Mixed Development in Sustainability of Suburban Neighborhoods: The Case of Narita New Town

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Abstract This study aimed to discuss the effectiveness of mixed development, which generates a socially mixed community, in avoiding the neighborhood aging problems that can arise in Japanese suburban neighborhoods. Discussions on social mix in Japan would contribute to the development of sustainable and inclusive communities. We examined the case of Narita New Town, which consists of diverse housing types, and clarified how and why socially mixed neighborhoods have been developed and sustained for decades. Hypotheses of this study on the relationship between mixed development and sustainability of an area were described: 1) mixed development can generate constant housing supply in the area, and it may cause substantial housing demands for both newly built and second-hand houses in the area; 2) supply of second-hand houses promotes movement of existing residents within the area; and 3) these active movements work efficiently to avoid the aging problem of the whole area, thus the area and their community can be sustainable for a long time. As a result, the elderly population rate of Narita New Town remained lower than that of Narita City. Within Narita New Town, the elderly population rate was higher in the old detached-house districts and luxury residential districts, and the residents tended to be white-collar. On the other hand, most of the rented house districts and detached house areas with blue-collar residents showed a lower rate. Therefore, a mixture of housing types and socioeconomic status work efficiently to maintain the sustainability of the town as a whole. In addition to the mixed development, adjacency to Narita Airport with its personnel turnover and support of community helped to maintain a pleasant residential environment in the town, and stimulated inflows of new comers and moves within the town, and thus sustainability was maintained in the town.

Key words mixed development, sustainability, social mix, Narita New Town, residential career, community

Introduction

Purpose of the study

Numerous studies have been undertaken on the topic of suburban neighborhoods. Suburbanization has led to a dramatic demographic shift from non-metropolitan to metropolitan areas (Tani 1997), and housing estates have played an important role in this rapid population shift (Yui 1984; Arai et al. 2002). The ideology of home-ownership has gained currency (Hirayama and Ronald 2007), with the rate of home-ownership increasing from 22% in 1941 to 60% at the beginning of the 1960s (Ronald 2008). Detached houses have been considered to be the ideal housing type in the suburbs (Kageyama 2004), and the number of detached houses purchased increased dramatically, right up to the 1990s.

After the late 1990s, the value and price of housing started to decline, and population recovery in the central areas of metropolitan regions caused by plentiful condominium supply became a remarkable trend (Yabe 2003; Miyazawa and Abe 2005). Under these circumstances, most suburban neighborhoods matured and faced a period of generational transition. Nakazawa et al. (2008) noted slight differences in terms of socioeconomic status of residents among suburban neighborhoods which are actualized during the period of generational transition. Suburban neighborhoods become less popular as residential areas, and are facing serious social problems such as aging of residents (Naganuma et al. 2006).

Kaneshiro (1983) confirms the existence of an aging phenomenon in suburban neighborhoods developed in the early 1960s. The aging process resulted because the younger generation of the residents moved out of suburban neighborhoods as key life-events occurred, while the existing residents became older (Kagawa 1987; Naganuma 2003). The children of the present residents determine the sustainability of a suburban neighborhood, as well as the
process of generational transition (Nakazawa et al. 2008).

The aging phenomenon has also highlighted the unique characteristics of the housing market in Japan, which Yui (1999) describes as follows. Households with similar life-stage characteristics, similar size and similar economic status, tend to show similar residential preferences. This has led to a type of segregation in the Japanese housing market. Homogeneity in terms of social class has been a hallmark of suburban neighborhoods, and it is determined by housing submarkets and the period in which the neighborhood was developed (Yui 1984, 1991).

Housing types and the characteristics of the residents therein are correlated (Sumita 1984; Urano 1987).

According to the Statistics Bureau of Japan’s “Housing and Land Survey 2003”, more than 70% of the home owners obtained their residences by building new houses or purchasing newly built houses from 1999 to 2003. The second-hand housing market is weak in Japan as a whole. Therefore, once people have purchased their houses, they tend to remain in the same house for decades. After a few decades, as the existing residents’ age, the aging rate of a housing district naturally increases.

In view of this feature of the Japanese housing market, Yui (1999) suggests that mixed development, which leads to social and generational diversity among residents, is the key to avoiding the drastic aging of residents. Mixed development, which gives rise to socially mixed neighborhoods, is a useful strategy to avoid social problems in suburban neighborhoods. However, most such neighborhoods in Japan were developed as “bedroom communities” and little attention was paid to socially mixed neighborhoods.

