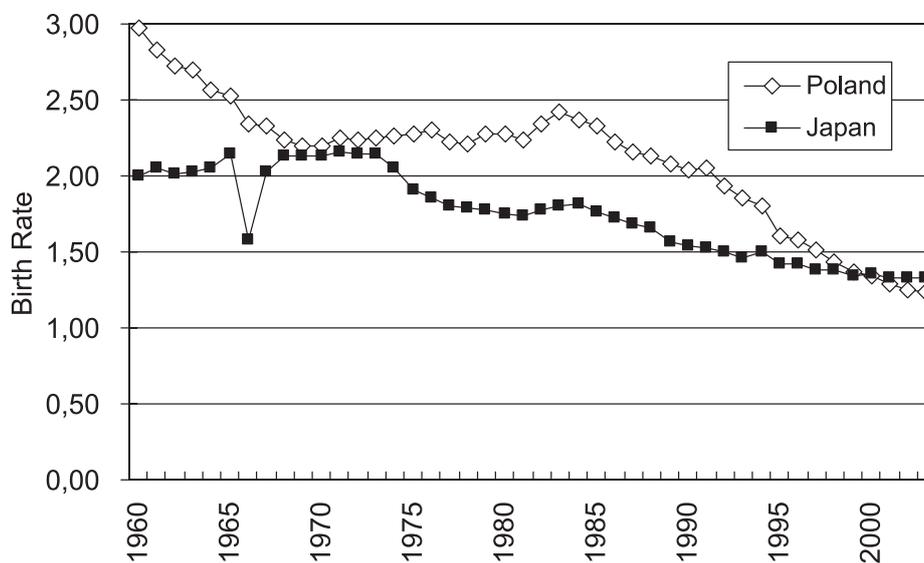


Fig. 2. The Transition of Birth Rate of Poland and Japan from 1960 to 2003
(source: World Bank, 2005, „World Development Index”)

Rys. 2. Zmiany wskaźnika urodzeń w Polsce i Japonii od 1960 do 2003 r.

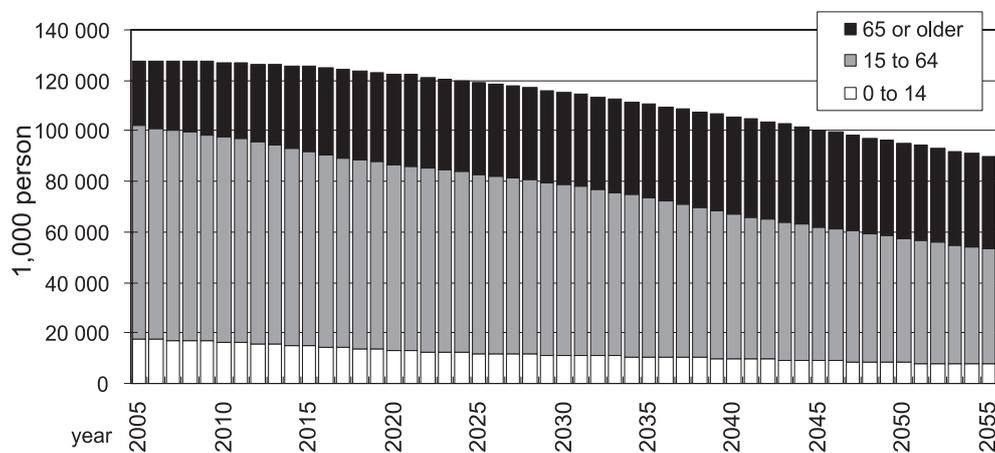


Fig. 3. Population Forecast of Japan to 2055
(source: National Institute of Population and Social Security Research)

Rys. 3. Prognoza populacji Japonii do 2055 r.

