

# Planning Process and Utilization of Traditional Fork House Renovated to Welfare Home

## Author

**Sachiko YAMAMOTO**

*Assistants Prof., Graduate School of Science and Eng., Yamaguchi Univ., Dr. Eng.*

**Yasunori KAWAGUCHI**

*Graduate School of Science and Eng., Yamaguchi Univ.*

**Mahito NAKAZONO**

*Prof., Graduate School of Science and Eng., Yamaguchi Univ., Dr. Eng.*

**Keiko KATODA**

*Prof., Yamaguchi Prefectural Univ. M. Sociology*

## Abstract

Authors got an opportunity to take part in the regenerated project of traditional fork house to the welfare home, and took charge of the decision of master plan and basic design. Design was held based on the result of performance diagnosis and utilization plan, and the validity of regenerated system by the fixed-term rental housing contract was shown. The purpose of this research is to verify whether design intention was suitable by comparing the utilization presumed at the stage of design with real use form and to put the problems of the space function in order with confirming the validity of small-scale welfare home maintenance that a fork house was repaired. The living room and lunchroom which becomes user's life base are suitable areas that about ten people may use and chairs have been put on the veranda space of the living room, and it is the most suitable place to look at the garden, so the utilization which was presumed has been made. On the other hand, it is short of the staff's office work, the rest and clothes space, and a part of the district interchange room is being used as the rest space. Generally the smooth service is provided, and it is making use of the advantage of the small-scale facility.

## Key Words

Fixed-Term Rental Housing Contract / Vacant House / Renovation and Welfare home

## 1. Introduction

Vacant land and parking lot are on the increase in the central zone of local city by the removal of wooden building which became decrepit and the increase of vacant house. The examination of regeneration of vacant house stock and conjugation plan making use of traditional culture of the area is the subject to promote the activation of the central zone and town inside residence. Writers proposed the long-term rental housing contract and improvement process based on the conservation of the traditional house which became vacant. But, according to the case studies until now, there are a few cases that the seismic strengthening and construction of heat interception were carried out based on the long-term rental housing contract, so the way of diagnose of seismic strengthening, the development of heat reinforcement technology and the examination of reducing the improvement cost are subjects. Writers took part in the model project to regenerate a tradition private house to the welfare home, and took charge of the decision of the improvement master plan and basic design. In this paper, the possibility of the realization of proposed system and validity are examined for this case with the results of analysis of contents of improvement and use of the home.

## 2. Regenerated System of Fork House by The Fixed Term Rental Housing Contract

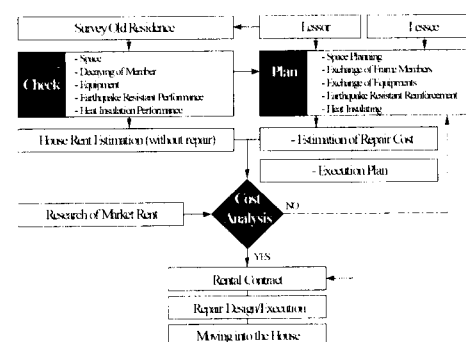


Fig01. Planning Process of Renovation

The regenerated system of traditional house is the total system including contract method and reform planning process to show in the following. The contract method which the clauses that improvement by the borrower is recognized as, the clauses that the long-term residence period for 10-20 years is guaranteed when the collection of the improvement cost were anticipated and the clauses (recovery duty exemption and purchase claim renunciation) that the trouble will be avoided at the time of contract end were included into is defined as "the fixed term rental housing contract". Improvement design with the actual measurement and diagnosis and reform cost estimation are done, and the cost analysis to judge formation possibility in the market is done based on this contract. The reform planning process is shown in fig.1. It is composed by (1) actual measurement investigation (2) diagnosis (3) improvement plan, design (4) cost analysis. Grasping of space function and structure, superannuation diagnosis and the confirmation of equipment function, and resistance to earthquake and heat performance diagnosis are done, and next the improvement plan is settled on. The construction expense is estimated about the improvement plan and the lease contract is connected when it is well-balanced with the construction expenses and the market house rent. After the improvement design and construction, it reaches the move.

