

## The Residence Form of Shared Housing Utilizing Vacant Houses

### -Analysis of examples of Ube City and Yamaguchi City in Yamaguchi prefecture-

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#### Abstract

In recent years, shared housing that are increasing around the Tokyo metropolitan area come to be seen also in local cities. This trend is expected to disseminate in the future from a viewpoint of the utilization of existing stocks. To that end, the continuity of cohabitation under the stable management and administration of shared housing is requested to be ensured. In this paper, focusing on the shared housing that utilize unoccupied wooden houses in local cities, we aim to extract the characteristics of share living life. An investigation method consists of: (1) Collection of the top view, layout drawing, and common-room furniture placement of shared housing; and (2) Behavior observation investigation in how to use the common space and in the interaction contents and frequency between residents by us staying at a shared housing for one week.

The findings are as follows. (1) The properties are as old as 43, 57, and 91 years, and one of them is a former maternity hospital and others two are general houses. (2) Move-in reasons are for the interaction between residents in the most, and subsequently the low initial cost and rental fee. (3) The space size of common area has an influence on staying time and the staying time is related to a frequency of interactions.

**Keywords:** Vacant House Utilization; Shared Housing; Common Room; Local City; Behavior observation investigation

#### 1. Introduction

Japan's vacant house problem has becoming more and more serious every year. In 2013, the number of vacant houses nationwide reached 820 million with the house vacancy rate reaching 13.5%. Both of them are record-high figures<sup>\*1</sup>.

This in such a shared housing is an increasing trend that leverage the existing stock in the Tokyo metropolitan area, recently it has come to be also seen in the regional cities. This phenomenon is expected in the future of the spread as one of the utilization method of the existing stock.

For this purpose, ensure the continuity of share life by the management and operation of stable shared housing is important. But since most of those houses are making use of conventional houses, etc., they do not have a planar configuration designed for a community of multiple persons. In addition, the accumulation of research on the share house is not enough of those found, organize the management and operation technique from architectural planning point of view is

required.

In this study, focusing on the shared housing that utilize unoccupied wooden houses in local cities, we aim to extract the issues for the management and operation of shared housing by clarifying the characteristics of share living life and the relationship between planar configuration and its usage.

This paper shows the actual situation of shared housing by clarifying the characteristics of the residents' daily activities.

#### 2. The Outline of Survey

##### 2.1. Overview of the Case Study

Table 1 and Fig.1 shows an overview of the shared housing, which was to investigation the case. The location of the share house is the Yamaguchi Prefecture of local cities. These are two cases Ube City one case is in Yamaguchi. These were to repair a detached housing, which has been in the vacant house. 3 cases management operator of is the same. Also a good location of life convenience with 3 cases. Case 1 is a 57 years old wooden two-story former maternity hospital, the vacant house period is one year. And five private rooms are composed of a common area DK<sup>\*2</sup>, resident

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is also the owner of the elderly on the first floor. Then, Case 2 is a built in 43 years, a former the general house of the two-story wooden. It vacant period is four months. Shared unit, spread of DK and 6 tatami Japanese-style living room are adjacent to each other. And, it has 5 rooms a private room. Finally, Case 3 is a former the general house of the two-story wooden, was built 91 years ago. It was a vacant house for six years. It is a vast property. Characteristics of the floor plan, the spread of the LDK<sup>\*3</sup> and nine private rooms, three shared rooms, a bathroom and kitchen, each two-fold.

Next, Fig.2 shows the flow of the management and

operation from the contract of share house. A case study is the owner and lease the building business, which is a contract to sublease to residents. Operators have obtained the vacant house information via the Internet. Then, he has to request a loan of as a share house to the owner via the real estate company. After he signed a rental agreement with the owner, to recruit residents through its own website or SNS. Resident age is limited to 18 to 39 years old. The applicant for occupancy contact the management and operation company primarily through the SNS. They enter into a periodical rented house contract. Therefore, residents pay to the