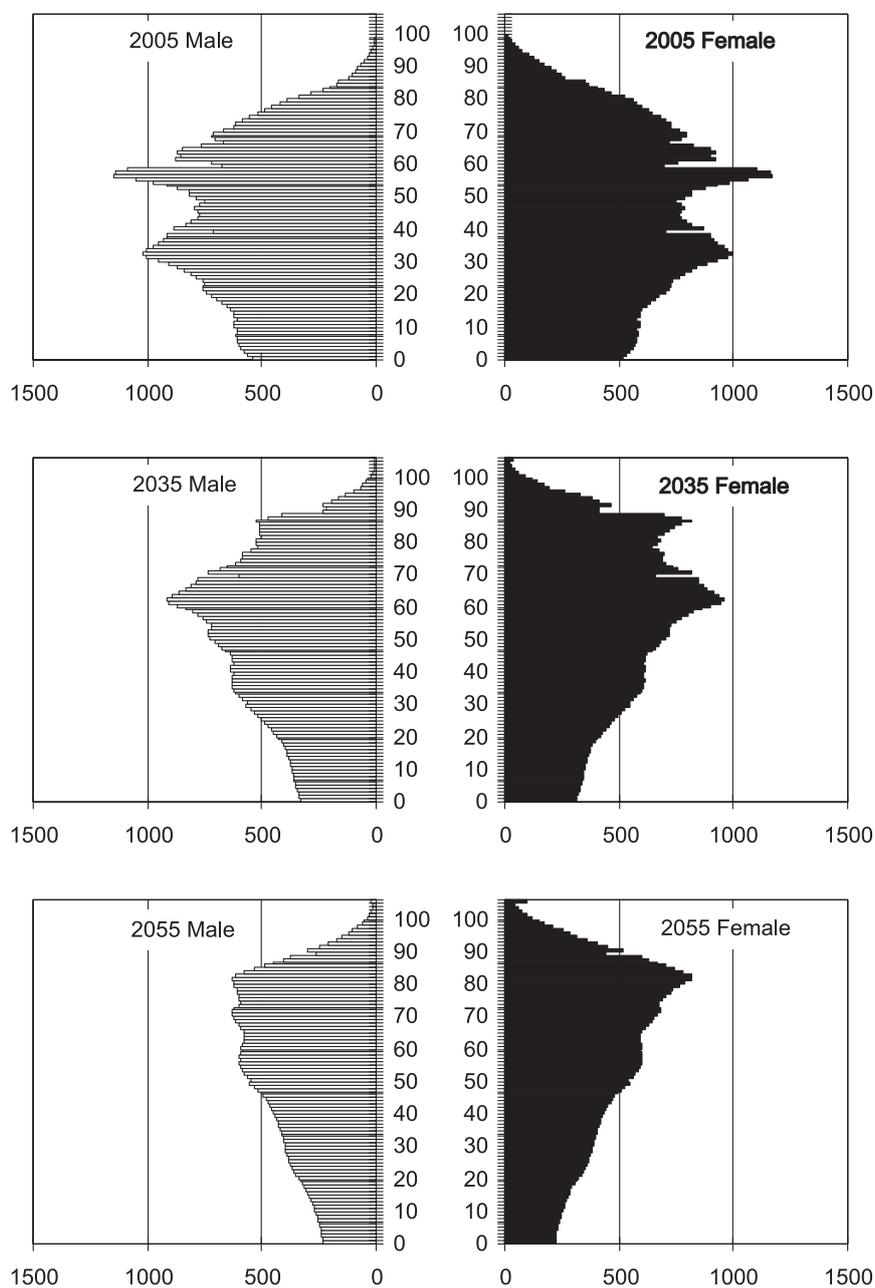


Fig. 4. Population Pyramid and its Prospect in 2005, 2035 and 2055
(source: National Institute of Population and Social Security Research)

Rys. 4. Piramida populacji i jej perspektywy w 2005, 2035 i 2055 r.

Hence, the word “depopulation” and “(super-)aging society” are one of the most important keyword for any kind of government policies or urban and rural strategies. Though shrinking national economy, social welfare, pension, or future cost is regarded as the most serious problem in general at this time, the paper focuses on some “visible” problems derived from depopulation and aging, i.e. landscape and urban planning.

2. Effect of Depopulation on Landscape and Urban Planning

Even on the stage of long term economic growth and population increase in Japan on the latter half of the 20th century, the rural population has been fallen steadily, mainly because of migration of population from agricultural area to urban area. Especially younger generation has been largely moved and stayed in metropolitan regions like Tokyo or Osaka. Their elderly parents were left in rural villages and aging rates in rural prefectures and municipalities become higher, while young people in metropolitan regions bear children and aging rates have been kept low in urban prefectures and municipalities. These kinds of population phenomenon can be more or less seen in many countries which experience rapid economic growth and urbanization.