## 3. Regenerated Process of Fork House

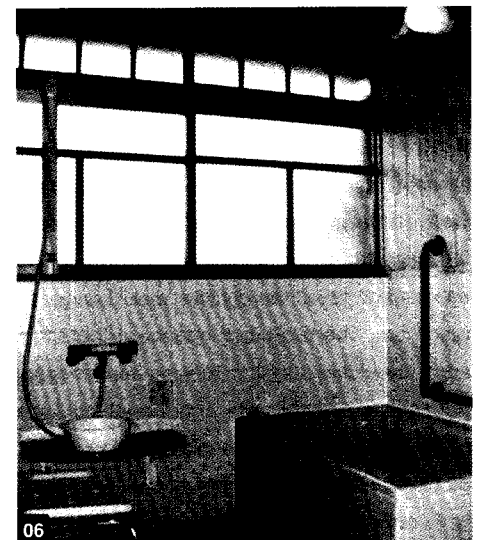
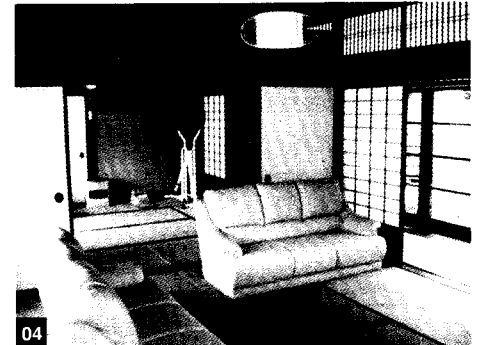
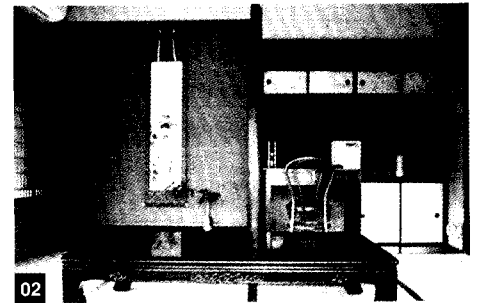
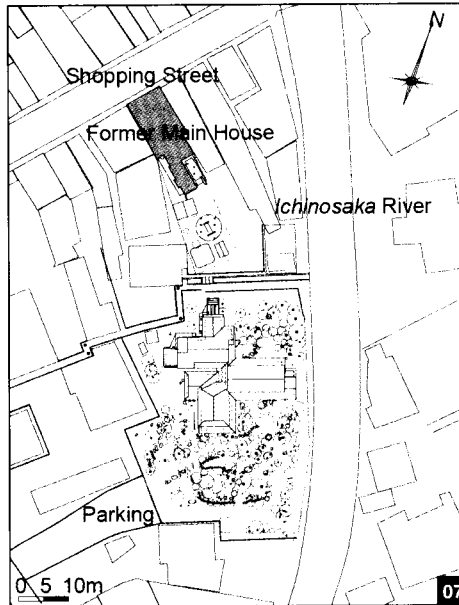
KAWAMURA-house is in the position to adjoin the shopping street of central zone of Yamaguchi City. It is the cottage of wooden one-story house built in the 1910's, site square is 1563 m<sup>2</sup> and floor space is 228 m<sup>2</sup> (fig.2 and photo.1,2). Though this house was used as a rented house once a time after the owner's move, it became vacant again, so the local volunteers were proceeding with the preservation and use campaign. Actual measurement investigation was carried out

in 2004, and negotiation was started based on the use as the welfare home between the owner and the welfare co-op. The association presented the following 4 conditions. (1) It uses as the area welfare home. (2) A rental period takes a fixed term rental house for ten years. (3) It is returned to the lender at the time of contract expiration. (4) Borrower pays the full amount of improvement fee. Owner didn't have the use schedule of the building and he agreed to rent the house, and a lease contract was concluded through the conference of the improvement plan because there was no improvement fee burden, and which was the facilities use plan that public interest was expensive. After that, the diagnosis, improvement design of the house and the reform cost estimation was proceeded and the reform was completed in March 2007, and the home opened in April. Home management plan makes the elder's day service which the health coverage system is used, the interchange activities of self-support elders and the activities aimed at the maintenance of the home by the pay volunteers of old people.

