## Creating a knowledge base of effective barrier-free housing repairs for the living security of elderly people

HASEGAWA Hiroshi(Ph.D (Engineering)),Research Coordinator for Housing Performance Housing Department

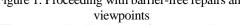
(Keywords) Elderly people, barrier-free housing repairs, plan method, repair effects, knowledge base

## 1. Foreword

As the dawning of a super-aging society approaches, housing reforms like barrier-free repairs will be required in order for elderly people to continue to live in the homes that they are used to living in. After the establishment of the nursing-care insurance system, barrier-free repairs have become more common, however, it cannot be said that appropriate housing repairs that fuse building expertise with experts in care has become sufficiently widespread.

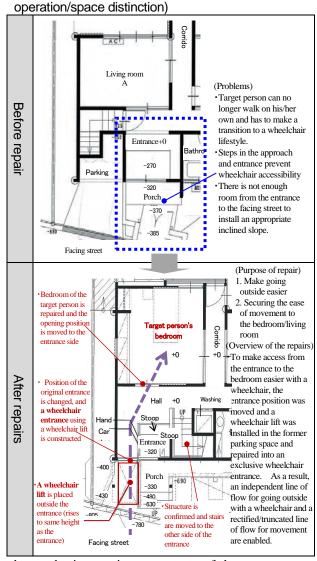
Because of this, a knowledge base of planning technology information for effective barrier-free housing repairs was created, implementing survey research of housing repair methods supporting the various psychosomatic conditions and planning conditions of elderly people.

(1) Assessment (2) Plan/design	<ol> <li>Careful grasping of the target person's psychosomatic state: physique, health, disabilities and nursing care level, ADL etc.</li> <li>Grasping the target person's family (caregivers) state: family living together, main caregivers, social life/health of caregiver</li> <li>Grasping the target person's living conditions: living range in the housing, implementation state, situation of housework/ everyday life, movement method</li> <li>Grasping the barrier situation inside the housing and site</li> <li>Grasping the needs: demands for the repair (target tenant, family etc.), purpose for the repair etc.</li> <li>Grasping the repair constraints: constraints of housing structure and area, budget etc.</li> <li>Examination of the repair plan based on needs and a conditions</li> <li>Considerations for future changes in the psychosomatic state, the lifestyle/ease of care giving for the family</li> <li>Examination of the use of welfare equipment, decisions to use based on simulations/trials</li> <li>Considerations for livability improvements, seismic strengthening, measures for heat shock</li> </ol>
(3) Construction/ supervision (4) Evaluation Figure 1: P	<ol> <li>Grasping the repair effects: effects for the individual (tenant or caregiver)</li> <li>Changes in the nursing care level, evaluation by the target tenant (ADL enhancement etc.)</li> <li>Evaluation of the family/caregiver (Reduced care giving load, relaxation in everydav life etc.)</li> <li>roceeding with barrier-free repairs and</li> </ol>



2. The standardization of proceeding with barrier-free repairs

The procedure as shown from the viewpoint of Figure 1 is desirable regarding effective barrier-free repairs. Through collaborations with qualified architects and care experts, plans based on required conditions is necessary Table 1: Knowledge base examples (basic



by conducting precise assessments of the target tenant and housing. As well, after the repair or a fixed period time, an evaluation of the repair effects (targeting the tenant or the caregiver) is required.

3. Creating a knowledge base of barrier-free housing repairs

Investigations regarding the planning process and repair effects of barrier-free repair examples (31 examples) of building and care expert collaborations were conducted, and a knowledge base was created for technical information pertaining to effective housing barrier-free repairs.

## 4. Releasing and making the results widespread

We will release the results in NILIM research reports and plan its widespread use by holding lectures for businesses etc.