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# Regeneration of Historic Area with Social Orientation:

Investigation and Analysis of Three Historic Areas in Beijing

Shi Yang<sup>1\*</sup> and Bian Lanchun<sup>1</sup>

1 School of Architecture, Tsinghua University

\* Corresponding Author, Email: shiyanguhu@163.com

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Abstract:

Under the research framework of changes in morphology, as well as social structure in historic areas in Beijing, this study carries out investigation and quantitative analysis on living space and social and economic problems in Shichahai, Xisibei and Nanluoguxiang, and conducts a sample analysis on typical courtyards. Scholars from different fields analyzed issues of social space reconstruction and cultural value protection from the perspectives of political and economic factors and cultural heritage protection and explores strategies for traditional courtyard improvement from the perspectives of physical space and public policy, though the tracking investigation and empirical analysis on the regeneration of traditional courtyards regarding social orientation is quite limited. In this paper the author analyzes social problems existing in physical and social space changes and explored sustainable regeneration strategies for traditional courtyards with social orientation, in Beijing, employing literature research, sampling investigation, participatory observation, in-depth interview and reconnaissance mapping methods.

### 1. INTRODUTION

In the late period of the 1970s, large-scale transformation and renewal in western countries gradually reduced, a stage of regeneration came, and the "Amsterdam declaration" (European Parliament,1975) on the basis of reflection on modern urban renewal ideas, put forward the concept of integrated protection, comprehensive exposition of the social significance of the protection of cultural heritage and positive roles. The "Machu Picchu charter" (1977) further emphasized that a city's personality and characteristics are determined in urban structure and social characteristics. "The Xi'an declaration" (ICOMOS, 2005) represented a new consensus on the protection of cultural heritage in the new century; the protection of cultural heritage within the surrounding environment and the environment itself contains all the historical, social, spiritual, economic and cultural activities.

Many scholars and institutions play an important role in the protection of historic areas and social issues. Concepts of social fairness and justice were put forward (<u>Harvey,2010</u>) and people-orientation was focused upon (<u>"Everyone's history area"(2008)</u>). The concept of focusing on the interaction between humans and space was widely accepted in city

geography, sociology, city ecology and other fields (<u>Lefedrve,1979;Dear and Wolch,1989; Knox,1994</u>), and was applied in the protection of historic areas.

In the study of historic areas, research of social, cultural and environmental values of the historic areas has received attention. Heath (1996), in the "Revitalizing Historic Urban Quarters", summarized the value of an historic area. Alan Middleton (1987), in "Regenerating the inner city: Glasgow's experience", researched the problem of community participation in the management of historic areas. Kolb (1990) treated each reconstruction as an example of healing or making whole, the city, referring to it as "incremental rereading".

In the protection of historic areas in Beijing, a preliminary exploration on "organic renewal" was started in Shichahai area in 1979, Wu Liangyong proposed to maintain the original community structure and pay attention to social function and cultural connotations of residential courtyards in 1991 in order to explore suitable ways for updating residential areas in old Beijing city, which became an important direction in the protection of historic areas in old Beijing city (Tan,1997; Fang, 1998).

With the maturity of concepts of historical and cultural protection (Bian,2010), some scholars began to study housing problems during the renewal of old Beijing city from the perspective of social impacts (He ,1991; Zhang,1999; Jiao ,2004) and emphasize the updating and evolution of social structures in order to avoid dramatic change and realize gradual development and interaction (Bian, Jing,2005). They also gradually realized a consensus to some degree. Small-scale, incremental and organic updating of the city was implemented (Shao, 2005) and they also started to carry out social assessments on practices in historic area regeneration(Lv,Wang,2013).

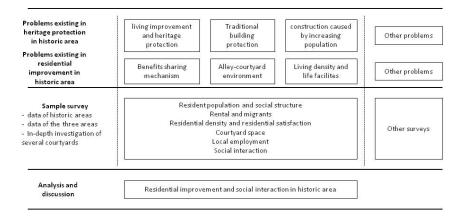
Historic areas of Beijing were delineated over 10 years ago. Although certain achievements have been made in terms of cultural heritage protection, street function and facility improvement and other aspects, many issues still exist. Recently, in systematic research work on sustainable recovery of historic areas in Beijing (Bian,2010), a number of scholars have paid attention to protection values (Feng,2011) and sustainable regeneration of historic areas (Lv,2014).