But the anticipated condition of Japan in the 21st century seems to differ from any kind of former experiences all over the world. The government forecasts the population by each prefecture and even by individual municipalities, and the result says not only rural regions but also metropolitan regions will suffer from rapid depopulation and super-aging sooner or later. Figures shown below indicate that the tendency of rural prefectures is followed by that of metropolitan prefectures. To make matters worse, (the whole) urban population is much bigger than rural population. Thus, urban municipalities and prefectures will have to deal with much more elderly people with limited budget, resource and infrastructure.

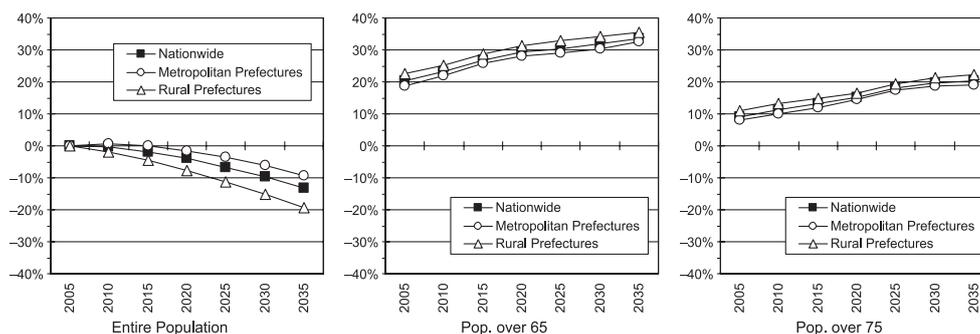


Fig. 5. Population Forecast by Origin of Region
(source: National Institute of Population and Social Security Research)

Rys. 5. Prognoza populacji według pochodzenia regionalnego

Effects of depopulation are varied. In relation to landscape and urban planning, many lots of land and constructions started to be closed or neglected. For example, vacancy rate of houses started to increase from the last century. It is directly because of long recession from the late 1990 in all over Japan, but the effect of depopulation and abandonment of houses is added for the increase, even during the term of economic recovery. The vacancy rate of rural prefectures reversed that of urban prefecture during the early 2000s, and even increase now at an accelerated pace.

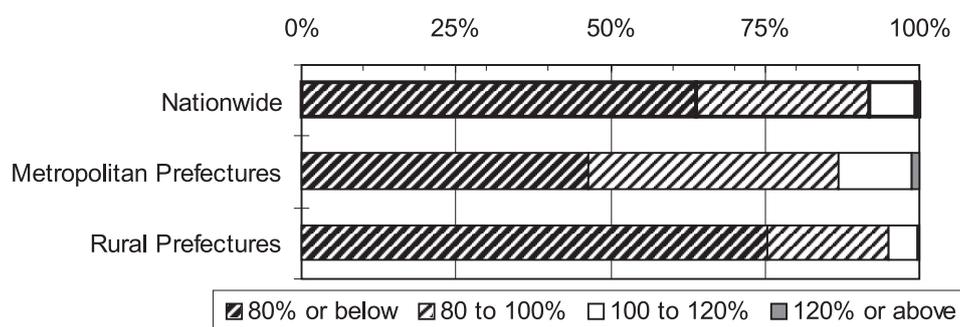


Fig. 6. Ratio of Number of Municipalities by Origin of Regions and of Population Increase and Decrease from 2005 to 2035

Rys. 6. Stosunek liczby okręgów miejskich według pochodzenia regionalnego do wzrostu i spadku liczby populacji od 2005 do 2035

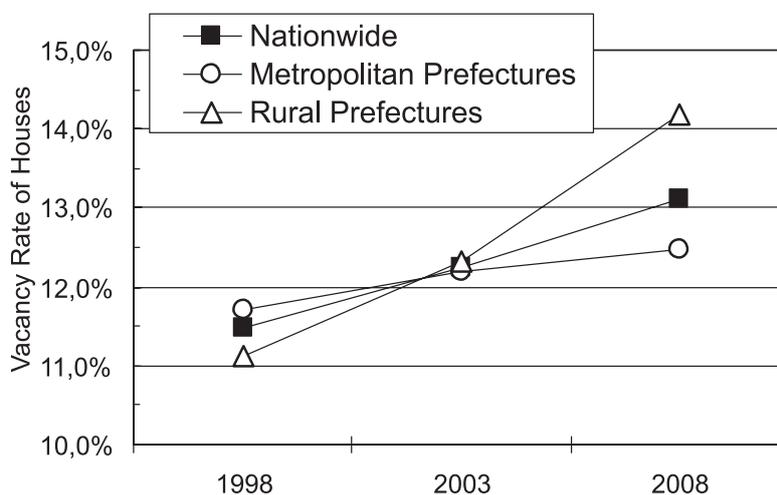


Fig. 7. Transition of Vacancy Rate of Houses by Origin of Regions (source: Housing and Land Survey)

