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# Progress of Rebuilding the South Manchuria Railway Company Workers' Housing Complex in Shenyang and the Residents' Evaluation on Present Living Environment

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**Abstract:** XiaoXeZai residential area is located in the city centre of Shenyang. This residential area was the workers' housing complex of Huanggu locomotive factory built by the South Manchuria Railway Company. This survey is aimed at understanding current status of living environment after renewed. Via survey on reconstruction process, changes in living environment and comments on living environments from residents, it was cleared that the reconstructed living environment had brought changes to residents' lifestyle and community. Although renewing and reconstructing had made improvement to physical environment of residential area, many problems, which unexpected in reconstructing period, were showed up. How to resolve these problems in reality and realize the sustainable development of the residential area is the current key topic.

**Keywords:** South Manchuria Railway, Housing Complex, Rebuilding, Community, Post Occupancy Evaluation

## 1 Introduction

With the rapid development of China's economy, the policy of housing commercialization is implemented in the early 1990s, which had changed people's understanding of housing and animated the real estate market. And it can be said that the idea of treating housing as private property has been popularized all over China. On the other hand, financial institutions have carried out convenient polices such as low-interest loan for house purchase, loans for private housing upgrade and etc. This practice has greatly increased the people's capability in housing purchasing and consequently promoted the development of real estate market. With people's ever-increasing awareness of housing environment, the original residential equipment and facilities appeared to be more and more outdated and backward. Thus, change of houses becomes frequent and the established emotional communication network among them is damaged as less contacts and communications between each other. This has become a major social problem now. In particular, as the research object of this paper, "Xiaoshezhai" --- one of the SMR employee residences, has a high population density and dated equipment and facilities. Although ever since its regeneration from bungalow to multi floor building, only 15 years have passed by now, this residential area becomes out of date rapidly in the rapid development of China's economy, and changes into a lower-class urban residence. During relocating and rebuilding, various unanticipated issues emerged. In fact, such a kind of residence is quite common in China, and not quite old as seen from its construction time. So it can be thought that the possibility for its relocating and rebuilding in the near future is rather low. In that case, in order to achieve a peaceful, secure and stable living environment for the future, in which way should this kind of residential area continue to be developed and how can its own value be enhanced with the outdated equipment? How to solve such issues can be said as one of the imperative tasks for today's urban construction.

This paper mainly researches employee residence of South Manchuria Railways Company (hereinafter referred to as SMR) which is closely related to and has ever played a great role in the planning and development of city Shenyang, China. Systemizing its processes of forming and changing and through survey of the current residents' environmental awareness, the overall status of the employee residence is grasped, in other words, the so-called ordinary people's living conditions have been grasped.

Three reasons for selecting employee residence "Xiaoshezhai" of SMR as the research object of this paper are as follows: First, the construction of SMR employee residential area has impacted greatly the formation of urban residential area in Shenyang. Thus, systemizing the formation of this residential area will help greatly to understand the formation of urban housing. Second, this residential area has experienced such national housing reforms as from physical housing allocation to monetization of housing distribution, from state-owned employee residence to private residence, and etc. Through comprehension of these reforms' impacts on the changes of residential areas, a preliminary grasp of the practical measures

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taken by large-scale enterprises in response to the national housing reform policies can be achieved. Third, since the ordinary people of China's wage-earning class take up 80% of the total population, the construction of ordinary residential houses is being speeded up throughout China, so that all the ordinary people can possess their own house. Namely, the residential awareness survey of residents in "Xiaoshezhai" can serve as a beneficial reference for development and regeneration of high-quality urban residence in the coming future.