This paper carries out a comprehensive survey of the different types of samples, analyzes social issues existing in housing improvement, discusses social space reconstruction mechanisms in the revival of historic areas and proposes viable strategies for housing improvement in historic areas.

## 2. TECHNOLOGICAL FRAMEWORK, RESEARCH METHODOLOGY AND DATA DESCRIPTION

## 2.1 Technological framework

A literature survey, questionnaire sampling, interview, participant observation and reconnaissance mapping methods are adopted to obtain various types of data for old Beijing city. Three historic areas and some typical courtyards with problems existing in heritage protection and housing improvement are selected for review and the author analyzes features of social structure, housing demands and social space, as well as their interaction, and proposes viable strategies and methods for traditional residential courtyard regeneration.



Conclusions

Figure 1. Technological framework

## 2.2 Research methodology

Case interview method: in the process of exploring the research direction, case study interviews were taken as a method, providing a directional reference for the questionnaire survey and quantitative analysis.

Sampling survey method: taken according to the actual situation using a fixed distance, random sampling method, and results of the survey are checked.

Quantitative analysis method: using factor analysis, correlation analysis, regression analysis and other methods, establishing a model of measurement of neighborhood relationships and public participation, explaining the social problems in the regeneration of historic areas by the method of quantitative analysis.

Cross research method: In this paper, the research on the protection of the material space and the social space theory are both carried out. On the basis of cross research, this paper hopes to form a comprehensive research method.

## 2.3 Data Description

## 2.3.1 Data from protection plan implementation assessment in historic areas of Beijing

In 2013, Tsinghua University and five other organizations were entrusted by Beijing Municipal Commission of Urban Planning with carrying out plan implementation assessments on Shichahai and 13 other historic areas to assess protection measures and results in heritage and cultural heritage, social structures and residents' lives, land and building, municipal infrastructure, function and industrial development, plan implementation and management, public participation and other aspects. In this paper, the assessment data is used as background data.

### 2.3.2 Investigation of Shichahai area

Shichahai historic area is the largest historic area in Beijing, since the 1970s, Tsinghua University has carried out follow-up studies and continuous work in the area for over 40 years. Between 2000 and 2013, great changes took place in the protection of cultural relics, space environment improvement, municipal infrastructure building, alley and courtyard renovation and cultural tourism development, but there were still some problems in social continuity, living condition improvement, travel and commercial development.

Between 2009 and 2014, the author participated in follow-up investigations on population, housing and commercial development in the Shichahai area. A questionnaire survey on 500 households in the Shichahai area in 2013, a reconnaissance survey on 1963 shops in 2010, a residents interview survey on 20 courtyards in 2012, an overall relocation follow-up survey on six courtyards in 2014 and a Shichahai housing and environmental improvement project to obtain housing survey data in 2014 were all conducted. In this paper, the author uses the data for the area to analyze relationships between business development and housing improvement, moving populations, local employment and social interaction in the rapid commercial development of the historic area.

#### 2.3.3 Investigation of Nanluoguxiang area

Since 2000, the Nanluoguxiang area has witnessed rapid development of tourism and business and made great achievements in alley environmental remediation, "microcirculation" courtyard renovation, Yuhe protection and renovation work, but at the same time, excessive commercialization and branding, poor housing quality and a serious shortage of living space are obvious issues in the area.

Between 2008 and 2010, the author participated in follow-up surveys on business conditions in the Nanluoguxiang area to obtain comparison data on tourism and business development in the area. In 2014, the author participated in in-depth investigation on the No. 29 courtyard in Yuer alley, including a literature survey on the evolution of the courtyard, a courtyard housing quality survey, an interview with residents housing interior mapping and other content. In 2015, the author participated in questionnaire surveys and received 753 questionnaires regarding combined population, housing and commercial development data of the area in order to study microscopic mechanisms of interaction between the government, market and residents in the development progress of historic areas.

#### 2.3.4 Investigation of Xisibei area

In 2009, the author participated in housing quality and style surveys on 2319 courtyards and 14,638 houses in the Xisibei area and a rigorous sampling survey on 1000 households in the area, as well as an investigation on population, employment, housing and infrastructure, residential satisfaction, repair participation and development expectations in the area. At the same time, a comprehensive reconnaissance and a rigorous sampling survey were conducted on 605 shops, a questionnaire survey was carried out on 120 shops and the author also carried out an analysis on features of practitioner groups and service groups. In this paper, data from the area is

used to analyze factors related to residential satisfaction and the relationship between living and commercial development.