Table.1 Shared Housing Details

		Case 1				Case 2					Case 3						
Building Information	location	Yamaguchi City, Yamaguchi Pref.				Ube City, Yamaguchi Pref.					Ube City, Yamaguchi Pref.						
	Age(yr.)	About 57				About 43					About 91						
	Original	Maternity Hospital and General House				General House					General House						
	Vacant House Period	1 yr. (Maternity hospital part)				4 mths.					6 yrs.						
	Structure	Wooden detached two-storey				Wooden detached two-storey					Wooden detached two-storey						
	Rent <sup>*1</sup>	22,000 to 28,000 yen				28,000 to 31,000 yen					28,000 to 40,000 yen						
	Parking Space	Available (outside the premises)				Available					Available (one on site, four outside the premises)						
	Operation Start Date	Feb-15				Oct-14					Oct-14						
Resident Attribute	Resident	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
	Gender	F	F	F	M	F	F	F	M	M	M	M	F	F	F	M	M
	Age Group	20 to 24	30 to 34	30 to 34	25 to 29	30 to 34	20 to 24	30 to 34	30 to 34	30 to 34	25 to 29	25 to 29	20 to 24	30 to 34	20 to 24	20 to 24	25 to 29
	Work <sup>*2</sup>	Us	Bm	Bm	Pt	Bm	Bm	Bm	Bm	Se	Bm	Us	Bm	Bm	Us	Bm	Bm
	Residence Period (mo.)	2	3	10	1	18	1	5	22	25	2	3	3	14	3	1	1 mo.
	Commuting Way <sup>*3</sup>	T	C	C	W	C	B	C	C	C	C	C	B	C	C	C	W
	Commuting Time (min.)	5 to 15	5 to 15	5 to 15	15 to 30	15 to 30	30 to 45	15 to 30	5 to 15	30 to 45	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	15 to 30	15 to 30
	Share Residence Experience	○	×	○	×	×	×	×	×	○	○	○	○	○	×	×	○

Notes <sup>\*1</sup> US \$ 1 = about 100 yen, <sup>\*2</sup> Us:University Student, Bm:Businessman, Pt:part-timer, Se:self-employed, <sup>\*3</sup> C:Car, B:Bicycle, T:Train, W:Walk



Fig.1 Plan

management and operation company rent, management and operation company will pay the rent to the building owner. In addition, management operators regularly buy or cyclic life fixtures a share house. However, rules on the use is determined by the discussion between the residents.

## 2.2. Method of Investigation

An investigation method consists of: (1) Hearing to the house owner and shared housing operator about the establishment background of property; (2) Collection of the top view, layout drawing, and common-room furniture placement of shared housing; and (3) Action observation investigation in how to use the common space and in the interaction contents and frequency between residents by us staying at a shared housing for one week. Investigation period is from November to December of 2015. In addition, Researcher had been living in Case 3 until February 2016 from August 2015.

## 3. Utilization Characteristic

### 3.1. Basic Attributes of Residents

Residents attribute shown in Table 1.

Case 1 to 4 people, Case 2 to 5 people, seven in Case 3, a total of 16 people are living. Age of residents in the 30's from the late 20's, male and female ratio is 7:10. In addition, most of the residents are white-collar worker, a few remaining is a student and part-time job.

Figure 3 shows the move-in reasons. The highest motive is "Capable of interaction with various people." Then, " Cheap rent " 38%, is followed by a " No need to deposit and key money " 31%. It is characterized where economic reasons are ranked at a higher level. On the other hand, such as " Living or a kitchen are substantial" 13% and " can park " and " Neighboring life convenience facilities are substantial" 6%, facilities and convenience in terms of lifestyle, etc. of the share house is ranked relatively low.

Tenants motivation can be said to be two points of "interaction with people can be expected" and "Since the initial cost is low can feel free to move." In contrast, a "well-equipped" and "highly convenient location" can be said to be weak as a motive.

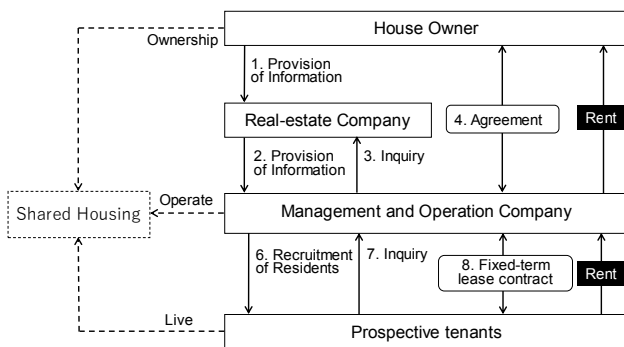


Fig.2 Flow of Shared Housing Establishment

## 3.2. Analysis of Living Activity Patterns

### 3.2.1. Classification Based on Meal Preparation Style

Way of preparing meals obtained from the survey results is typified by the Hayashi's quantification method 3<sup>\*4</sup>. Variables are, self-catering, buy or dining out, do not eat, are, are provided respectively in the weekday morning and evening.

By analyzing the preparing meals of residents, the types are classified into four such as "1. Always Self-catering (AFKLN) ", "2. Morning: Buy or Dining Out / Night: Self-catering (EJOP) ", "3. Morning: Not Eat / Night: Self-catering (CIM) ", and "4. Night: Buy or Dining Out (BDGH) " (Fig. 3). Type of the meal 1,2 and 3 are a self-catering at night although not type 4.