## 2 Formation and Changes of Labor Housing

As a result of the Russo-Japanese War in 1904, Japan won a lot of interests in northeast China. And to exercise these beneficial rights, the Japanese government set up SMR in 1906. SMR had a wide range of business including administration of dependent territory along the railway, harbor construction, and coal mine operation etc. Among its business, urban construction of the dependent territory was the most important work. Hoping to construct a city with a high living standard in the wilderness, they carried out city planning of such major cities along the railway as Shenyang and Changchun etc.. On the aspect of residential construction, SMR provided employee residence for employees of SMR and its affiliated enterprises. Besides, the residence supply system with employee status corresponding to residential quality was established, and six levels of employee residence were planned as Special A, A, B, C, D, and E. The employee residences, which were different from each other in scale and quality, were supplied to the employees in accordance with their varied jobs. Generally, Level A is for the cadre, B and C for the general staff, D for Japanese labor, and the lowest Level E is for labors from China, Korea and other countries.

During Russo-Japanese War, Japan constructed Xinfeng Railway, built Huanggu Tuen Station in Shenyang, and put up factories and employee residential areas. In this way, the commercial and residential areas along the railway and near the station formed gradually and developed quickly, such as the railway rolling stock plant and its employee residence. I.E., the research object of this paper --- "Xiaoshezhai". "Xiaoshezhai" has a total floor area of more than 200, 000m<sup>2</sup>, with 210 residences and more than 3700 houses. These low bungalows, which were specially constructed for Chinese labors by SMR in 1939, had very primitive indoor facilities, inadequate daylight for the cellar, and a shabby and dilapidated state. In 1953, the plant began to overhaul "Xiaoshezhai", elevating the indoor ground, doubling the size of the former kang (a heatable brick bed), and changing the small single-pane window into big double-pane window to improving day lighting, hence employees' living conditions being improved accordingly. In 1994, the plant experienced economic losses, and worse more, at the same time there was a shortage of housing funds allocated by the state. In this way, they took a lead by proceeding towards monetization of housing distribution, hence finishing voluntarily the task of regenerating employee residence.

To resolve the fund shortage of housing construction, the plant changed the original concept about housing construction and carried out the employee housing project by making more efforts in housing reforming, promoting housing reform with paid move-back<sup>①</sup> approach, engaging in new housing reform ideas with multi-fund-raising. At that time there had been no precedent like the paid move-back as was implemented by the plant. Due to the long-term planned economy, the employees had been used to the traditional housing system of "welfare-oriented public housing distribution, low-rent housing", and could not understand or accept the reform of housing system and housing commercialization for the time being. Although oppositions of the households to be relocated had impacted the relocation project, the plant did the employees' ideological work actively and finally made "Xiaoshezhai" as a relocating and rebuilding area with the highest construction quality and the quickest move-back among the employee residences at that time. There are totally five gated communities lying in the regenerated "Xiaoshezhai" from east to west. Most were north-south 7-storey buildings, in parallel plate arrangement, hence maximizing the utilization of north-south ventilation and day-lighting. Inside, garden, small garden ornaments and outdoor fitness equipment are provided, beneficial to community residents' communication, fitness and entertainment.

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• Paid move-back referred to 240 yuan/m<sup>2</sup> for the space standard, and 600 yuan/m<sup>2</sup> for the part when the space standard was exceeded. In addition, price differences also existed between stories, with a 10% - 20% price increase for each higher floor.

### 3 Survey of Living Environment Awareness

Survey Object: Employee residence of original rolling stock plant in Shenyang-“Xiaoshezhai”, which is now “Shezhai Community”. General Status: 70% are the move-back households<sup>①</sup>, and 30% are settlers from other places. Most of the residents are on the job, or retired employees and their family members of the plant, with their income from wages and salaries. Survey Date: March 16th, 2009 – March 27th, 2009. The returned questionnaire survey is employed. Thanks to the help of the head and members of the neighborhood committee, we made individual visits, distribute questionnaires and get them returned periodically. Residents and residential attributes, utilization of residence and external space of the community, communications between residents, as well as evaluation of the current living environment and settlement intension etc., have been mainly surveyed.