#### 2.3.5 Data Description

Data from protection plan implementation assessments in historic areas in Beijing are used as the basic data, including the overall population, age structure, family structure, housing situation, the status quo, the status quo of the municipal infrastructure, commercial development and other objective economic and social and material spatial data, but does not include the subjective will, family income, occupation and education level and other data.

Questionnaire surveys in the Shichahai area, Nanluoguxiang area and Xisibei area mainly include four parts: economic and social data, housing data, evaluation and demand data and public participation willingness data. Total effective samples were 500, 763 and 1000 respectively.

The questionnaire used in this paper mainly includes:

- 1) Age, household registration, family members, education level, occupation, monthly income and annual income, residence time and the resident population;
- 2) Working place, transport mode and the status of use of various public facilities:
- 3) Housing property rights category, quantity, quality, structure, area and use;
- 4) The type and use of housing water supply, drainage, heating, fuel, bath and toilet;
- 5) Neighborhood cognitive range, neighborhood relationship evaluation, daily communication network, holiday communication network and regional development evaluation;
- 6) Degree of housing satisfaction, relocation intention, the influence of relocation, participation willingness, degree of public participation and tendency to repair.

#### 3. ANALYSIS

Beijing has undergone several major social transformations; physical and social space interactions have witnessed profound changes (Bian,2010). Periodic change took place after the founding of new China (Feng,2011), so in the current situation, the social space concerns how living within and the regeneration of historic neighborhoods are affected. Should the reconstruction of the social space be guided so as to realize the regeneration of the historic area?

In a historic area, how to improve the living situation is a long-term issue, but has not been properly addressed in order to promote the development of commerce, tourism and the easing of population pressures. Measures have not solved heritage conservation problems nor improved their contradictions with modern living. Therefore, a method should be found for coordinating heritage conservation with high density living. In addition, how to ease the ongoing situation regarding how commercial development and population factors can be coordinated in order to promote the improvement of living should be considered.

## 3.1 Social and living problems in an historic area

## 3.1.1 The increasing polarization of social structure

The author analyzes changes in the social stratification standards of the old Beijing city (Shi,2011). In historic areas, income, occupation and education level of most resident populations is lower than those in other areas of the city. Meanwhile, among low-income groups, due to differences in domicile, residence time and age, there are obvious differences in social status, social interaction and lifestyle.

Due to the fact low-income population groups cannot increase income with their own skills, their financial capacity is insufficient to support their emigration; on the other hand, due to the high cost of land, those residents who can buy a house and live in an historic area are of a high-income group, which leads to a polarized development of social structure.

In short, in the historic area, due to ongoing population migration and population replacement processes, high education, high income population level of liquidity and the improvement of the middle and lower class groups are not obvious.

Table 1: The education level contrast between initiative immigrants and others in Nanluoguxiang area (Data sources Nanluoguxiang area surveys in 2015)

Natituogastang area (Bata sources Natituogastang area surveys in 2015)						
	College degree and above	Senior high school	Junior high school	Primary school	Illiteracy	
The sixth national census data of Beijing	32.9%	22.1%	32.8%	10.4%	1.8%	
Nanluoguxiang area	39.5%	30.1%	23.6%	5.2%	1.3%	
Permanent population of Nanluoguxiang area	37.7%	31.5%	24.3%	5.3%	1.3%	
Initiative emigration of Nanluoguxiang area	57.4%	19.7%	18.0%	3.3%	1.6%	

Due to commercial development and low housing rent, a large number of migrants arrive in historic areas, but their appearance does not change the social structure of an historic area. On the one hand, migrant populations have little communication with local residents, they generally only interact in shopping, renting and other commercial activities, and there is no real neighborhood relation; on the other hand, health, noise, traffic and security problems caused by migrants have negative impacts on local residents, thus leading to social conflict between migrants and locals.

