

# Reconstructing residential spaces for an aging society with a low birth rate and declining population

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## 1. Population decline, falling birth rate, aging, and housing

Population decline, the falling birth rate, and aging have brought Japanese society to a major turning point as the twentieth century gives way to the twenty-first century. Of course, these problems existed at the end of the previous century, but they are accelerating in the new century, when their impact on housing problems will be massive. Housing responds to its occupants, and the housing situation is greatly impacted by trends in population and household numbers. The falling birth rate and aging of society force us to respond to the shortage of housing suited for households with children and for elderly people. We must take action to deal with a society which has taken a sharp turn in a new direction since the twentieth century.

To begin with population decline, the challenge facing housing policies in the last half of the twentieth century was how to tackle a soaring population and its concentration in the large metropolitan regions. And to ensure that the required quantity of housing was constructed, a Five Year Plan for Housing Construction was enacted eight times under the Housing Construction Planning Law. In a society with a falling population which we are approaching, it will be necessary to effectively utilize the existing housing stock rather than construct new housing (the number of new housing starts peaked in 1972 at 1.85 million, but last year was down to 775,000). So the challenge is to effectively use the growing number of empty homes (13% of all dwellings in 2008) instead of abandoning them.

With regard to the falling birth rate, regardless of the improvement of the housing situation, the level of housing for families with children remains low (the targeted housing floor area level achievement rate is an average of 57% for all households, while it is 40% for households with children.) Welfare facilities for elderly people have been extensively provided, but the supply of housing adapted for occupancy by elderly people is still low, and far behind the levels in Europe and North America (The percentage of all elderly living in housing adapted to their needs is 8% in Britain and in Denmark, but only 1% in Japan). As these figures show, shortages of housing for families with children and elderly people are now conspicuous.

And the falling birth rate and aging of society have revealed problems with services necessary to support people's daily lives. The swing to nuclear family households continues as single-person households and small households are still rising, and the ability of families to provide mutual support for all their members as they did in the three-generation households of the past has reached its limit. At the same time, communities have been diluted, making it difficult for people to satisfy their needs in their neighborhoods. The mobility of elderly is now restricted. In residential areas, not only housing, but all functions and services needed for daily life must be ensured.

## 2. Recent trends in housing measures

Housing policies have been transformed in response to growing awareness of such circumstances which appeared about 10 years ago. The Eighth Five Year Plan for Housing Construction which started in 2001 prioritized the stock and adopted a posture emphasizing the market place, in response to the transition from a growing society to a mature society. This has long been called the "switch from quantity to quality", but in the past it promoted a good quality flow. It has now switched to the formation of a full-scale housing stock. And to encourage effective use through the smooth cycling of the housing stock, the provision of an environment for the housing market was considered necessary.

In 2006, the Basic Act for Housing was enacted, changing the planning system from the Five Year Plan for Housing Construction to Basic Plan for Residential Life, further clarifying the policy of omitting new housing construction from our targets. In 2001, the Elderly Housing Law was enacted, positioning the supply of elderly housing, and then revised in 2009, establishing the Plan for Stable Housing for Elderly People.

Now, more than ten years into the twentieth century, the population has begun to decline, bringing us face-to-face with brand new circumstances. Housing policies must include measures to deal fully with these problems. The revision to the Basic Plan for Residential Life enacted by the Cabinet in March of this year incorporates the following points.

① A percentage of approved long-term superior

housing was set as a goal to form a good quality stock which can be used into the future.

② Expanding the scale of used home distribution and the renovation market was set as a goal to effectively use the existing stock.

③ “The provision of services to support security” in living environments was announced and a percentage of homes for elderly was set as a goal.

### 3. Initiatives by the National Institute for Land and Infrastructure Management

In response to new trends under such a housing policy, the NILIM is undertaking research activities to tackle challenges necessary to support the enactment of plans under this policy.

(1) Prolonging service lifetime of housing and improving its performance

The service lifetimes of houses in Japan are short. In recent years, the average age of demolished houses has been only 27 years. A long-term superior housing system to build good housing, maintain it scrupulously, and use it carefully for a long time has established, and in response to this, the NILIM has undertaken “Development of Multi-Generation Use Super Long-Term Housing and Housing Land Formation/Management Technologies” (from 2009 to 2011).

To ensure conditions necessary to maintain soundness of housing for a long period of time, some successes have been achieved including a method of evaluating the variability of divisions between dwellings in apartment buildings, a method of planning long-term management of condominium apartment buildings, a collaboration method to ensure good living environments, guidelines to the use of health monitoring technologies to improve management, guidelines to the design and maintenance of wooden detached houses, safety measure technologies for housing ground, and a method of evaluating the performance of the body in order to improve existing apartment buildings.

(2) Recreating and cycling the existing stock

Japan’s used housing distribution and renovation markets are not as mature as they are in Europe and North America. Used housing accounts for only 13.5% of housing distributed, and the percentage of funds invested in housing directed to finance renovations is only 27.2% (both are more than half of the levels in the U.S. and Europe). In order to overcome one problem behind this, namely people’s greater uncertainty about their performance than about newly built housing, a performance evaluation system and defect insurance system for existing houses has been established, and in response, we have begun “Development of Performance Evaluation Technologies for Existing Houses for Used Housing Distribution and Stock Reuse” (2011 to 2014). An efficient performance evaluation method for existing housing, including clarification of state of

deterioration, has been established and is being reflected in present inspection standards, etc.

(3) Adapting to the environment surrounding the existing housing stock

As global environment measures, it is necessary to stop and reverse the increase of the cost of resident use energy, which tends to rise faster than in other areas. The environmental performance of new housing is steadily improving, but measures directed at the soaring existing stock is needed. Thus, “Development of an Energy Consumption Evaluation Method According to Category Of Housing” is in progress (2010 to 2012). The existing housing stock is categorized by years since construction and the energy consumption of each is evaluated, verifying the effectiveness of measures taken to use less energy, and this is reflected in energy saving standards for existing houses.

(4) Ensuring safe housing for elderly people

In order to deal with the soaring number of one-occupant elderly households and married couple households (predicted to be 24.7% of all households in 2020) and shortage of houses for elderly people, the supply of housing with services linked to nursing and medical care to support the lives of elderly people will be encouraged. In response, the NILIM is undertaking “Research on Methods of Providing New Housing to Increase Residential Security for Elderly People” (2011 to 2013). The aim is to establish guidelines to planning housing for elderly people according to the diverse physical and emotional states of residents, and guidelines to the reduction of barriers in resident-owned homes according to the diverse physical and mental states of the elderly, and measures to deal with dementia.

### 4. Future challenges

As we face an unprecedented age of declining population, falling birth rates, and aging of society, there are many challenges which should be the object of future research: reducing the scale of urban neighborhoods, planning better residential districts, and the role of the local community in child-rearing and nursing care.

(Reference document)

Housing Land Subcommittee, Panel on Infrastructure Improvement

Documents No. 24 to 34

Basic Plan for Residential Life (National Plan)