### 4 Survey Results

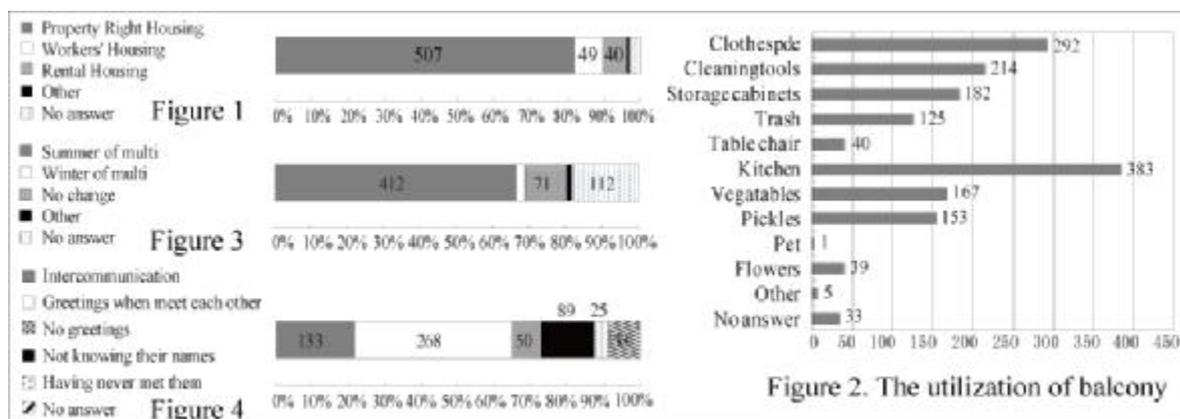
**Among the 850 questionnaires distributed, 791 are recovered, with a retrieval rate of 93%. Since there are 619 valid questionnaires, the valid questionnaire ratio is 72%.**

Figure 1 seeing from the housing property right, more than 80% of people here have the private property right, hence the promotion of housing commercialization implemented by China have been achieved to a certain degree in this residential area. Whereas, there is still 7.9% of the residence possessed by the plant, and the residents only enjoys the right to use the residence, but can not sell or rent out the residence.

In recent years, functions of the balcony are being taken full advantage of. Many residents in the south decorate and transform the balcony into kitchen, both to save space and to make the room more clean and sanitary. It seems to be a common practice in China’s house decoration to transform the balcony into kitchen. Figure 2 As for the utilization of balcony, the number of cooking benches have exceeded that of the surveyed households by 50%, hence showing that there is also the tendency of moving the cooking bench to the balcony in the north.

#### 4.1 Communications between Community Residents

As can be seen from Figure 3, activities in the community increased in frequency in summer, showing that the low temperature has a direct impact on residents’ outdoor activities and communications. Thus, communities in the north-eastern region should provide indoor space to promote communications between the residents. Figure 4 as for the relationship between residents, on contrast to the high proportion taken by the move-back households, there are more than 40% residents who only say hello when come across each other. Thus the communications between residents have decreased obviously. There are even residents who don’t know their neighbors’ names, or even have never come across their neighbors on the same floor.