Generally, migrants do not have Beijing census registration, they are usually aged 20-40 and generally work nearby, their family income is not lower than that of local residents, but due to high rental, medical and education expenses and a lack of social benefits and access to cultural facilities and instable income, their actual quality of life is much lower than that of locals (according to results from a questionnaire survey in the Shichahai area). In addition, due to short living time and large mobility, it is difficult for tenants and residents to build trust. Tenants are generally disadvantaged in terms of daily social activities, contact with friends and family, motional communication and participation rights. The increasing number of migrants essentially means more residents of middle and low income level, this phenomenon continues to worsen and it is difficult to solve.

Table 2: The overall situation of the floating population in historic areas (Data sources: The implementation evaluation to the conservation planning of the historical areas in 2014)

Historic area	Туре	Immigrants proportion	Family structure characteristic	Social economy characteristic
XiSiBei area	Mostly for living	20-25%	20-40 years old; "2+1+1"family	Low- and middle- income families;
Shichahai area	Commercial and residential mix	30%	; Non-native; Rental housing;	No social welfare; High proportion of rent,
Nanluoguxiang area	Commercial and residential mix	30%		Education and medical expenses
Other historic areas	Mixed type	more than 20%		

*Table 3: Economic and social situation of migrants (No. 29 in Yuer alley as an example)* 

Monthly	0	Less than	3000-	4000-	5000-	More than
income/RMB	O	3000	4000	5000	6000	6000
Number of people	1	2	6	3	2	3
Age	20-30	30-40	40-50	50-60	60-70	Over 70
Number of people	2	9	2	0	2	2

## 3.1.2 The housing problems of heritage conversation and regeneration of historic areas

High density residential situations in historic areas have a serious impact on heritage conversation and regeneration of historic areas and the living conditions of the residents are very poor. According to a survey on housing area, per capita property housing area is about 7-8 square meters, added building area is more than 20% of the property housing area and in some areas up to 50%, far below the reasonable level. Housing additions are mainly for kitchen and bedroom spaces which are used for meeting the basic

needs of residents. Without other methods to solve the basic living needs of the kitchen, bathroom and other conditions, these added buildings are irreplaceable in function.

Population pressures causing housing problems are difficult to solve quickly. According to the "Conversation Planning of 25 Historic Areas in Beijing Old City", 118,000 people need to move out of the historic areas, about 41% of the total population of the historic area; according to the "Beijing city master plan (2004-2020)", by 2020, Beijing old city should have 33% of its people moved out, accounting for 550,000 of the total population of the old city; and according to the standard of 15 square meters per capita for residential construction areas, the total population of the historic area is required to be reduced by 35-40%.

The size of the population ease is difficult to achieve and would have a huge impact on the social structure of the historic area. Therefore, although the population ease in the protection of the historic area should continue to be promoted, it is not the only way to solve the problem and must be combined with other ways to promote the improvement of living in a variety of ways, including the use of underground space to improve the per capita housing area, housing renovation and upgrading of facility conditions, environmental improvement and so on.

Table 4:	Housing	area	condition	in	historic	areas	(Data	sources:	field	investigation	in
2009, 201	13, 2015.	)									

Historic area	Per capital property area ( m²)	Per capita addition area ( m²)	Actual used area ( m²)	Useful information (Family number)
XiSiBei area	8.26	2.68	10.94	691
Shichahai area	7.60	1.84	9.44	495
Nanluoguxiang area	7.76	5.11	12.87	288

## 3.2 Value of social integration

## 3.2.1 Social interaction in commercial and residential spaces

When businesses mainly serve tourists, the practitioners are mostly migrants who have very weak links with residents and when businesses mainly serve local residents, local residents offer convenience stores, restaurants, etc., while migrants with specialized skills provide repair and hairdressing services. (Shi,2011) Some shops which are not related to traditional culture appear in the public spaces of historic areas, at the same time, low-income people move into historic areas, which leads to an increasing shortage of living space. Business and tourism development cause negative impacts on local residents.

This analysis show that commercial development of historic areas has not brought about social interaction between residents, merchants and tourists, employment of residents has little association with tourism and business development and benefit sharing mechanisms are lacking. Service-oriented business development shows inward development where residents serve as the primary practitioners, and the rapid development of tourism and business does not bring benefits to local employment and the life of locals, while business development leads to a worsened surrounding environment, which causes increasingly serious conflict between locals and migrants.