It is important to examine the effectiveness of mixed development in avoiding the neighborhood aging problems that can arise in Japanese suburban neighborhoods. Narita New Town and Tsukuba Science City were planned to be built as socially mixed neighborhoods in Kanto Area. We examine the case of Narita New Town, which consists of diverse housing types, and clarify how and why socially mixed neighborhoods have been developed and sustained for decades.

Theoretical background

Social mix has been discussed for decades as an important concept in town planning. Sarkissian (1976) described its goals as follows: It raises the standards of the lower classes, encourages aesthetic diversity and raises aesthetic standards, encourages cultural cross-fertilization, increases the quality of opportunities, promotes social harmony by reducing social and racial tensions, promotes social conflict in order to foster individual and social maturity, improves the physical functioning of the city and its inhabitants, and helps maintain stability in residential areas. Foley (1960: 223) noted that town planning “is responsible for providing the physical basis for better urban community life”, and this belief among British town planners supported the idea of social mix. By mixing working-class residents and middle-class in the same community, town planners expected to make residential areas more pleasant.

On the other hand, the preferences for homogeneous areas were remarkable in the United States as well as in other developed countries, resulting in the development of socially segregated neighborhoods such as ghettos and gated communities. In addition, Evans (1976) concluded that a socially segregated community serves economic welfare better than a mixed community. In the United States, as well as in other developed countries, the conflict among ethnic groups and social classes is remarkable, and socially segregated communities are preferred. Most of the Japanese suburban neighborhoods developed since the 1960s have followed the American pattern of homogeneous suburban communities (Fukuhara 2005).

However, the mixed community has been reevaluated in the context of the “livable city”, and has become a major goal in town planning in the UK, Canada, and many other countries (Lees 2008). Florida (2003) argued that a “livable city” is an important requirement for people to compete in a globalized and knowledge-based economy. In post-industrial cities, it is necessary to market cities as environments that offer harmonious and sustainable neighborhoods to the residents. Developing mixed communities with diversity among residents in terms of income, culture, age or the stage of life, and lifestyles is an attractive strategy from the viewpoint of fostering communal harmony (Rose 2004).

Three benefits of social mix are listed as rationales in policy debates (Schoon 2001). First, the middle-class pay greater attention to public resources, so mixed communities with middle-class residents are more likely to improve the residential environment than those without. Second, neighborhoods that are socially mixed in terms of housing tenures and socioeconomic status stimulate the local economy to a greater extent than neighborhoods where poverty is concentrated. Third, a mixed community offers more opportunities to bridge and bond social capital among residents (Putnam 1995). Mixed community is expected to generate socioeconomic opportunity and social cohesion.
Mixing tenures (or tenure diversification) is often discussed and is regarded as the core ingredient of the UK’s neighborhood regeneration policy (Graham et al. 2009). Mixing tenures is regarded as an important strategy designed to build “sustainable communities” in the UK (ODPM 2005).

Although the ideas of social mix in Western cities have been frequently discussed, little attention has been paid to social mix in Japanese cities. Considering the characteristics of the Japanese housing market, inflows of newcomers with their demand for used houses are the keys to avoid aging phenomenon: they generate sustainability of the suburban neighborhoods as a whole.

Hypotheses of this study on the relationship between mixed development and sustainability of an area are described as follows. Mixed development can generate constant housing supply in the area, and it may cause substantial housing demands for both newly built and second-hand houses in the area. Supply of second-hand houses stimulates movement of existing residents of a variety of socioeconomic status and age groups within the area. These active movements work efficiently to avoid the aging phenomenon of the whole area, thus the area and their community can be sustainable for a long time.

We regard social mix as the most important index of sustainable communities, and mixed development enables the generation of socially mixed community. Discussions on social mix in Japan can contribute to the development of sustainable and inclusive communities.

**Study Area**

**Development and town planning in Narita New Town**

The study area is Narita New Town, which is located in Narita City, Chiba Prefecture (Figure 1). This site is

![Figure 1. Land use of Narita New Town (2009).](image)

Note: Compass is common for all figures. UR: Urban Renaissance Agency.
located 50 km from Metropolitan Tokyo, about 8 km west of the Narita International Airport, and about 2 km west of the Japan Railway's Narita Station. As this New Town is located 50 km outside the Tokyo Metropolitan Center, it was planned to be an independent community, not a bedroom community for Metropolitan Tokyo.

The New Town is 2.5 km from east to west, and 3 km from north to south. It spreads over a hilly zone that is 10 to 40 m above sea level. Of the total area of 483.3 ha, 47.9% of the land is for residential, 19.9% is for roads and streets, and 12.4% is for parks.