**4. Renovation Plan and Design**

(1) Outside plan: existent warehouse, tree, garden stone and wall on the west side of the site were removed, and approach space for transportation and the parking space removed and changed to the wooden fence, at the same time, fall prevention fence was set up in the part of the boundary faced the river.

(2) Planning and equipment program: The improvement plan is shown in fig.3. Existent rest room was removed, and the slope and entrance were set up to secure the approach route to the home (photo.5). Along with the rest room removal, existent bathroom and undressing wash room was repaired to bathroom, undressing wash room and wheelchair rest room and the bathroom was completely repaired, and washbowl, storage



**Notes**

- 01. Photo.1 South Ridge Appearance
- 02. Photo.2 South Ridge ZASHIKI- Room
- 03. Photo.3 Lunch room

- 04. Photo.4 Living room
- 05. Photo.5 Entrance and Slope
- 06. Photo.6 Bathroom
- 07. Fig.2 Site Plan

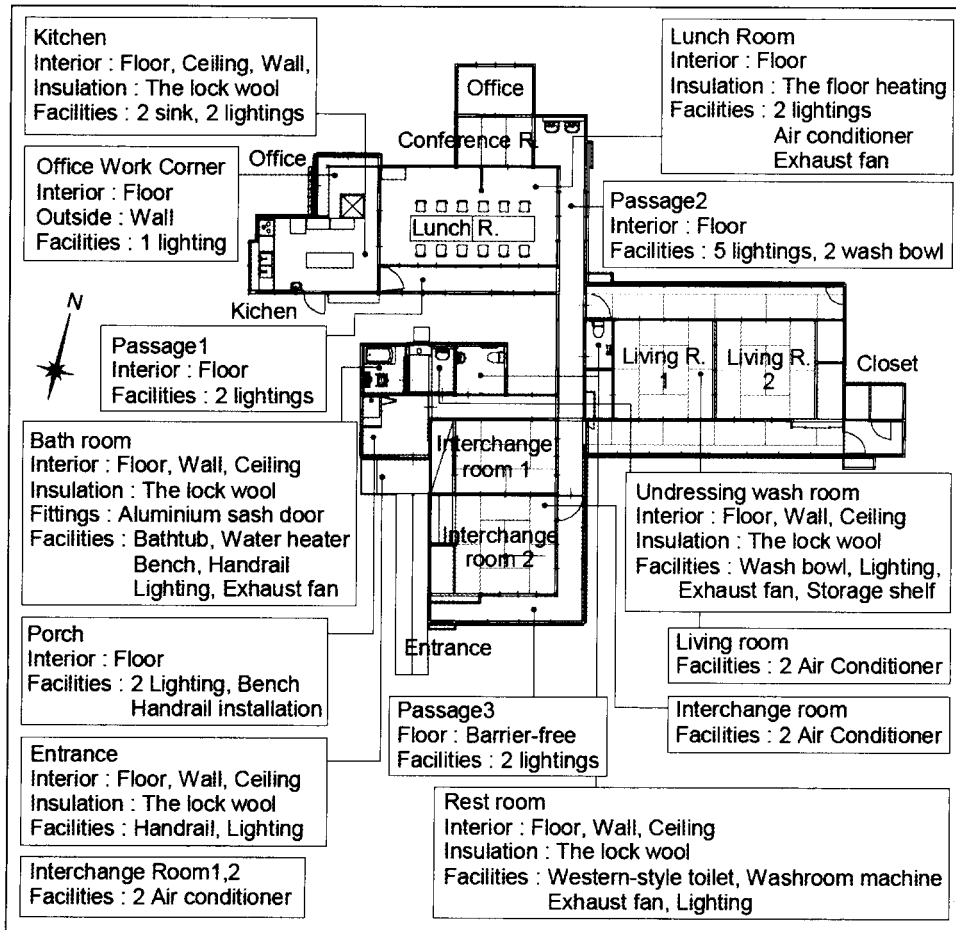


Fig03. Renovation Plan

strength; establishment or exchange of be carried out. when the wall is set up newl load bearing wall of wooden board level is established. In case that the neces strength can't be secured by the reinforce or establishment of load bearing wall or it's difficult to set up the bearing wall, dam installed.

(4) Insulation method: kitchen, office corner and lunchroom fill it with the lock w insulation under the floor and floor and c is filled with the insulation in the same w living room, entrance, bathroom, undre room and rest room as well.

**5. Utilization of Welfare Home**

The investigation to observe user's staff's activities was done with the pur of evaluating the space function of the h The method of recording user and st stay place and contents of behavior ir ground plan in the interval for ten minutes adopted. Investigation carried out six day 2008.6.9-14.