Rys. 7. Zmiany współczynnika pustostanów z uwzględnieniem regionów

Increase of the vacancy rate of housing will lead to the deterioration of the community. Especially, the increase of vacant rooms makes it difficult to renovate and rebuild the old condominiums. There are still only some hundreds of cases to rebuild old condominiums to new ones and most of them are rebuilt to bigger condominiums, part of which can be sold in order to generate the money to rebuild. But in near future, supply of renewed, rebuilt or vacant condominiums and houses will be more and more, while housing demand will stagnate due to depopulation. As the result, many condominiums will be left as it is and they will get older and older.

Agricultural land also tends to be abandoned in Japan. Though the main reason for increasing amount of abandoned farmland is in general attributed to peculiar agricultural policies represented by set-aside policy or "Gentan", aging and depopulation gradually affects to the succession of farmers. On 2005, around 10% of the whole farmland in Japan is abandoned and the rate will continue to be increased.

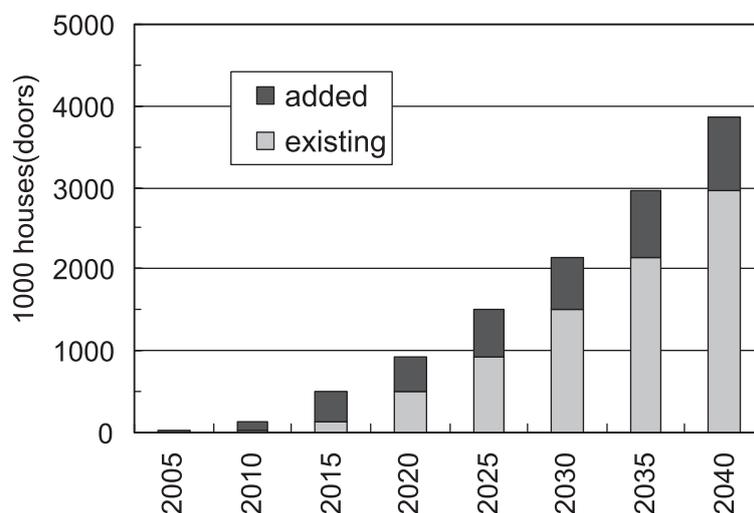


Fig. 8. Number of Houses (Doors) in Condominiums built forty years before or older
(source: Ministry of Land Infrastructure and Transportation)

Rys. 8. Liczba domów (mieszkań) w kondominiach zbudowanych przed 40 laty lub wcześniej

Any kind of public infrastructures and facilities will also get older. Roads, bridges, tunnels, water pipes, sewers or any kind of infrastructures becomes older and starts to need maintenance. Maintenance cost of these infrastructures will rise up regardless of depopulation, while tax revenue will be gradually fallen down in long term. Local government especially heightens the sense of financial crisis due to the lack of maintenance and renewal cost of public services.

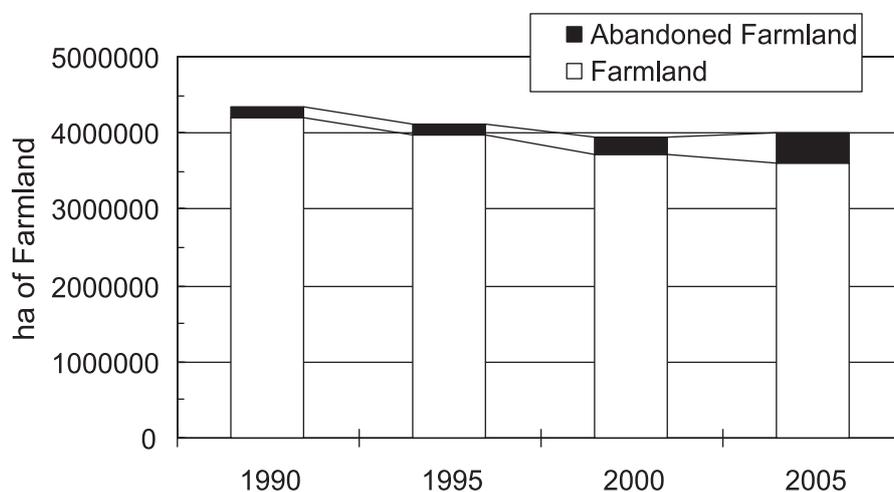


Fig. 9. Transition of the Ratio of Abandoned Farmland
(source: Abandoned Farmland Survey)