Table 5: Employment situation in the business development of historic areas (Data sources: field interview investigation in 2009, 2013, 2015)

Historic area	Business type	Number of merchants	Employment of residents
Shichahai area	Retail and catering	41	2
Shichahai area	Tricycle service	36	0
XiSiBei area	Basic life services	148	80
XiSiBei area	Retail and catering	96	16
Nanluoguxiang area	All commercial type	152	12

Table 6: Evaluation of adverse impact on residents due to business development in historic

areas (Data sources: questionnaire in 2009, 2015)

The causes of residents' complaints about business	XiSiBei area	Nanluoguxiang area
development		
disturbing life atmosphere	12%	14%
traffic jams	21%	30%
safety factors	22%	22%
impact on rest due to late operation	21%	12%
sanitation decline	19%	21%
others	5%	1%

### 3.2.2 Social integration and public participation

Because of the reasons of housing placement, housing sale and the separation of registered and actual residences, the residential community in the historic area continuously changes and has an effect on the social relations between the residents. Investigation shows that the families living in the areas for a long time have a relatively stable social interaction network and have a close relationship with the neighborhood, but the social interaction with the migrant population is very rare, rejecting the migrant population. At the same time, the survey shows that the social contact with the migrant population is also very rare.

The data analysis reveals that neighborhood relations have an impact on public participation willingness. In the survey of Nanluoguxiang area, the measurement model of neighborhood relationships use neighbors' cognitive range, family communication numbers in a courtyard and family communication numbers in lanes as variables and is supported by using a factor analysis. Four variables can be explained by a common factor. (characteristic root=2.443, variance devoting rates=61.1%) Except for the factor load of "neighborhood", whose variable factor is 0.698, slightly less than 0.7, the other three indicators of have a factor load of more than 0.7, which means that the four variables reflect the potential concept of neighborhood relations well.

Table 7: The measurement model of neighborhood relations: factor analysis results (Data specification: adopting the questionnaire data from the Nanluoguxiang area. 2015)

specification, adopting the questionnaire data from the Nantuogustang area, 2015)						
Explicit variable	Exploratory factor analysis					
	Loading	Uniqueness				
		1				
Neighbors' cognitive range	0.698	0.488				
Family communication numbers in courtyard	0.765	0.586				
family communication numbers in lane	0.807	0.650				
family communication numbers in nearby lane	0.848	0.719				

Analyzing related factors of public participation willingness will find that neighborhood relations, social capital and architectural style are direct factors impacting participation willingness, while family income, occupation period and construction quality are indirect factors. Some residents who live in a place longer have a higher family income and better housing conditions and will have more contact with the surrounding residents, a higher social status, stronger initiative and greater capacity to participate in repairing their house, so their wishes of maintaining the region are also stronger.

Table 8: Correlation analysis of public participation willingness related factors (Data

specification: adopting the questionnaire data o	f the Nanluoguxian	g area, 2015)
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		Public participa tion	Neighbo rhood relations	Social capital	Family income	Constru ction quality	Constru ction style	Occupat ion period
Public	Pearson correlation	1	131*	166**	061	.102	.216**	050
participation	Significant (bilateral)		.036	.006	.317	.096	.003	.431
	N	271	259	267	271	269	185	251
Neighborhood	Pearson correlation	131*	1	.294**	.132*	.008	142	152*
relations	Significant (bilateral)	.036		.000	.030	.893	.050	.017
	N	259	271	267	271	269	192	249
	Pearson correlation	166**	.294**	1	.051	015	114	022
Social capital	Significant (bilateral)	.006	.000		.389	.804	.118	.728
	N	267	267	284	284	280	191	260
Family	Pearson correlation	061	.132*	.051	1	101	.314**	034
income	Significant (bilateral)	.317	.030	.389		.090	.000	.577
	N	271	271	284	288	284	195	264
Construction	Pearson correlation	.102	.008	015	101	1	.159*	136*
quality	Significant (bilateral)	.096	.893	.804	.090		.027	.028
	N	269	269	280	284	284	195	264
Construction	Pearson correlation	.216**	142	114	.314**	.159*	1	.062
style	Significant (bilateral)	.003	.050	.118	.000	.027		.412
	N	185	192	191	195	195	195	178
Occupation period	Pearson correlation	050	152*	022	034	136*	.062	1
period	Significant (bilateral)	.431	.017	.728	.577	.028	.412	
* 1 0 0 7 1	1 (1 11	1)			- 4			

<sup>\*.</sup> At 0.05 level (bilateral) correlated significantly.