According to the Japanese Population Census (2005), the population of Narita New Town was 33,403, while that of Narita City was 98,708; Narita New Town accounts for 34% of the total population of the city. Figure 2 shows the age pyramids of Narita New Town, and that of Tama New Town, a typical Japanese bedroom community, for comparison. The pyramid of Narita New Town has a tendency similar to that of Japan as a whole: it shows two peaks, one ranging from the age of 50 to 59 years, the other from the age of 25 to 39 years, and their children's ages also show enough population. The latter includes those who moved into Narita New Town when they acquired jobs in Narita City. In Narita New Town, there is a variety of actors involved in maintaining community.

On the other hand, Tama New Town shows different tendencies. The peak of the population, from 20 to 24 years old, is temporary residents like university students: they do not stay and join the community.

Narita New Town was developed in 1968 under the new residential area development project of the Bureau of Industry, Chiba Prefecture (City Planning Department of Narita City 2007). The aim was to provide a good housing environment for the employees of the Narita International Airport, which began operations in 1978, and for the employees of related businesses.

The construction and opening of the Narita International Airport were delayed as a result of protests by a group of local farmers called Narita–Toso (Narita Opposition) from 1966 onward (Aihara and Kawamiya 1995; Sumiya 1996). However, the development of Narita New Town was not directly affected by these movements.

In the 1970s, residential units were first sold in the Nakadai and Karabe areas, and inflows of new residents started in 1972. The development of the New Town started at the east side of Nakadai and proceeded, in a clock-wise fashion, toward Karabe, Hashigadai, Azuma, the west side of Tamatsukuri, the east side of Tamatsukuri, and the west side of Nakadai.

Narita New Town was designed to allow residents to live self-sufficient lives within walking distance in each district. The Regional Center was established in the Akasaka area, and satellite shopping centers (SC) were constructed in each district. Pedestrian-oriented roads, called "green roads", were also prepared to facilitate access to these centers (Figure 3).

Figure 2. Age pyramids of Narita New Town and Tama New Town (2005).

Residential environment and social well-being

Financial supports from Narita Airport and Narita City

The development of the airport created opportunities for airport-related occupations in Narita City, attaching newcomers to the city constantly. The airport's development is correlated with improvements in the residential environment of Narita New Town.

Figure 4 shows the demographic characteristics of the Narita New Town area from 1972 to 2008. In 1975, Narita New Town had only 6,756 residents in the area; by 1980, however, the number rose to 22,449, a three-
fold increase within five years. This increase was caused by the opening of Narita Airport in 1978. From 1980 to 1990, population growth was more gradual, increasing from 22,449 to 33,994. Since 1990, there has not been any visible increase in population, which has remained at a stable level between 33,000 and 34,000. The number of airport employees has had an effect on population changes in Narita New Town. From 1978 to 1987, their number increased steadily from 17,400 to 24,876. Throughout this period, the basic structure and facilities of Narita New Town developed, to create an ideal place for airport employees to live in. Their number increased significantly from 1987 to 1992 with the completion of the Narita New Town area. Narita City enjoys a sound financial status because of the international airport there. The city receives a substantial and stable income from the Narita Airport in the form of corporate, real estate, and aircraft fuel tax.

Community support to residents' associations
Residents' associations play an important role in improving the residential environment by closely observing government initiatives, acting as a link between residents and the government, and offering opportunities to the residents to participate in the problems in New Town. More than 50 residents' associations exist in Narita New Town (Figure 5), and 32 join the Narita New Town Residents’ Association Union (NRAU). Residents’ associations cover owner-occupied and rented housing districts and enterprises or clinics located in the New Town. Staff meetings are held each month, where Narita City residents can express their wishes and opinions. Seven out of 30 municipal assembly members of Narita City were selected from the New Town area in 2008. They attended residents' associations to improve the residential environment in the New Town. For example, the Tamatsukuri SC, which had been closed for over 10 years, was reopened in 2008, following the efforts of a previous assembly member from the Tamatsukuri area with the cooperation of local residents and Chiba Prefecture officials. Since 2000, the local residents and the Chiba Prefecture officials have worked together to improve the residential environment in Narita New Town.
Prefecture, the owner of the SC, had been discussing ways to use the SC facilities. They decided to cooperate with the farmers of Tomisato City, who sell perishable goods in the center.

Communication between residents’ associations helps solve common problems. For example, the lack of parking lots was a common problem in the public housing districts of Karabe and the condominium district of Azuma: land use in the districts was changed and the problem was solved. In Azuma, all the roads were changed to one-way streets and enough parking spaces were created to solve the parking-space problem.

The NRAU organizes some of the activities such as the Narita Furusato Festival, gale day for children, and friendly meetings of elderly people in New Town. It also supports the activities of the Social Welfare Council and the Youth Education Council.