Rys. 9. Zmiany współczynnika opuszczonych terenów wiejskich

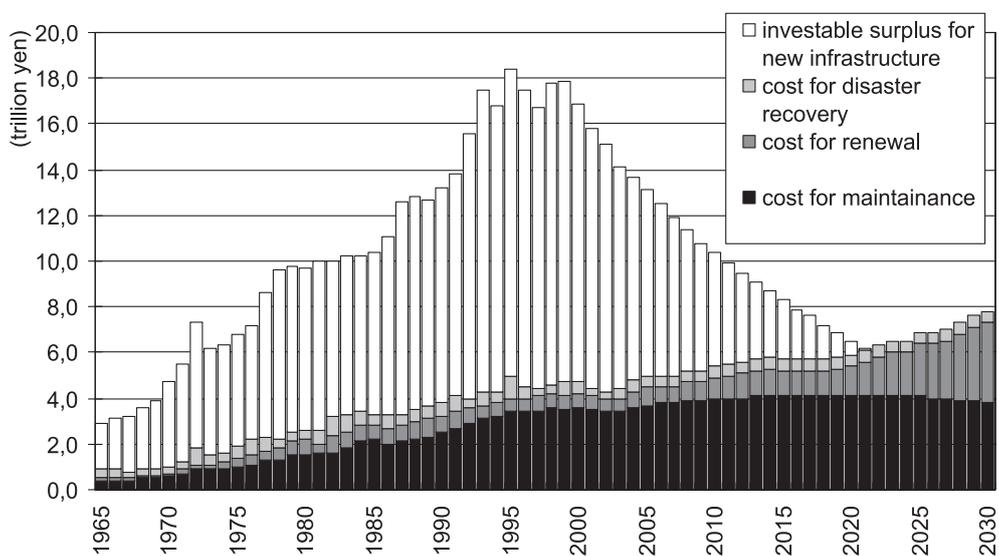


Fig. 10. Forecast of Necessary and Possible Public Investment
(source: Ministry of Land Infrastructure and Transportation)

Rys. 10. Prognoza potrzebnych i możliwych inwestycji publicznych

3. Visible Change of Landscape and Urban Planning due to Depopulation

In this chapter, typical phenomena due to depopulation are shown through some examples of cities and towns. Both rural and metropolitan regions already start to suffer from depopulation and aging, some of which can be identified by appearance and affect to landscape.

3.1. Rural Regions

Kamaishi City, located on the coast of northeast of Japan, formerly flourished by steel industry. Many labors had been gathered to factories and related industries and the population counted more than 90000 in the early 1960s. But after the change of structures of Japanese industry, many steel and related factories started to be diminished or removed to other countries. Though there are still some manufacturing factories, the population halved in the early 2000s and still continue to decrease. Many labors, most of who are younger generation, has disappeared and the aging rate has risen up drastically from 7% on 1975 to 31% on 2005.

The companies which was once or is still now located in Kamaishi City are relatively large and they tend to withdraw their factories and labor residences by dismantling buildings and facilities and cleaning up the lots, the influence of decline and depopulation is rather small, but there are still lots of abandoned factories, public facilities and lots for former labors dormitories.