Looking at the relationship between the case (Fig. 5), about half of the case 3 is a type 1, everyone is a self-catering in the evening. Other hand, Case 1 and 2 is about half type 4, type 1 is not only each one.

### 3.2.2. Classification Based on Staying Time

Then, the characteristics of the behavior of the residents are classified into four types by the percentage of time spent each to go out and common rooms and private rooms (Fig. 6). It is due to the data obtained from the behavior observation survey by 1-week stay. It is the average of one week of a common room and private room and the outing.

It should be noted, B and E and P moved at the time of behavior observation survey. In addition, N is removed from the analysis for an observer.

"Type 1: Common Room Centered Type(JO)" is as long as stay time of 5 hours of common room, except when sleep has spent almost in the common room. " Type 2: Balance Type (FIKL)" has spent about two hours in the common room, a long time to spend in a private room than type 1. It is a type getting balance of the stay time of a private room and the common room. " Type 3: Private Room Centered Type (ADH) " even less time to go out and spend 13 hours or more in a private room. " Type 4: Going-out Centered Type (CGM) " will go out as long as 13 hours or more, are mainly spent in the private room in the share house.

Look at the relationship between the case (Fig. 7),

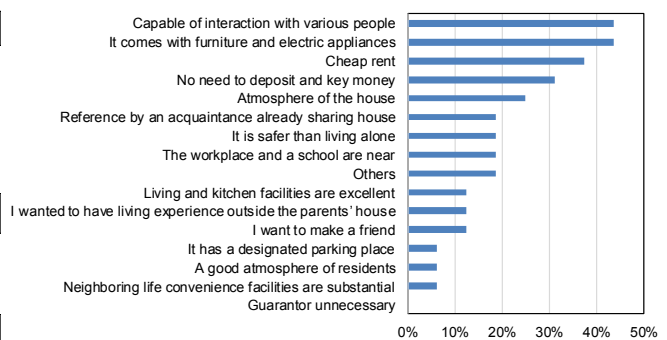


Fig.3 Move-in Reasons

Case 1 is the only type of Type 3 and Type 3. In contrast, the case 3 there are many types of 1 and 2. This means that there are many residents who spend long in the common room. In addition, Case 2 is half in type 2, the rest is composed of type 4 and type 3.

Compared to the trend in the manner of meal preparation as discussed earlier, many of those categorized as Case 1 and 2 (about a half of them are Type 4, who do not cook dinner for themselves) are Type C and D residents, who mainly act individually.