The Narita Furusato Festival is an important event to bridge and bond social capital. Kubo et al. (2010) clarified that a large number of male residents in Narita New Town joined community activities right from their working age and became attached to the New Town. Participation in the Narita Furusato Festival was an important opportunity for male residents to join community activities. Unlike other bedroom communities, the Narita New Town community was maintained by both female and male members.

**Methodology**

To establish the hypotheses mentioned earlier, this study goes through the following processes. First, the condition of social mix is described with the socioeconomic status of residents, housing types, and elderly population rate in the town. Second, during the study, we conducted field surveys in four districts with different residential characteristics to reveal how mixed communities were built and sustained in Narita New Town. Household characteristics, residential careers, and the movement of younger generations are described. Finally, we discuss the effectiveness of mixed development to generate sustainability of the area. Socially mixed communities include diversity in terms of housing types, housing tenure, the development period, and socioeconomic status of residents. To clarify the efficacy of mixed development for the sustainability of suburban neighborhoods, it is necessary to examine individual districts within Narita New Town having different housing types, and the periods of supply. Then, we will discuss the role of each district in the sustainability of the whole area.

In October 2008 and May 2009, we conducted a qualitative survey in Narita New Town. A total of 440 questionnaires were sent to four residents’ associations, and 96 (21.8%) households responded. Twenty households agreed to participate in additional interviews.

**Social mix in Narita New Town**

**Distribution of housing types**

The spatial distribution of the housing types is described in Figure 1, and the rate of detached houses is shown in Figure 6. The business and commercial centers of the area are located in Akasaka, where no housing exists. Residential land use is predominant in the surrounding districts.

Apartments and condominiums are located along the two main roads, which run north to south and east to west. High-rise residential buildings are predominant in these areas. Privately owned detached houses are located in the northern part, and company-owned houses and public housing are predominant in the southern part of the surrounding areas. The residential districts are described in the following paragraphs in the order of development.

1. **Nakadai**: owner-occupation is predominant in this area. A large number of privately owned detached houses and condominiums were built by the Housing Corporation, presently renamed as Urban Renaissance...
Agency (UR). The eastern part of Nakadai was developed in the 1970s, and houses were sold out immediately, the western part was developed in the 1980s, and detached houses continued to be sold until the early 2000s (Figure 7).

(2) Karabe: we see a variety of housing types and commercial buildings in Karabe area. A large part of this area is occupied by prefecture or company-owned apartments. Housing units of an airline company once existed in the Karabe and Nakadai areas, next to the central district of the New Town. The area has been redeveloped into condominiums (Figure 8).

(3) Hashigadai: this area comprises detached houses in the first and second block, and rental housings in the third, and they were developed in the early 1970s.

(4) Azuma: this area includes privately owned detached houses, condominiums built by the UR, and prefecture-owned housing.

(5) Tamatsukuri: detached houses are the predominant housing type (Figure 9). A new station for the Narita Express Line is planned at the northern end of this district. A new development project according to this new plan started in 2000. This part was originally owned by Chiba Prefecture as a business district. The land use zoning plan has been changed, and detached houses are predominant in the newly developed area.

Narita New Town consists of a variety of housing types development started in the 1970s and continued till recently. Mixed development was adopted, in regard to both housing types and timing of development. In the following section, we describe the socioeconomic status of the town’s residents.

**Socioeconomic status of residents**

We see a correlation between housing types and occupations of residents. Figure 10 shows the blue-collar household rate in each district. Average rate for the whole New Town is 27.7% in 2005. Azuma 2, Hashigadai 3, and Karabe 5 show higher rates. These districts include rented housing, public housing, and company-owned housing. In addition, there are old condominiums, first sold in the 1980s, in Azuma 2.

On the other hand, districts comprising privately owned detached houses (see Figure 6) show lower blue-collar household rates. Newly developed areas since the
2000s also show lower rates; condominium districts including Karabe 1 and Nakadai 3, and detached houses’ districts including Tamatsukuri 2 and Nakadai 2. Houses in Hashigadai 2 are more expensive than those in other residential districts in the 1970s, so residents tend to have a higher social status. Residents are employees and retirees of airline companies, public servants, commuters to Metropolitan Tokyo, owners of shops or restaurants in Narita City, and retirees of companies in Tokyo.

Demographic composition

There may be some relationship between the housing types within a district, the period in which the district was developed, and the residential consequences (Yui 1984).