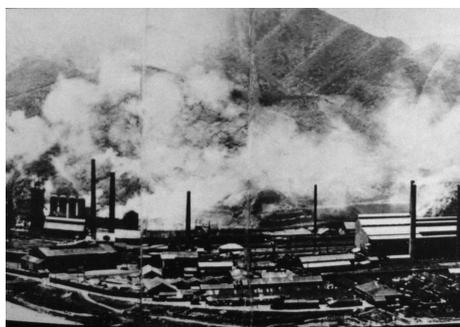


Photo 1. Lots of Factories on the period of Development in Kamaishi, 1924

Fot. 1. Liczne fabryki w okresie rozwoju Kamaishi, 1924



Photo 2. Kamaishi City and Large Factories at Present, 2008

Fot. 2. Miasto Kamaishi i wielkie fabryki obecnie, 2008



Photo 3. Abandoned Factory in Kamaishi
Fot. 3. Opuszczona fabryka w Kamaishi



Photo 4. Vacant Lot formerly Used for Labor
Dormitory

Fot. 4. Wolna działka, wcześniej użytkowana
jako mieszkania robotnicze



Photo 5. Closed Elementary School
Fot. 5. Zamknięta szkoła podstawowa



Photo 6. Old and Rusting Shrine
Fot. 6. Stara i niszcząca świątynia

Sayo Town, located on the edge of Osaka Metropolitan area, is a typical agricultural town in Japan and suffers from depopulation and aging through leak of younger generation as many other small towns and villages in rural regions. The influence of depopulation is especially hard on the small settlements away from town centers. Aging has already progressed from several decades ago, but the situation is now more critical, because even most of elderly people removed from their settlement and it is no more available to maintain settlements and their communities. The word "Genkai Shuraku" (marginal settlement) is quantitatively defined as a settlement whose aging rate is more than 50%, but it's virtually impossible to live there.

The influence of abandonment of small settlements is not limited only to the communities and houses there, but to farmlands and forests, which have been kept by residents of small settlements. Situation of abandoned farmlands and forests are gradually but steadily deteriorated both in terms of landscape and disaster prevention.

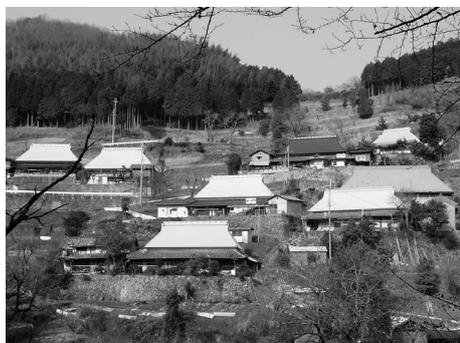


Photo 7. Settlement on Precipitous Terrain
in Sayo Town

Fot. 7. Osiedle na stromym terenie
w mieście Sayo



Photo 8. Abandoned house in Sayo Town

Fot. 8. Opuszczony dom w mieście Sayo



Photo 9. Ramshackle Barn in Sayo Town

Fot. 9. Zrujnowana stodoła w mieście Sayo



Photo 10. Crumbling Forest in Sayo Town

Fot. 10. Niszczący las w mieście Sayo

Yubari City, in the middle of the northern island (Hokkaido), recently makes people worry about catastrophic situation of a city affected by depopulation. Due to excessive investment to several public facilities and illegal accounting treatment, Yubari municipal government was designated by the central government as an organization for fiscal reconstruction on 2007, which means bankruptcy for a company. The public finance of Yubari is now strictly controlled by upper governments, and any kind of public investment and service which are regarded as more than the national minimum has been stopped.

Yubari used to enjoy prosperity as one of coal complex. Many miners gathered from all over Japan and many public facilities constructed to meet their needs. But after the main resource for energy was changed from coal to oil, many towns including Yubari which thrived with coal complex radically fell down. Younger labors drained to metropolitan areas and middle age and elderly were left, most of whom can no more find a new job and are on the breadline. Yubari municipal government tried to revitalize local economy by several new facilities and industries, but most of them went wrong. Only plenty of debt and many old residence, public facilities and amenities are left.



Photo 11. Empty Residence once Occupied by Miners and their Families in Yubari

Fot. 11. Pusta rezydencja, niegdyś zajmowana przez rodziny górników w Yubari



Photo 12. Unoccupied Residential Complex for Miners in Yubari

Fot. 12. Niezasiedlony kompleks mieszkaniowy dla górników w Yubari



Photo 13. Closed Theme Park in Yubari

Fot. 13. Zamknięty park tematyczny w Yubari



Photo 14. Rusted Coal Mine Monument of Closed Theme Park in Yubari

Fot. 14. Niszczący pomnik Kopalni Węgla w zamkniętym parku tematycznym w Yubari



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Photo 15. Ironic Character in Yubari, showing Financial Crisis

Fot. 15. Ironiczna kreskówka w Yubari, ukazująca kryzys finansowy

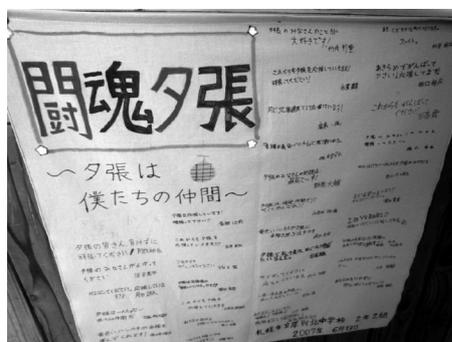


Photo 16. Encouraging Letters for Yubari City

Fot. 16. Listy wyrażające poparcie dla miasta Yubari

3.2. Metropolitan Regions

Influence of Depopulation is gradually spread from rural towns and villages to suburban areas of metropolitan region. Kameoka City in the suburb of Osaka metropolitan region was once exposed by the strong pressure of residential development during the years of so-called bubble economy. But after the bust, many houses, sites and the whole complexes are abandoned and neglected. There seems to be no chance to develop sites and complexes in the future, because the condition of their locations is too bad (hilly district and too far from the city center).