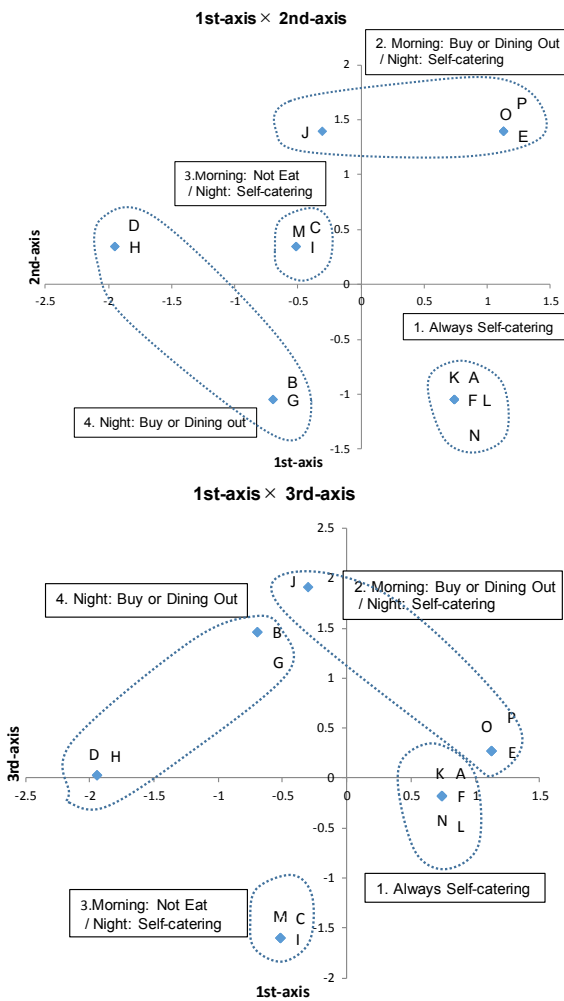


Fig.4 The results of quantification 3 class

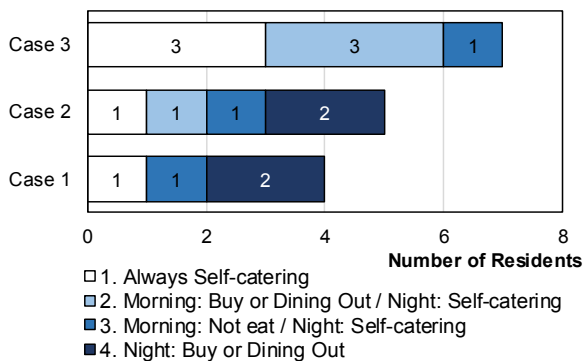


Fig.5 Classification Based on Meal Preparation Style

On the contrary, in the case of Case 3, in which all members cook dinner for themselves, many residents stay in the common room for longer hours. Thus, there seems to be an association between the way of the preparations for meal and the staying time in the common room. The sizes of the common rooms are 10.12m<sup>2</sup> in the case of Case 1, 27.56m<sup>2</sup> for Case 2, and 37.67m<sup>2</sup> for Case 3, revealing a tendency that bigger common rooms lengthen the stay.

### 3.3. How the Common Room Is Used

Continuously, Usage of the typical day of common room is analyzed (Fig. 8).

#### 1) Case 1

17:00~18:00 : Resident D went to immediately DK to come home. Resident D went after a private room, which put the hot water into the cup noodles. Subsequently, Resident A was straight to a private room to go home at around 5:30 pm.

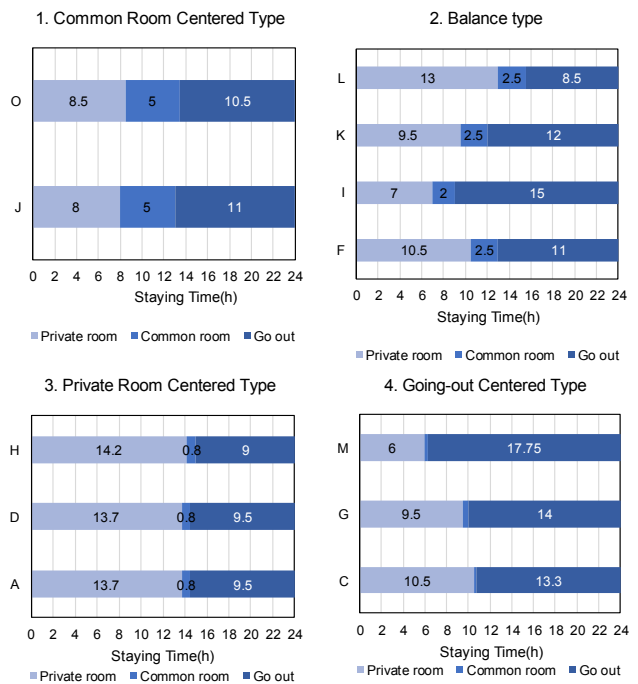


Fig.6 Type by staying time

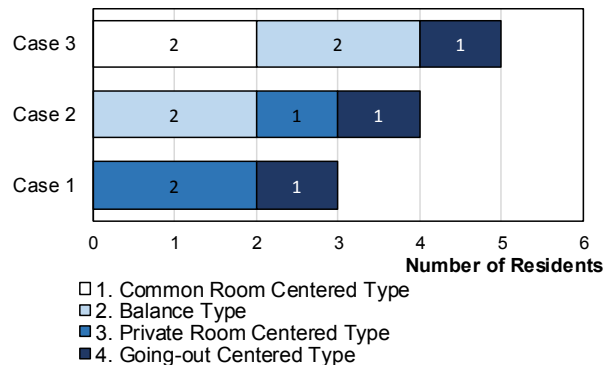


Fig.7 Classification Based on Staying Time

**18:00~19:00** : Resident A has made a move from the private room to the kitchen cooking. She was cooking while watching a movie on the PC.

**19:00~20:00** : Resident A took a meal in one person in DK. She will continue to take a meal while watching a movie on PC, after a meal went back to the private room.

As described above, the residents had been living in the center of the private room. Residents had to use the DK, but the scene to chat or take a meal in the resident each other was not observed. Although the DK was also a TV and DVD player, residents who have a TV in the private room a lot, residents were not to watch TV in DK in one week during the observation investigation period.

Also, despite events such as a dinner party has been performed several times a year, interchange between residents is infrequent. As a factor, as narrow as common room in a DK is about 10.12 m<sup>2</sup>, be mentioned that space to relax in more than one person is not. In addition, I think that the owner of more than 80-year-

old has been living in the part of the first floor, and also influence that the party such as late at night is restricted.