The elderly population rate within the area is shown in Figure 11. Compared to that of Narita City (14.1%), Narita New Town shows a lower rate (9.2%), while some districts have a higher rate. Azuma 3 shows the highest rate, followed by Hashigadai 1, Azuma 1, Hashigadai 2, and Karabe 4. All these districts were developed in the
1970s or 1980s, and the predominant housing type was owner-occupied detached houses (see Figure 6). Nakadai 2, which follows the highest rate group, contains a mix of condominiums sold in the 1980s and detached houses sold in the 1990s and 2000s. In short, the detached-house districts are aging more rapidly than other districts.

Public housing districts (i.e., Karabe 5, Tamatsukuri 3, and Nakadai 4) show lower rates3, because their residents include young single-parent families and young blue-collar workers. There is also company housing within the same district.

Figure 12 shows population changes by age group, between 2000 and 2005, for five selected districts which show typical patterns of population change. In districts where the aging phenomenon has taken hold (i.e., Hashigadai 2), population decline in most of the age groups is remarkable, because the children move out as dictated by life-events. Inflows of newcomers aged 20 to 29 years (in 2000) are confirmed: they move into either second-hand houses or rented houses within these districts. Azuma 2 show a trend similar to that of Hashigadai 2. Both districts show similarities in housing types, timing of development and socioeconomic status of residents.

Tamatsukuri 7 is a mixed-development district which includes condominiums developed over decades, thus this district maintains remarkable inflows of relatively younger newcomers.

In Nakadai 2, luxury detached-houses were sold from the 1990s. Because of the high housing price in this district, the inflow of residents in their 40s, which exceed the average age to purchase houses in Japan, is remarkable.

In Karabe 1, dramatic inflows of the young generation (20 to 24 years old in 2005) occur. This area includes new condominiums developed since the early 2000s on sites previously occupied by company-owned housing units. In addition, some company housing was (re)built in Karabe 1. Therefore, a large number of young people moved into Karabe 1 during the early 2000s.

Mixed development and social mix in the area

Characteristics of each residential district in terms of housing types, socioeconomic status, and elderly population rate are summarized in Figure 13. The districts with blue-collar residents show lower elderly population rate.

The districts with white-collar residents (more than 60%) show a different pattern because of the housing types of the districts. Districts of condominiums and apartments include newly developed district (Karabe 1), therefore, the elderly population rate is low. On the other hand, detached-houses districts show a higher elderly population rate. Nakadai 2 includes luxury detached-house developments which started from the 1990s. Other districts, however, were sold in the 1970s, therefore most of the residents moved into the districts in the 1970s and
stayed for decades. Because of the mixed development, there are various housing types, diverse socioeconomic status of residents, and a wide range of age groups in Narita New Town. The elderly population rate shows different patterns due to the characteristics of the districts, and forms a mixed community as a whole in the town. The entire New Town population tends to show stability, while younger-generation inflows are confirmed in some districts. This means there are constant and sufficient movements within the town. The details of these movements are provided in the next chapter.

**Residential Careers of Residents**

**Selection of case districts**

We clarify the mixed-community characteristics of Narita New Town with a case study of four different types of districts in Figure 13: Azuma 2, Karabe 1, Nakadai 2, and Tamatsukuri 7. Detached-houses area in Tamatsukuri 7 is selected as an alternative case of Tamatsukuri 1, 5, 6, because the housing types and the socioeconomic status of residents in Tamatsukuri 7 are similar to those of Tamatsukuri 1, 5, 6.

Tamatsukuri 7 is an old detached houses district, developed as an area for affordable detached houses in the early 1980s. Azuma 2 is an old condominium district with four-story buildings without elevators built in the 1980s. Nakadai 2 is a newly developed detached-houses district containing luxurious detached houses sold in the 1990s and the 2000s. Finally, the fourth district Karabe 1 comprises newly developed condominium district, and the condominiums were sold in the 2000s.

A total of 96 questionnaires were collected in Narita New Town: 23 from Tamatsukuri 7 (110 sent; response rate, 20.9%), 24 from Azuma 2 (120; 20.0%), 38 from Nakadai 2 (110; 34.5%), and 11 from Karabe 1 (100; 11.0%). We also show profiles of residents who offered additional interviews (Table 1).