Photo 17. An Old Suburban Residential Complex with Many Undeveloped Lots in Kameoka

Fot. 17. Stary podmiejski kompleks mieszkaniowy z wieloma niezagospodarowanymi działkami w Kameoka



Photo 18. Empty Suburban Sites in Kameoka

Fot. 18. Puste podmiejskie działki w Kameoka

The most serious problem in depopulated suburban residential complexes is the residents who are left there. It's almost impossible to maintain a neighborhood community association which deals with community services, sometimes including district water supply by well water. Drain of residents and worse living environment fall in a vicious circle. In case of sites which are stopped development before people move in, deterioration of suburban landscape including environmental problem and illegal housing can be seen.



Photo 19. A Residential Lots with naturally grown Trees and Weeds

Fot. 19. Działki mieszkaniowe zarośnięte drzewami i chwastami



Photo 20. An Illegal House in a Suburban Empty Site of Kameoka

Fot. 20. Nielegalny dom wzniesiony na podmiejskiej pustej działce w Kameoka



Photo 21. A Typical Condominium in the City Center of Takasaki

Fot. 21. Typowe kondominium w centrum miasta Takasaki

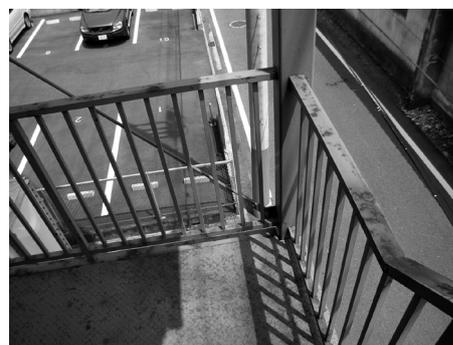


Photo 22. Dangerous Rusting Stairs of a Condominium in Takasaki

Fot. 22. Niebezpieczne, rdzewiejące schody w kondominium w Takasaki

Takasaki City, a regional city on the northern edge of Tokyo Metropolitan area, keeps the population as the whole city, but the central town became impoverished since suburbanization occurred. After the bust of bubble economy, many condominium near the central railway station, which were once developed for commuters both to Takasaki and to Tokyo by Shinkansen (Bullet Train) have now plenty of empty rooms. Management of condominiums becomes quite difficult and more residents flow out, that resulted the abandonment and deterioration not only of the residence but also of the whole district.

In terms of landscape, both development and depopulation affect negatively to city and suburban scenery. Urban planning system of Japan cannot control and manage private development, which generate disordered and ugly development on one hand and abandoned, unused and neglected old buildings on the other.



Photo 23. Illegal Dumping on the Corridor of a Suburban Condominium in Takasaki

Fot. 23. Nielegalne składowanie śmieci na korytarzu w podmiejskim kondominium w Takasaki