**5.1 The Number of Users and Life Patter One Day**

The number of users during investigation is shown in the table 1. Thou people of the capacity aren't reached, as fo user, the use number is stable with 7-9 per Most is one or two times though use frequ is maximum four times a week.

Next, the program for one day of the h is shown in the figure 4. A program for 1 is composed of 8 pattern: ① at 8:30-9: pick-up, vital check and tea break ② at !

shelf and so on were installed in the undressing room(photo.6). For elder's residential place, the two tatami-rooms of east ridge that are blessed with the sunlight condition and the view of the garden have been moved to the functional training room(living room), and the one storage faced the corridor was changed to rest room. The two tatami-rooms of the south ridge are planned as the keeping service room of handicapped children, and the interchange place of the community people (photo.2). Based on the use of present kitchen, the existent floor, wall, ceiling of kitchen were changed to new materials and set up 2 sink for lunch service. By removing the storages between Japanese-style rooms of north ridge, dining room was newly made(photo.3), floor heating was laid and air

conditioner and ventilation fan were installed, and further more hand wash vessels were set up in the corridor for hand wash before the meal or brushing the teeth after meal and so on.

(3) Seismic strengthening: Existent soil wall is reinforced as the load bearing wall. Soil wall is extended to the beam when it isn't being painted to the whole of the frame of truss and in case of no truss which encloses the wall side or lack of

Table.1 The Home Use Number of Times for One Week

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	x	y	z	aa	ab	ac	St
6.9 Mon	1	1	1	1	1	1	1																		
6.10 Tue								1	1	1	1	1	1	1											
6.11 Wed	1		1								1				1	1	1	1							
6.12 Thu		1			1		1		1			1							1					1	
6.13 Fri	1		1			1						1		1	1					1	1	1			
6.14 Sat	1						1					1			1	1	1			1			1	1	
Sum	4	2	3	1	2	2	3	1	2	1	2	3	2	1	2	3	2	2	1	2	1	1	2	1	