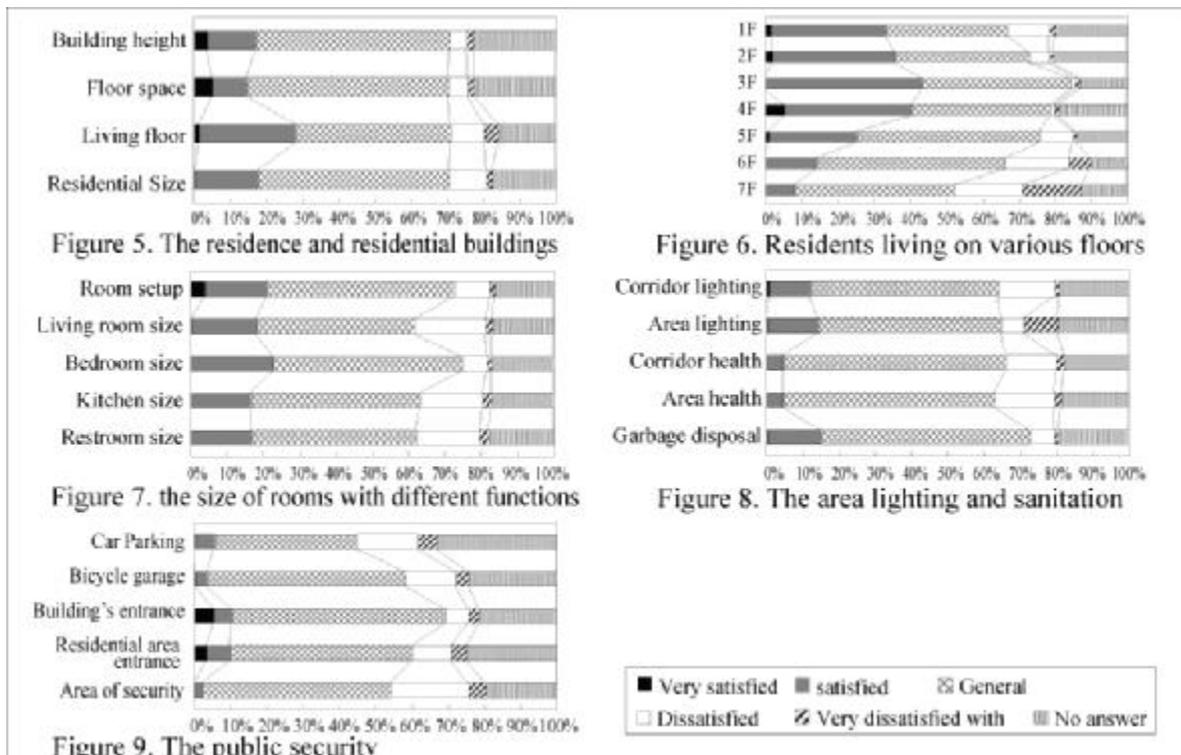


• The move-back households mentioned here refer to the residents who have residence registration and a certain area of house at the demolition site.

## 4.2 Residents' Satisfaction to the residence of Community

Figure 5 seeing from residents' opinions about the residence and residential buildings, they are generally quite satisfied with the height of and space between buildings. As for the free opinions, a minority of residents are not satisfied with the planning and layout. They think the buildings are too close to each other, which causes their depression. They are relatively more satisfied with the multi-storey building and the overall residence size. First of all, to make a further observation of the satisfaction of residents living on various floors (Figure 6), it will be found that residents from F1 to F4 are quite satisfied, while there is a rapid decline in residents' satisfaction ever since F5. The inconvenience resulted from living on a higher-level floor can be considered as the reasons for these residents' dissatisfaction. The dissatisfaction of residents' living on F1 and F2 is also found in the free opinion part of the questionnaire, mostly due to the poor day-lighting of lower-level floors. Some residents' of F2 reported that the anti-burglar grille installed on the balcony of F1 residents cause thieves to their houses. Then, to make a further observation from the aspect of the size of rooms with different functions (Figure 7), there is a majority of residents put forward in the free opinion part that, the area of sitting room, kitchen, and toilet should be increased. Besides, some residents think the area of bedroom can be decreased to make up for the area of sitting room. As can be seen, people are now beginning to pay more attention to the sitting room's function of receiving visitors.

In accordance with Figure 8, residents are more dissatisfied with the Residential area lighting and sanitation. In the free opinion part of the questionnaire, some residents report that the step lights in the corridor have failed, but no maintenance is provided. The area lighting is so dark that flashlights are necessary for a walk after it turns dark, so some residents think more street lamps should be installed. As for the sanitation of the corridor, lack of regular cleaning results in much dust and trash there. Such problems as litter misplacing etc. are quite serious. Some residents even report that the guests of perimeter restaurants urine here and there, which impacts the area sanitation.