Photo 24. Abandoned Shopping Center on the Suburb of Takasaki

Fot. 24. Opuszczone centrum handlowe na przedmieściach Takasaki



Photo 25. Landscape of Main Road in Takasaki

Fot. 25. Widok głównej ulicy w Takasaki



Photo 26. Disordered Development of the City Center in Takasaki

Fot. 26. Chaotyczny rozwój centrum miasta w Takasaki

Photo 27. A District of Detached Houses in Senri new town

Fot. 27. Dzielnica domów
jednorodzinnych w nowym
mieście Senri



Photo 28. A District of Condominiums in Senri new town

Fot. 28. Dzielnica kondominiów
w nowym mieście Senri



Photo 29, 30. Unplanned Built-up District near Senri new town

Fot. 29, 30. Nieplanowana dzielnica wybudowana w pobliżu nowego miasta Senri

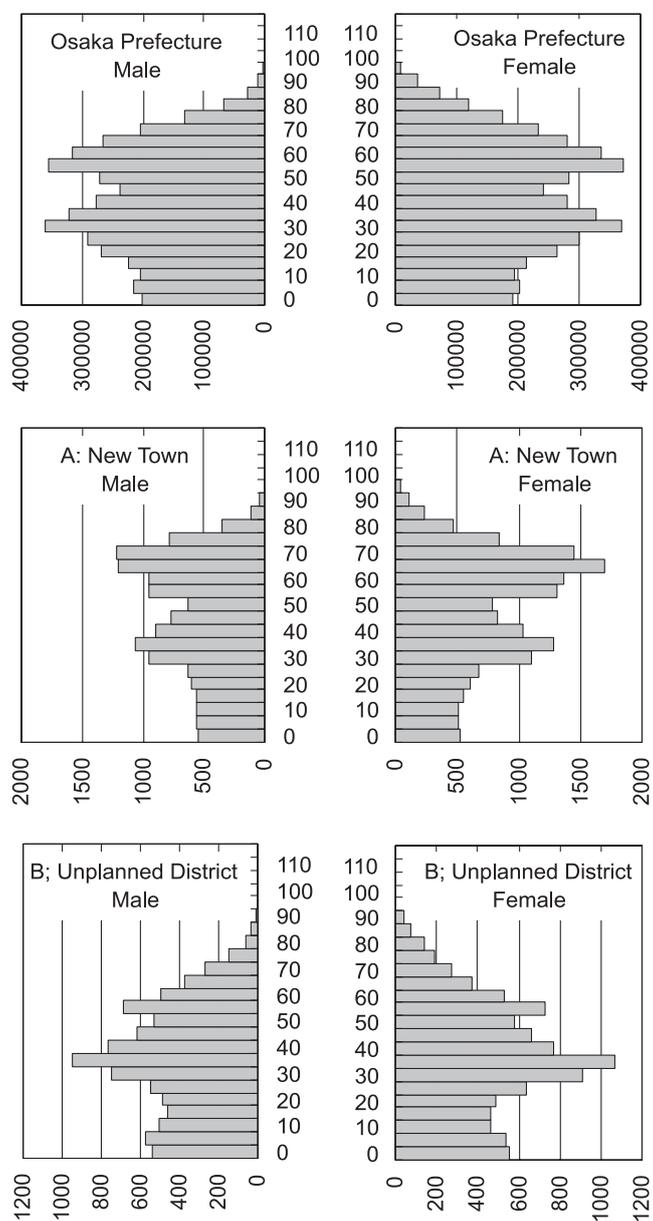


Fig. 11. Population Pyramid of Senri New Town (in Toyonaka City) and its neighboring district (Kamishinden) (source: Osaka Prefecture, Toyonaka City)

Rys. 11. Piramida populacji nowego miasta Senri (w mieście Toyonaka) i sąsiadującej dzielnicy (Kamishinden)

Senri New Town, one of the oldest and largest new towns in Japan, still keeps good housing and landscape conditions in comparison with other suburban new towns, mainly because of its relatively good living environment and the short distance to go to Osaka city center. The new town was planned and developed by local governments and some public housing corporations on 1960s, introducing new techniques and concepts of these days.

But even such a district suffers from the influence of aging and depopulation. Simultaneous inflow of a bunch of young couples who buy or rent a new house to the new town loses the balance of generations in a district. After some decades, these couples get older at the same time and the aging rate of new towns rises up higher than surrounding districts. Though their children grow up there, they tend to go out from their houses and districts when they go to university or become independent, and never come back again and succeed their former houses even after their parents died.

It's quite ironical that well-planned new towns tend to be vulnerable to the effect of depopulation rather than unplanned neighboring districts. Senri new town still keeps good conditions both in terms of convenience and landscape. But the situation might be changed in near future.

4. Conclusions

Central and local governments are now tackling with problems derived from aging and depopulation like shown above. Among countermeasures related to landscape and urban planning are to enhance immigration of younger generation to rural areas, to utilize existing housing and infrastructure stock by developing and spreading renovation techniques or to guide population and development to the city center in order to reduce the cost for public service. Some communities and citizen organizations tries to supply public services by themselves or in cooperation with local governments. Care of solitary and poor old people is one of the most serious and costly public service, in which field the cooperation between public bodies and neighboring residents is expected most.

Under these circumstances in the near future, it is uncertain whether consciousness of the general public will further reach the problem of landscape. A new perspective of landscape in the era of depopulation and its realization approaches are needed.