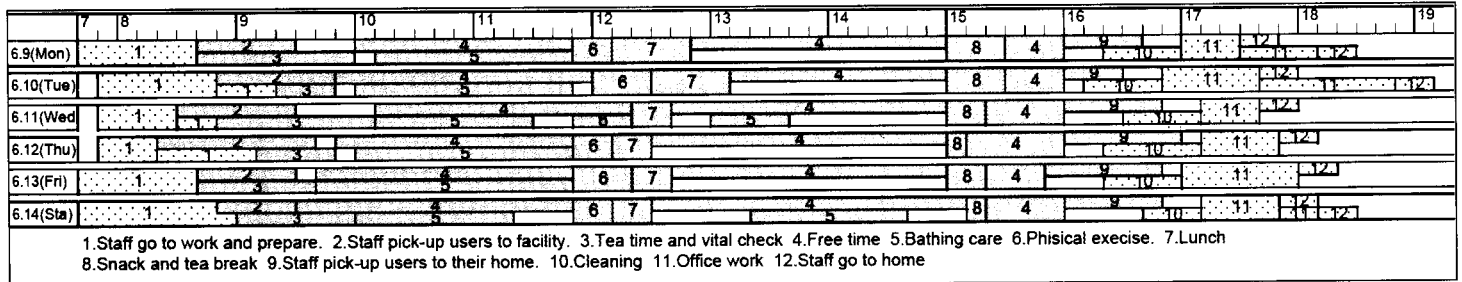


Fig04. Life Pattern for One Day

-11:50: bathing or free time ③ at 11:50 -12:00: physical exercise ④ at 12:00 -12:30: lunch ⑤ at 12:30-15:00: bathing or free time ⑥ at 15:00 -15:30: snack and tea break ⑦ at 15:30-16:00: free time ⑧ pick-up, and staffs do cleaning and office work after user returning home. A program during the free time isn't specially set up, and users get along freely in a room to like it.

**5.2 The Utilization of User's Living Place**

The change in the stay place of six users on June 10 which was the most usual-like day is shown in the figure 5. Users spend ① vital check and tea break ④ lunch and ⑥ snack and tea break time in the lunch room, and the movement of the room was not seen by the free time except for bathing and excretion, and the living room is the user's main life place for one day.

The utilization of lunchroom is shown in the figure 6. Uses sit on two tables at the time of vital check, and it is the similar used method at the time of lunch as well. The sufficient space

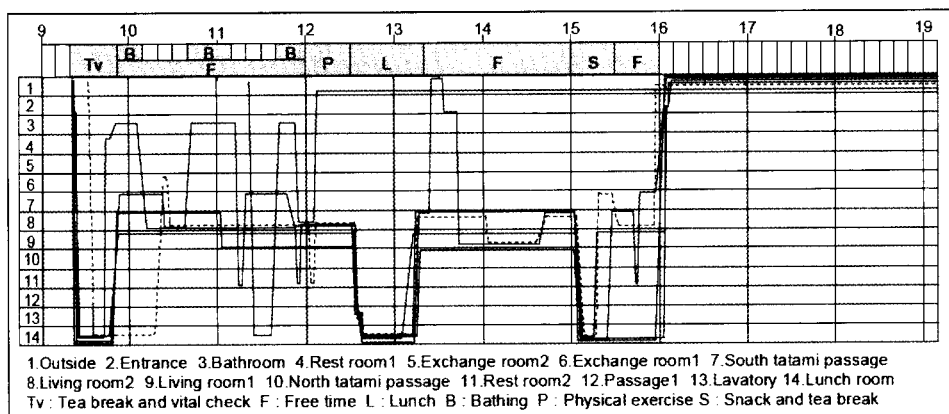
is secured when a staff measures each user's temperature and blood pressure and when a user of wheelchair takes a seat. On the other hand, at the time of hand wash in the lavatory beside the lunchroom, it must be moved in the back to the lunchroom because there is no rotation space of the wheelchair.

The utilization of living room is shown in the figure 7. The act of seeing television sitting on the sofa and the act of rest in the posture laid himself down were watched in the zashiki-room that a television has been put on the tokonoma. The fittings of the veranda of the north and the south were closed, and a scene to sleep with the bed put on the north veranda was seen, too. On the other hand, fittings are opened properly because the room which a table is put on is used for going in and out of the residence room. The scenes which plays shogi with users and staff and user enjoy a quiz game together were seen in this room in the morning and afternoon. Origami, a line drawing for coloring and an act such as shogi and cards were seen with other

investigation days as well. There are more interchange and conversations with users and staff comparing with the user who gets along in zashiki-room. Though two rooms are used at the time of physical exercise before lunch, the function is distinguished fundamentally with fittings except for the exercise. A static activities are main in zashiki-room which closed fittings as to taking a rest with sofa and bed. On the other hand, dynamic activities such as conversation and interchange are done actively in tuginoma-room. The space which the user likes is selected, and they get along freely. On June 11, the event that parent and child sing a song together with the user by the performance of teacher of Electone was held in zashiki-room, and all of the users participated .