**Table 1. Characteristics of the residents surveyed (2009)**

<table>
<thead>
<tr>
<th>ID</th>
<th>Household structure, age (sex)</th>
<th>Current residence</th>
<th>Previous residence</th>
<th>Motivation to move into current residence</th>
<th>Occupation of household head</th>
<th>Location of work place (household head)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-1</td>
<td>71(m), 68(f)</td>
<td>1984</td>
<td>PNBH</td>
<td>wish for home-ownership</td>
<td>Executive of book shops</td>
<td>Sousa City</td>
</tr>
<tr>
<td>T-2</td>
<td>58(m), 54(f)</td>
<td>1982</td>
<td>PNBH</td>
<td>growth of the child</td>
<td>retired (post office)</td>
<td>–</td>
</tr>
<tr>
<td>T-3</td>
<td>52(m), 45(f), 12(m), 7(f)</td>
<td>1997</td>
<td>PSHH</td>
<td>attachment to Narita NT</td>
<td>company employee (airline company)</td>
<td>Narita AP</td>
</tr>
<tr>
<td>A-1</td>
<td>69(m), 68(f)</td>
<td>1983</td>
<td>PNBC</td>
<td>attachment to Narita NT</td>
<td>retired (unknown)</td>
<td>–</td>
</tr>
<tr>
<td>A-2</td>
<td>62(m), 63(f)</td>
<td>2005</td>
<td>PSHC</td>
<td>proximity of friends</td>
<td>retired (unknown)</td>
<td>–</td>
</tr>
<tr>
<td>N-1</td>
<td>60's couple</td>
<td>2000</td>
<td>PNBH</td>
<td>improvement of the housing</td>
<td>retired (airline company)</td>
<td>–</td>
</tr>
<tr>
<td>N-2</td>
<td>72(m), 68(f)</td>
<td>2000</td>
<td>PNBH</td>
<td>Retirement</td>
<td>retired (airline company)</td>
<td>Narashino City</td>
</tr>
<tr>
<td>N-3</td>
<td>39(m), 39(f), 3(f), 10(m), 75(m), 62(f)</td>
<td>2009</td>
<td>PSHH</td>
<td>proximity to work place</td>
<td>university lecturer</td>
<td>Narashino City</td>
</tr>
<tr>
<td>K-1</td>
<td>39(m), 46(f), 10(m), 7(m)</td>
<td>2006</td>
<td>PNBC</td>
<td>fall in housing interest rate</td>
<td>company employee (airline company)</td>
<td>Narita AP</td>
</tr>
<tr>
<td>K-2</td>
<td>30(m), 29(f), 10(-), 4(-)</td>
<td>2005</td>
<td>PNBC</td>
<td>attachment to Narita NT</td>
<td>owner of tutoring school</td>
<td>Narita City</td>
</tr>
<tr>
<td>K-3</td>
<td>38(m), 31(f), 5(f), 11(m)</td>
<td>2005</td>
<td>PNBC</td>
<td>strengthening the security</td>
<td>company employee</td>
<td>Abiko City</td>
</tr>
</tbody>
</table>

Source: Interviews.
Table 2. Age group of household heads (2009)

<table>
<thead>
<tr>
<th>Age</th>
<th>Tamatsukuri</th>
<th>Azuma</th>
<th>Nakadai</th>
<th>Karabe</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C</td>
<td>F</td>
<td>O</td>
<td>C</td>
<td>F</td>
</tr>
<tr>
<td>30s and under</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>40s</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>1</td>
<td>3</td>
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<tr>
<td>50s</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>60s</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>70s and over</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>13</td>
<td>6</td>
<td>3</td>
<td>10</td>
<td>11</td>
</tr>
</tbody>
</table>

Note: C • F • O denote household structure. C: Married couple, F: Family (married couple with children, single-parent family and multi-generation family), O: Others.
Source: Questionnaires.

Table 3. Purchasing periods and the housing types of the current residences (2009)

<table>
<thead>
<tr>
<th>Years</th>
<th>Tamatsukuri</th>
<th>Azuma</th>
<th>Nakadai</th>
<th>Karabe</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NB</td>
<td>SH</td>
<td>NB</td>
<td>SH</td>
<td>NB</td>
</tr>
<tr>
<td>1970s</td>
<td>2</td>
<td></td>
<td>2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>1980s</td>
<td>19</td>
<td>11</td>
<td>2</td>
<td>5</td>
<td>35</td>
</tr>
<tr>
<td>1990s</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>2000s</td>
<td>5</td>
<td>13</td>
<td>4</td>
<td>10</td>
<td>23</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>2</td>
<td>13</td>
<td>10</td>
<td>31</td>
</tr>
</tbody>
</table>

Note: NB: Purchased newly built houses or condominiums, SH: Purchased second-hand houses or condominiums.
Source: Questionnaires.

Characteristics of households

Table 2 shows the ages of household heads who answered the questionnaires and their family types. The overall investigation reveals the following demographic characteristics. Tamatsukuri shows the highest percentage of household heads in their 60s. Most of the residents of this area have lived here since they first moved in, and most live as couples. Azuma also shows a high percentage of household heads in their 60s and over.

Nakadai shows a wide range of household heads in terms of age. In Karabe, most of the household heads are under the age of 40, and nuclear families with small children are most prevalent. Karabe’s young-family bias is in sharp contrast to other districts.