**2)Case 1**

**18:00~19:00** : Resident G is go home around 18:30, and rest for about 5 minutes on the sofa of 6 tatami Japanese-style communal rooms. Then she went to a private room to put the tea in DK. She except bathing spent in the private room.

**19:00~20:00** : Resident H came home around 19:00. He took home-meal replacement alone in DK. He went to a private room to stay for about 20 minutes. Then, resident F and I came home around 20:00. They went to a private room regardless to the common room.

**21:00~22:00** : Resident F and I took meals cook together. After that, they went back to a private room to talk for about 40 minutes.

In this way, the interchange between authorized residents was seen, but other residents almost spent it in a private room. The common room is about 27.56 m<sup>2</sup>, and a DK and 6 tatami Japanese-style that follows. DK had been used in meal, etc., but Japanese room has not

Case.1	17:00~18:00	18:00~19:00	19:00~18:00	Case.3	18:00~19:00	20:00~21:00	22:00~23:00
	D comes home, and pours some hot water into the cup of instant noodles. Then D eats the noodles in his private room.	A cooks food while watching a movie on her computer.	A spends about an hour eating supper and watching a movie at the same time.		There are people preparing supper, and there are people watching television on the sofa.	After supper, multiple people chat in the living room.	Each person cleared away dishes from the table, prepares a lunch for tomorrow, etc.
Case.2	18:00~19:00	19:00~20:00	21:00~22:00	Welcome party in Case 3	18:00~19:00	20:00~21:00	22:00~23:00
	G comes home and takes some rest on the sofa for a while..	H comes home and eats the lunch of his purchase at the table.	F and I prepare and eat supper together, and after that, they chat.		This is the scene of the toast. The preparations for meal reached in all the members.	They ate a watermelon in dessert. They talked pleasantly while watching TV and decided each other's nicknames.	They played fireworks in a garden.

Fig.8 How the Common Room Is Used

been used. Most of residents were principles not to interfere, and they respected individual life. They hold dinner parties several times in a year.

### 3)Case 3

**18:00 ~ 19:00** : Resident K came home around 18 o'clock. Then, resident L and O to return home at around 18:30, they were closer to the LDK. Multiple resident had a cooking and watch TV in the LDK. They are taking individual action can have in the same space.  
**20:00~21:00** : Resident J and P is closer to the LDK came home around 20:00. Several residents were relaxing and chatting or watch TV on their own even after a meal.

**22:00~23:00** : When it comes to at around 22, resident has increased to return to the private room. The other, they were bathing and washing dishes, to prepare for the next day of the lunch.

In addition, Case 3 events were frequent. This is shown in Figure 8. Unused rooms and a large garden has been available to the party. Sometimes, residents of acquaintance and resident of Case 2 is located in the neighborhood had been invited to the party. In the welcome party for the new tenants, they held a dinner. They decided each of the nickname after the self-introduction. They are after the dinner was carried out in the garden fireworks that management operators were prepared. Then they ate watermelon return to the LDK.

From the common room of used the way of observation of each case, the smallest Case 1 is the area of the common room is not seen most of exchanges between the residents, the next smaller case 2 is seen exchanges between certain residents, the interaction of all the members was seen with biggest Case 3. The common room space affects the length of stay and self-catering choice.

## 4. Conclusions

The results are as follows.

- 1)The manager started the shared house to utilize his own house-sharing experience and to explore opportunities in a local town. The properties are as old as 43, 57, and 91 years, and one of them is a former maternity hospital and others two are general houses.
- 2)Many of the residents chose the shared house because of interactions with fellow residents and cheap initial costs and rent. On the other hand, convenient location or well-equipped facility has few impact on their motivation to move in.
- 3)The common room space affects the length of stay and self-catering choice. Also, the length of stay in the common room is connected to the interaction frequency. Therefore, the interaction is more frequent when the common space is bigger.

A future study will focus on the individual behavior and analyze the usage of the communal rooms further in detail to clarify the conditions required for houses used as shared houses.

## 5. References

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### Notes

<sup>\*1</sup> Of the Ministry of Internal Affairs and Communications Bureau of Statistics by the 2014 Housing and Land Survey.

<sup>\*2</sup> DK is the eat-in kitchen type of housing unit.

<sup>\*3</sup> LDK is DK and Living are combined together

<sup>\*4</sup> Specifically, in each of the category data weekday morning and weekday evening, it was a "self-catering", "buy or dining out," "not eat". Then, applying the cluster analysis (Ward method) Sample score calculated by quantification III class analysis.

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