Next, the utilization of interchange room is shown in the figure 8. The painting classroom is being opened every week on Wednesday, and the users who hopes to take a lesson are enjoying the painting in the interchange room. The shojis are removed, and the space is expanded at this time to use the space continuously with the veranda. On the other hand, the users who doesn't participate in the painting classroom spend time freely in the living room in usual. On Thursday, the postcard making classroom for the people in the area has been opened as well, but the users do not participate, so they spend usual life in the living room. From the entrance to the interchange room, people can approach without passing the living room, so there is no changing the user's life pattern when the interchange room is used.

Fig05. User's Stay Place



**5.3 Change in The Staff's Work Place**

The change in the staff's work place for one day is shown in the figure 9. Four staffs work at one day, and general burden sharing is being done, A : office work, B: bathing care and pick-up, C: life care and pick-up(two staffs). The home manager takes charge of the role A and a staff takes charge of the role B and C alternately, the staff that the care job experience is short takes charge of the role C in the workday of home manager.

The office and lunchroom which gives visitor's correspondence are the main places of staff A. But, there are many amounts of movement of the space because she sometimes goes properly to watch user's behavior in the living room in free time, and she moves through the office and entrance at the time of user's reception and send-off. It is the factor of the so long movement line that the movement from office to living room and entrance may pass a corridor. The bathroom takes the greater part in the workshop place of B and she is staying at the living room in the time zone with no bathing care, so there are a few movements of the work place comparing with staff A, and the movement to lead a user from living room to bathroom before and after the bathing is seen. Staff C may often and seldom stay at living room except for leading users to lunchroom at the time of lunch and snack, so the amount of movement is a few comparing with staff A and B.

And, staff C takes a rest for thirty minutes after lunch and B takes one for one hour at the time of lunch, then six quires Japanese-style room of the interchange rooms is used as the rest space and the south veranda of lunchroom is used for the staff's baggage place.

**6. CONCLUSIONS**

The possibility and validity of the regeneration system of traditional house by the fixed term rental housing contract were examined through the analysis of contents of improvement and use method for the traditional private house regenerated as the welfare home.