Table 3 shows the periods houses were purchased, as well as their housing types. Most districts see their highest percentages in the period in which newly built houses were initially sold: the 1980s in Tamatsukuri, the 1970s and 1980s in Azuma, and the 2000s in Karabe. In Nakadai, houses were sold gradually through the 1980s, 1990s, and 2000s, and the questionnaire answers reflect this fact.

In Azuma, nearly half of the households purchased second-hand housing. For example, household B-2 purchased a second-hand house in Azuma after the household head retired from his job, stating preference for residential environments.

In Nakadai, some households purchased second-hand houses in the 1990s and 2000s. As in the case of household C-3, large and expensive houses in Nakadai were preferred by multi-generational families.

The occupations and the work places of household heads are listed in Table 4. We confirmed a large number of airport-related occupations; in all, 18 household heads were airline company staff members, and six households comprised airport business workers. The percentage of airport-related employees is remarkable in Nakadai and Karabe. As Nakadai is a luxurious residential area, pilots or workers in managerial positions were confirmed in the additional interviews.

Apart from the airport-related businesses, a large number of household heads work as employees or public servants in other cities, in Chiba Prefecture or Tokyo. Tamatsukuri residents moved into the New Town when the land price in the Tokyo metropolitan area increased, and many household heads commuted to Tokyo or other cities in Chiba Prefecture.

Residential careers

Table 5 lists the previous residences of the residents:
33 households had moved from other residences in the New Town, while those who had moved from rented apartments, company housing, and privately owned condominiums each comprised of sizeable percentages. In short, a large number of residents had changed houses within the New Town.

Figure 14 shows the life-events of household heads living in the four districts of New Town. Circles denote the number of residents living in the areas listed in the figures, and the lines denote the number and direction of moves.

The residents of Tamatsukuri show a simple movement pattern. Most of them had never lived in Narita City until they purchased their present residences. Most of the residents purchased newly built detached houses when they were launched for sale in their area. When they first moved into Narita New Town, land prices in the metropolitan areas rose dramatically, and suburbanization was a dominant trend. In Chiba prefecture, the peak of rise in land price was confirmed in 1991. In Azuma, we can confirm that some residents who originally lived in Narita City moved to Narita New Town after marriage.

The residents of Nakadai shows complicated movement patterns compared to other districts: More than 10 households, for example, purchased housing several times. Household C-1 is representative of this pattern. The family first purchased a condominium in the Nakadai area and then moved into a condominium in Azuma. To improve the quality of their housing, they finally moved into their current residence.

Some of the residents in Karabe moved into the New Town when they acquired jobs there, but left the town because of the personnel transfer or other reasons. They married, purchased houses, and moved again into the town.

Figure 15 lists the reasons that prompted households to move into their current residences. There are few differences between districts. Amenity including infrastructure and natural environment is the most important reason for choosing current residences. House prices, proximity to work places and safety are considered strongly by all residents.

In the additional interview, residents enjoyed a comprehensive residential environment and selected the New Town with a view to living in pleasant conditions. For example, household C-3, residents of Nakadai 2,
evaluated the residential environment in terms of their needs for child rearing, including parks, wide foot-paths, and proximity to an elementary school.

Figure 16 shows the mobility intentions of residents. A remarkable number of residents in Nakadai responded that they had no intention to move out. As noted before, some of the residents in Nakadai had purchased housing elsewhere in the past, and they had ultimately settled down in the district. For these residents, current residences are regarded as the goal of their “housing ladder”. Tamatsukuri showed a pattern similar to that of Nakadai. The residents of Karabe had moved into their current residences only within the previous five years, and seven out of eleven households responded that they were “undecided”.

**Movement of adult children**

Table 6 shows the residential areas of adult children. A remarkable proportion of adult children live with their parents in all districts, especially in Nakadai, because some of the houses in Nakadai are used as multi-generational houses.
Mixed Development in Sustainability of Suburban Neighborhoods: The Case of Narita New Town

In Azuma, about 20% of adult children live in Narita New Town, and most of them live in the same district as their parents. According to our interview surveys to staff of the residents’ association, some residences in Azuma are settled by children, because both parents and the younger generation can support each other: parents provide childcare services for their grandchildren, and adult children provide daily assistance and nursing care for their parents⁶.

More than half of the children who had previously lived in Tamatsukuri moved to other prefectures, mainly Metropolitan Tokyo. Some members of the younger generation have moved overseas from Nakadai.

Sustainability in Narita New Town

In this section, we discuss sustainability in Narita New Town by examining our hypotheses on the relationship between mixed development and sustainability of Narita New Town.