Using neighborhood relations, social capital and construction style as independent variables and public participation as the dependent variable to carry out linear regression analysis. Because significance level of "social capital" variable is more than 0.05, eliminating the variable and remodeling can produce a linear regression equation. This indicates that the degree of

<sup>\*\*.</sup> At.01 level (bilateral) correlated significantly.

neighborhood relations and construction style have a very considerable influence on the willingness that the public toward participating in the historic area preservation and renewal.

Table 9: Regression equation coefficient table coefficient a (Data specification: adopingt the questionnaire data of the Nanluoguxiang area, 2015)

		Unstandardized coefficients		Standardized coefficients				confidence erval
	Model	В	Standard error	Trial	t	Sig.	Lower limit	Upper limit
1	(Constant)	2.668	.276		9.663	.000	2.123	3.213
	Neighborho od relations	244	.090	195	-2.702	.008	422	066
	Constructio n style	.280	.099	.203	2.819	.005	.084	.476

#### 3.3 Housing improvement strategy

## 3.3.1 Survey on the degree of satisfaction and residential improvement

According to an analysis of a population questionnaire survey in the Xisibei area in 2009, factors affecting living satisfaction are various and include housing area, housing ownership, quality of housing, living facilities, duration of residence, resident age, income, etc.

In a survey of the Shichahai area, it is found that residents are mainly dissatisfied with the living area (69%), housing quality (45%), living facilities (49%), parking (73%), toilet (70%) and bathroom (43%), which are especially obvious issues. According to a survey on migrants in the Shichahai area in 2013, the mains factors affecting their rental are being close to their workplace (37%), good public facilities (27%) and cheap rental (24%), which indicates that the housing needs of a large number of migrants are mainly driven by economic factors, rather than cultural or social factors. In the survey, it is found that due to concern about increasing rental, they often do not care about improving living conditions.

Factors affecting satisfaction	Proportion of satisfied residents	Proportion of entire area
Private households	35%	16%
Over 50 years old	77%	56%
Living time (before 1960)	57%	40%
Above middle income	17%	8%
Family living area (more than 40 square meters)	44%	22%
Per capita living space (more than 15 square meters)	44%	25%
Relocation tendency	6%	15%
House self-repair tendency	52%	37%

Table 10: Attribute analysis of satisfied residents in Xishibei area.

According to a survey on housing area needs in the Xisibei area, when real per capita housing area reaches about 15 square meters (family real housing area of about 40 square meters), residential satisfaction greatly improves. Through living space mapping and interviews, as well as research on housing type, it is found that small but complete houses with a separate kitchen and toilet is more suitable to meet actual needs in historic areas. In short, after certain improvements in the residential area, improvement of life facilities is the key to residential improvement.

This problem can be explained from two perspectives:

- 1) Inadequate housing area is a long-standing problem and it is related to intergenerational population growth in historic areas where residents' expectation values on housing area is too low. If residents move to other areas, the expectation value will significantly increase to 90-110 square meters (Cheng ,2011).
- 2) In daily life, issues related to life facilities directly affect basic life issues, especially for kitchen and toilet. After retrofitting houses, residents generally have a kitchen, and with an increasing aging trend, public toilets are not sufficient to meet the daily basic needs of residents; independent toilets are particularly urgent for improving living conditions.

### 3.3.2 Strategies for living satisfaction fragmentation distribution

Factors affecting the living satisfaction include housing area, housing property, housing quality, living facilities, living life, residents' age, residents' income and other factors. These factors in the area, even within a courtyard, are showing obvious fragmentation distribution and overall satisfaction is low, but did not form a concentrated area of low satisfaction.

According to the above analysis, in order to restore the traditional courtyard style, meet the actual needs of the residents with dual requirements, become decentralized and flexible, even the construction of courtyards for the implementation of units, and actively use the underground space appropriate to increase the use of space, living facilities can be improved following a reasonable direction maintaining the traditional residential courtyard.