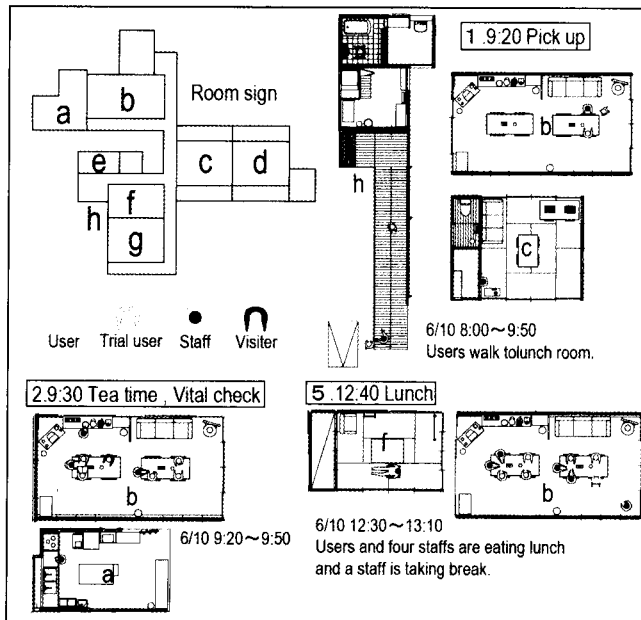


Fig06. The utilization of lunch room

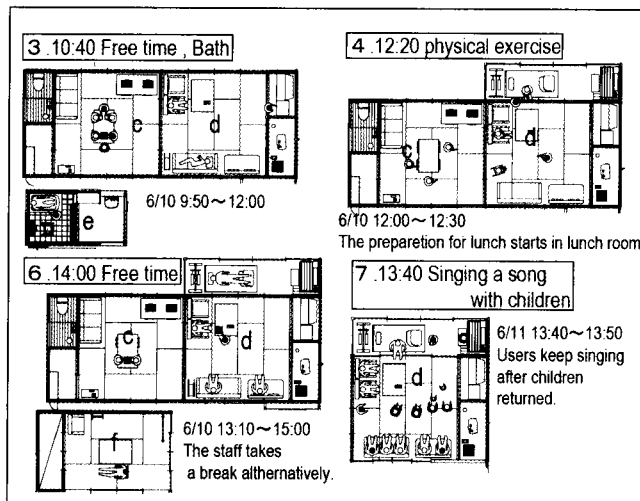


Fig07. The utilization of living room

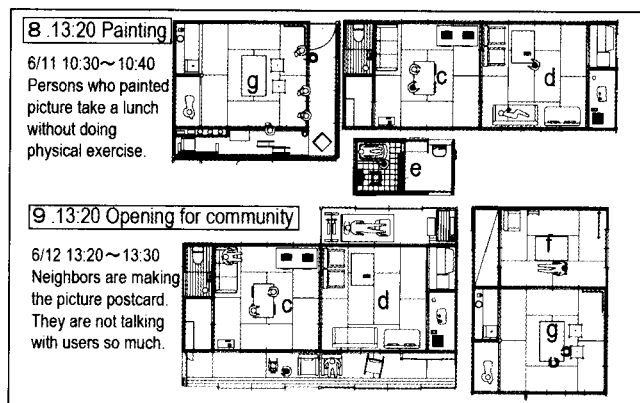


Fig08. The utilization of interchange room

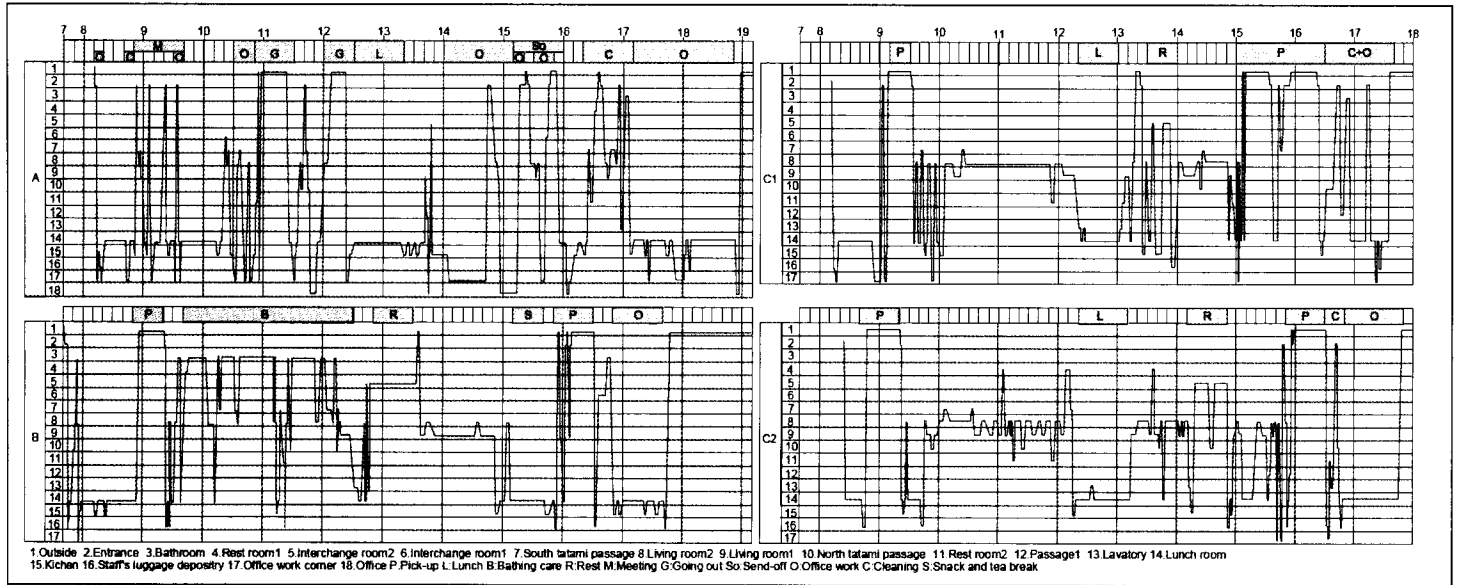


Fig09. Change in The Staff's Work Place

The results are as follows.

(1) The local organization aimed at the development of welfare work presented the condition that the fixed term rental housing contract in the lease 10years and borrower paid the full amount of improvement fee to the owner who possessed the large-scale vacant house in the center city area. As the result, the lease contract had been concluded so the validity of proposed system was shown.

(2) The seismic strengthening and insulational reinforcement design which included not only space design for the use change but also the induction of new technology was decided under the cost simulation by the diagnosis based on the detailed investigation and the construction was completed within the range of the initial budget, so the validity of planning process of renovation was confirmed.

(3) The existent building is composed of 3 ridges and assigned for each of lunchroom, living room, interchange rooms, so the sufficient space for user is secured. Specially, because the space function is distinguished with living room by opening and closing of the fittings and the arrangement of furniture, user can choose the space with the request for life, The

interchange room had planned in the close position to the entrance, the day service user doesn't need to change usual life and only the applicant can participate in the picture classroom and so on.