1. Mixed development enables constant inflows of newcomers to the area, and substantial numbers of inflows generate housing demands for both newly built and second-hand houses in the area.

Due to the mixed development, there were varieties of housing types, socioeconomic status of residents, and a wide range of age groups in the town. Inflows of new comers were confirmed, not only the employees of Narita Airport, but also commuters to other areas or the employees of local companies.

A large number of the houses were purchased newly, but there was enough demand for second-hand houses in the whole area, especially in the luxury detached-houses district and condominium district.

2. Supply of second-hand houses promotes movements of existing residents within the area.

Thanks to the supply of second-hand houses, potential demand for owner-occupation in the area was stimulated. According to residential careers of household heads, movements within the town were confirmed. Residents of Nakadai 2 tended to move between owner-occupations in the town.

In the condominium district, adult children lived close to their parents. Some lived in the same districts by purchasing second-hand houses, or in rented houses. These demands for second-hand houses supported the sustainability of each district.

3. Active movements work efficiently to avoid aging phenomenon of the whole area, thus the area and their community can remain sustainable for a long time.

The elderly population rate of Narita New Town was lower than that of Narita City. The elderly population rate was higher in the old detached-house districts and luxury residential districts, and the residents tended to be white-collar. On the other hand, most of the rented house districts and detached house areas with blue-collar residents showed lower rate. Therefore, the mixture of housing type and socioeconomic status work efficiently to keep the sustainability of the whole town.

If a homogeneous community with detached houses for white-collar residents, just like most of the bedroom communities in Japan, had been developed here, the aging phenomenon would have occurred in a whole area. Mixed community is more efficient to avoid the aging problem than the bedroom community.
Conclusions

We examined the case of Narita New Town, which consists of diverse housing types and has residents belonging to different social classes, and clarified how and why socially mixed neighborhoods have been sustained for decades.

Narita New Town was planned to be built as a mixed community. In addition to social mixing, which upholds the idea of mixed community and mixed development, Narita New Town was fortunate in receiving support from the government and the community as a whole.

Mixed development contributes to the sustainability of suburban neighborhoods by the following process with four steps confirmed in this study.

1. The extended period of housing supply generates the diversity of age group of residents. In Chapter 4-2: characteristics of households, we confirmed that a large number of residents moved into their residences when they were sold newly, and continued to live in the same house. In Japan, people tend to purchase houses in their 30s and 40s. Therefore, the extended period of housing supply contributes to keep the balance in the age group of residents in the area.

2. The diversity in housing types accepts any kind of socioeconomic status of residents. For example, as we described in Chapter 3, the districts of condominiums or apartments accept young families who do not possess enough income and real property, blue-collar residents, and adult children who have grown up in the town. Condominiums are regarded as a first step of the “housing ladder” in the town.

3. There are enough rented houses in this town, and renters potentially demand owned houses including second-hand houses. In Chapter 4, we confirmed that there were significant movements within the town. Those who have moved into company housing or rented houses in the town preferred the residential environment of the town, and relocated to the owner-occupied houses within the town.

4. Thanks to mixed development, there is a diversity of housing types and socioeconomic status of residents in the town. Mixed development contributed to generate housing careers within the town, and works efficiency for the sustainability of diversity of residents (Chapter 4).

The model of sustainability in Narita New Town is shown in Figure 17. Mixed development enabled the town to offer diversified housing alternatives to its residents. In districts of privately owned detached houses with white-collar residents, aging of residents occurred. But in newly developed districts, districts with blue-collar residents, and districts with rented accommodation, the aging phenomenon was offset by the inflow of newcomers. In addition, some of the second-hand detached-houses were purchased by young nuclear families as affordable alternatives. On the whole, Narita New Town did not experience a population decline due to aging of the present residents.

Located close to the Narita Airport, the New Town constantly draws newcomers. Some of the newcomers relocated within the town because they evaluated the amenities and pleasant residential environment of the
town, and moved again to owner-occupied districts to climb the “housing ladder”. Residents who needed multi-generational or second-hand housing also moved to the luxurious residential district.

These movements were made possible because of the external support to the community. Their support helped to improve the residential environment in the New Town. A pleasant residential environment was set up and maintained physically and socially by the communities. Satisfaction with the residential environment and attachment to the community are factors which lead to more relocation of newcomers.

At the same time, many important matters remain to be discussed. The concept of mixed communities needs to be further studied before one can draw generalizations that are applicable to Japan as a whole. Tsukuba Science City and many other residential areas where mixed communities were planned should also be studied. International comparative perspectives must also be debated. We hope that these issues will be taken up in further studies.

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(EJ): written in Japanese with English abstract