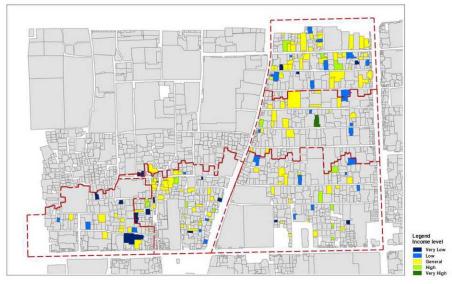


Figure 2: Spatial distribution features of income in the Xisibei area

Due to an unclear property rights system over a long time period, residents' spontaneous actions do not have clear policy guidance and encouragement. 76% of them argue that the government should be responsible for living condition improvement, only 19% of them agreed on a government-market-residents cooperation mode in the Shichahai area in 2013. At the same time, under the influence of surrounding courtyard and architectural quality conditions, it is impossible to take a comprehensive update or removal approach.

In summary, the author supports respect for the evaluation of the quality of the courtyard, based on the wishes of residents, classifying residential housing improvement.

Table 11: Ways of improvement for living courtyard with social orientation

	Complete relocation of residents	Partial relocation of residents	Full retention of residents
Ways of improvement	Update and reconstruction, the use of underground space to improve living facilities, restoration of traditional courtyard space, change of use function.	Resident participation, demolition of added building, the use of underground space to improve living facilities, gradual recovery of traditional courtyard space.	Resident participation, removal of partial added building, implementation of transformation with building as a unit, the use of underground space to improve living facilities, the improvement of yard space.
Ways of improvement	Relocation of some residents, demolition of added building, repairing house and improving living facilities, restoration of traditional courtyard space, change of use function.	Update and reconstruction, the use of underground space to improve living facilities, restoration of traditional courtyard space, relocation of residents who move back.	No transformation of architecture, improving living facilities, carrying out environmental remediation.

#### 4. CONCLUSIONS AND DISCUSSION

Social integration promotes historic area regeneration through multiple forms of participation. Although there are many studies about public participation, most of them focus on the procedures, tools, ways,etc. Through data analysis, this article suggests that by the rehabilitation of neighborhood relations and the management of a floating population, social spaces could be guided away from separation toward integration and may stimulate motivation toward protecting the historic areas, which is the basis for regenerating residential streets.

The transformation of business formats would cause a change of working groups. From the points of promoting social reconstruction and remodeling the social structure, the management of the formats should increase employment and residents' participation, setting higher demands on employers' skills and cultural awareness. In that way, it would lead formats to develop in a more economic and socially beneficial direction.

The essence of the residents' housing appeal is similar, but due to the difference of socio-economic attributes, the tendencies to improve housing is complex and various. The differences of motivation and ability in active participation are even greater, so the improvement method should also be diverse, flexible and sustainable. Specific methods include population diversion, appropriate use of underground space, improvement of housing quality and basic infrastructure such as bath and kitchen, environment renovations of lane and yard, etc. Meanwhile, practical subjects should be diverse and the stage and degree of government leadership, market and residential participation should be structured with flexibility according to the specific conditions. If the implementation emphasis is on a single living improvement model, the regeneration of historic areas could not be achieved in a sustainable way.

In this respect, the discussion of social regeneration in Shichahai Daxiaoshibei lane is a valuable study direction, which adopts diversified improvement approaches to reconstruction and renewal, operating via a mode of policy-oriented and social investment. In general, through overall strategies of respecting residents' wishes of moving out or staying in a flexibly distributed way, an improvement to living conditions and courtyard regeneration can gradually be achieved.

Considering the endogenous mechanism in residential yards, public administration policy should enhance the management of lodgings to promote trust and interaction between residents and tenants. By the means of social interaction, it would stimulate the public to participate in beautification campaigns of courtyards. In addition, courtyard environments can gain continuous improvements by virtue of community cohesion and cultural blending.

There have been multivolume studies about integral conservation of the Beijing old city. Based on the research of scholars in various fields, this article starts from an angle of community integration and residential condition improvement, but it is not exhaustive. Moreover, it is difficult to extend deep discussion on many aspects within a single analysis, including cultural value analysis of traditional courtyards, partitioned ways for different types of courtyards, the standards and methods of housing improvement and possible paths of public participation. Toward the overall protection of Beijing old city, it is hoped that further studies attach importance to social continuation and that people's livelihoods could

continue. Consideration should also be given to reasonable change sequences in the social spatial structure to realize sustainable revitalization of historic areas while achieving material, spatial improvement and cultural renaissance.

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