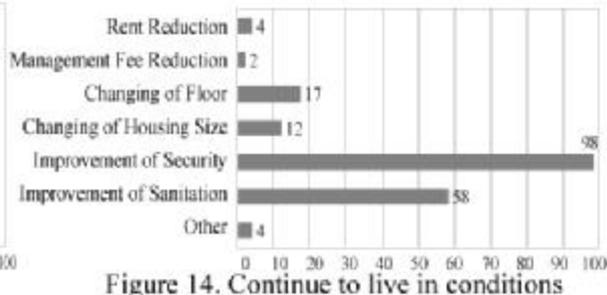
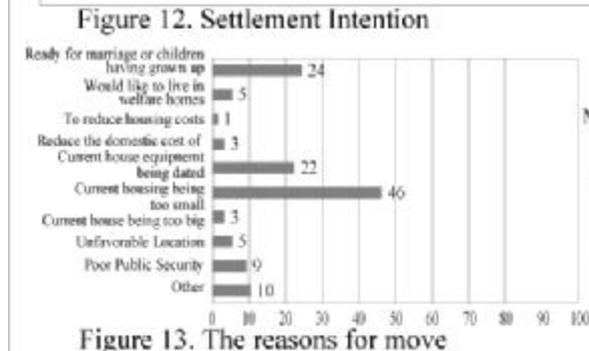
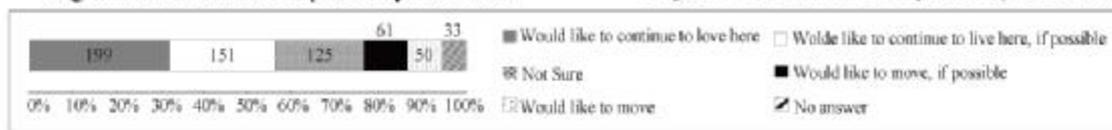
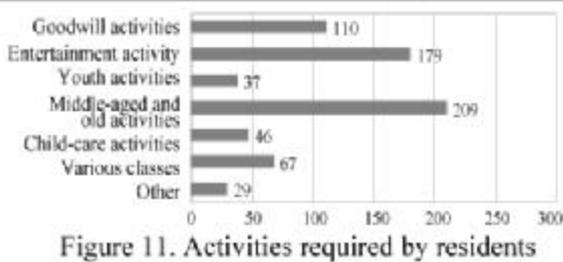
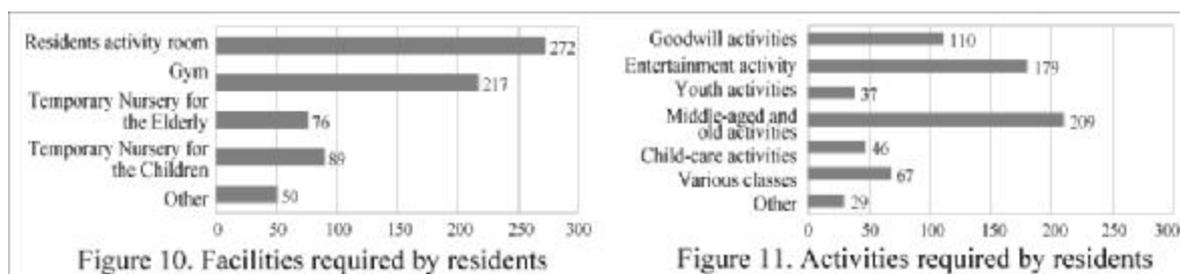