(4) Though 3 ridges are connected with corridors, the change in work place isn't drastic by the staff's burden sharing, but the movement line gets long when the staff who does office work goes to user's pick-up or care because the office is set up at the corner of north ridge.

**REFERENCES**

[1] Construction Group of Town-House in KYOTO: Originality and idea of Town-House Regeneration- The manner and process of improvement examined in the examples, Gakugei Shuppannsa, 2005  
 [2] Construction Group of Town-House in KYOTO: The Skill and Wisdom for Town-House Regeneration, Gakugei Shuppannsa, 2005  
 [3] Regeneration studio of Old Fork House: Regeneration Method of Old Fork House, SUMAI Library Publishing Company, 2000  
 [4] Landscape and Community Design Center of Kyoto City: Renovation of Town-House in

KYOTO, 2003

[5] Hironobu Orihata: Design Techniques of Fork House Regeneration, Shokokusha Publishing Co.Ltd, 1997  
 [6] Mamoru Touhiguchi et al.: Constructive Technology of Traditional Wooden Building involving the Town House in KYOTO 1-4 , Journal of Architecture and Building Science, Vol.116, No1465-1470, 2001  
 [7] Mahito N., Yuko O. and Sachiko Y.: THE PROPOSAL OF LONG-TREM RENTAL HOUSING CONTRACT AND THE PLANNING PROCESS BASED ON THE IMPROVEMENT, Journal of Architecture and Planning, № 594, pp.147-154, 2005  
 [8] Mahito N., Sachiko Y. and Kazushi M.: Case Studies of Vacant Houses' Renovation in Which the Cost is Born by the Tenants, Journal of Architecture and Planning, № 594, pp.147-154, 2006  
 [9] Mahito N. and Sachiko Y.: Case Studies on Housing Restoration by the Grant of "Furusato Shimane Teiju Foundation"-Study on the renovation system of vacant house in rural areas-, Journal of Architecture and Planning, № 620, pp.111-118, 2007