First of all, in accordance with Figure 9, there is a low satisfaction with car parking lot and bicycle garage, for there is no dedicated parking lot for cars, and residents just park their cars downstairs for the convenience of taking care of. According to the questionnaire, many residents think that cars should not be parked inside the residential area, for not only the space for their activities has been taken up, but also they are often worrying about the compensation for damage. From this point, it can be thought that the misplaced cars have impacted residents' daily activities. Then, as for residents' dissatisfaction with the

building's entrance, the video phone security door couldn't work now, but no repairs have been provided and it is all day open, hence playing no effective anti-burglar functions. What's worse, there are up to six entrances which are unguarded and anybody having nothing to do with the area can get in and out freely, hence being a threat to residents' life and property. As far as the public security of the area is concerned, the major dissatisfaction is reflected in the respect that the problem of bicycle stealing is quite serious. Based on the survey results, more than 30% residents' bicycles have ever been stolen, and the bicycles of several residents have even been stolen for more than once.

### 4.3 Community Facilities and Activities Required by Residents

In accordance with Figure 10, community facilities required by residents are in the following order: residents' activity room, fitness room, and rooms for temporary care of old people or children. It can be seen from the requirements for residents' activity room and fitness room that, there is no indoor space for residents' activities in the residential area. Simultaneously, the different frequencies of outdoor activities in summer and winter are also reflected in the table. In accordance with Figure 11, activities that residents think should be added include activities for old and middle-aged people, recreational activities, and goodwill activities etc. According to some residents' replies, agencies should be established as far as possible to help and serve the life of old, weak, sick, and disabled people, and to promote the communications between residents. It can be seen from this point that, to equally provide a complete and healthy entertainment space for everyone is rather important to enrich residents' spare time.



### 4.4 Settlement Intention

In accordance with Figure 12, half of the residents want to live in the residential area continually, 40% are not quite sure at present or have the idea of preparing to move. Seeing from the reasons for living there continually, most residents think the area enjoys a good location and there are many acquaintances. As for residents who select the reason as "Others", some are not able to move owing to lack of money, while some others think moving is too troublesome due to their old age. Figure 13 seeing from the reasons for residents who want to move, many people think the current housing area is too small. Thus, the increase in people's awareness of live environment is mainly reflected in the housing size. Seeing from the required

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conditions for residents to continue to live there (Figure 14), the majority have selected the improvement of community public security and sanitation. There are also some residents who would like to live in the residential area continually, if they can change the floor or size of their house. All those have shown that certain problem indeed existed in the sanitation and public security of the residential area, which should be resolved as soon as possible. It is the fundamental method to maintain the community's sustainable development by improving its sanitation, environmental elegance, life convenience and public security as far as possible.

## 5 Conclusions

Based on statistic result, the following characteristic points were founded; (1) 70% of the move-back households, and 80% of the residents are one's own housing, (3) As the usage of the house, there is a kind of tendency of moving kitchen to porch or balcony, (4) Most of buildings are 7 stories without elevators. This kink brings inconvenience to residents and results in less outdoor activities, (5) people only greet when they meet and they will keep in touch only with neighbors living in short distance. Residents live far away or neighbors from old residents do not appeared with frequently.

In this survey, a preliminary understanding of the status quo of the residential area, the communications between residents and residents' opinions about the residential area has been achieved. Seeing from the returned questionnaires, the vast majority of the residents are quite supportive of and cooperative with the community development. In order to analyze the specific problems existing in the residential area better, and to find out the essential solutions for creating a comfortable living and working environment in future, it is necessary to take the next step on the basis of this survey, by surveying and analyzing the physical environment of the residential area further and in detail.

## 沈阳满铁职工住宅的重建和住民对当前居住环境的评价

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**摘要:** 本文就沈阳的满铁职工住宅中最低等的劳工住宅的动迁改迁进行了调查研究, 初步的掌握了此住宅区的变迁和现状。并通过问卷方式了解居民对居住环境的评价, 总结出了环境变化给居民生活带来的影响及住宅区现存的各种问题。希望能为中国今后的都市住宅更新和开发提供有益的资料和见解从而促进实现可持续发展的居住环境。

**关键词:** 南满洲铁路 住宅 改造 后居住评价

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