

Factors influencing rural households' willingness of centralized residence: comparing pure and nonpure farming areas in china

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Keywords: centralized residence; logistic regression model; rural household willingness; pure farming area; nonpure farming area; logistic regression model.

SUMMARY

In recent years, Chinese governments began exploring centralized residence of rural households, with a view to protecting farming land through the incorporation and reduction of rural construction land, building new countryside, and solving the problem of insufficient construction land quotas for urban development. In the centralized residence process, it is important to study the willingness of rural households and factors influencing their willingness. This empirical study used Panshan County and Jiangshan City as representatives of pure and nonpure farming areas, respectively. Three logistic regression models were applied, to explore differences between pure and nonpure farming areas and the factors influencing rural households' willingness to accept centralized residence according to five aspects: households individual characteristics, family economy, policy perception, housing conditions, and social environment. The results showed that, for nonpure farming areas, such as Jiangshan City, when there is more trust in the village collective, less arable area, increased satisfaction with infrastructure and higher non-agricultural income, the more willing rural households are to accept centralized residence. In pure farming areas, such as Panshan County, when there are greater expectations of policy, the safer environments and higher non-agricultural income, the more willing rural households are to accept centralized residence. By comparison, rural households in nonpure farming areas are more concerned with fairness future quality of life, while those in pure farming areas are more concerned with implementation and guaranteed compensation. China's centralized residence policy should focus on the objective conditions of each region, and appropriately differentiate based on different areas and categories.

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1 INTRODUCTION

With advances in industrialization and urbanization, China's rural population has migrated to urban areas, leading to population decreases in natural villages, known as "hollow villages" (Liu et al., 2011; Liu et al., 2013 ; Liu et al., 2014). In rural areas, villages are randomly scattered, and suffers from land-use disorder (Tian et al., 2007; Wang et al., 2012a; Fang and Liu, 2014; Long, 2014; Jiang et al., 2016; Tian et al., 2016a). As a result, Chinese governments began exploring centralized residence of rural households (Peng, 2015; Wu et al., 2016; Wang et al., 2016; Tian et al., 2016b; Yep and Forrest, 2016) as a means to protect farming land, through the incorporation and reduction of rural construction land, building of new countryside, and solving the insufficient construction land quota problem for urban development (Liu et al., 2010; Long et al., 2010; Wang et al., 2012a,b). Centralized residence, an important form of urbanization, places scattered households in new communities equipped with the relevant facilities that provide holistic changes in production, lifestyle, ways of life, and social welfare (Zheng and Fu, 2007; Zhao, 2009; Long et al., 2012; Li et al., 2014; Jiang et al., 2015). The practice of "three concentrations in rural areas" (that is, rural people concentrated in communities, industries concentrated in parks, and land concentrated in scale) conducted in Shanghai Municipality and Jiangsu Province in the 1990s was the beginning of centralized residence of rural households in China (Li and Zhang, 2013). The 2004 *Opinions about Strengthening Management of Rural Residential Land* by the Ministry of Land and Resources proposed "to guide rural residence construction towards small towns and central villages in a planned way. Centralized new villages are encouraged, according to requirements of urbanization and intensive land use." This was the first known policy regarding centralized residence of rural households. In April 2006, Shandong Province, Tianjin Municipality, Jiangsu Province, Hubei Province, and Sichuan Province were the first areas piloted for the connection of urban and rural construction land (Huang and Jian, 2011). After the 2008 *Regulations on Management of Connection between Urban and Rural Construction Land*, different areas in China began conducting new rural construction activities centering on centralized residence (Long, 2014b), using multiple models for restructuring village spaces such as village-to-village, village-to-town, and village-to-city (Long et al., 2009; Long et al., 2012).

Academic circles hold different opinions about the practice of centralized residence in China. Assentients believe that having scattered households gathered together in central towns or new communities enhances the efficiency of land resource utilization, improves rural population's living environments, and accelerates the progress of urban-rural integration (Dang, 2010; Wei and Shi, 2015; Zhou and Wang, 2015; Jia and Wang, 2016). It's considered an effective means of land provision for industrialization, while not affecting grain safety (Ruan, 2012). Opponents maintain that flattening villages that have existed for thousands of years is a waste of resources and will break the organizational structure of the rural society and damage their existing social networks. As a result, rural residents face material, spiritual, and cultural crises (Liu, 2011; Wu, 2016; Zhang et al., 2017). Meanwhile, problems such as implementing centralized residence compulsorily against farmer's willingness, and the one-sided pursuit of construction land quotas existed in the current practice. (Han et al., 2007; Zheng and Fu, 2007).

As the subject of rural centralized residence, residents' willingness determines future moving behavior and further influences the implementation of the policy. Hence, the willingness and factors influencing the willingness of rural households are worth studying. This empirical study selected Panshan County of Liaoning Province and Jiangshan City (a county-level city) of Zhejiang Province as the representatives of pure (agriculture-oriented) and nonpure farming areas (service oriented), respectively. Based on the results of 311 questionnaires from Panshan County and Jiangshan City, three logistic regression models were developed to analyze the factors influencing rural households' willingness of centralized residence. A comparative study was conducted, thus providing references for optimizing rural households' centralized residence in China and formulating differentiated policies for it. The remainder of this paper is organized as follows. Section 2 presents literature review. Section 3 discusses the questionnaire provided, selection and analysis of variables, and the constructed analysis model. Section 4 explored the factors influencing the willingness of rural households in the two empirical regions, and compared differences between influencing factors. Section 5 presents obtained results, conclusions, and proposed policy suggestions.

2 DATA SOURCES AND METHODS

2.1 Overview and orientation of the study areas

Both Jiangshan City and Panshan County are farming areas listed among the top 800 grain-producing counties, according to the *New 100 Billion Jin of Grain Production Capacity Plan (2009-2020)* (State Council, 2009) and top 500 high-standard, basic, farmland-model counties confirmed in the *National Land Management Plan (2016-2020)* (Ministry of Land and Resources, National Development and Reform Commission, 2017). In this study, the

location entropy index method (Zhao, 2013; Yi and Lu, 2015) is used to measure the leading industries of the county and city and analyze their industrial structures, based on indexes of gross regional production and the number of employees. Results show that, although both are farming areas, the main industry of Jiangshan City is the tertiary industry, which is service-oriented and considered a nonpure farming area. The main industry of Panshan County is the primary industry, which is agriculture-oriented and considered a pure farming area. The locations of the study areas are shown in Figure 1.

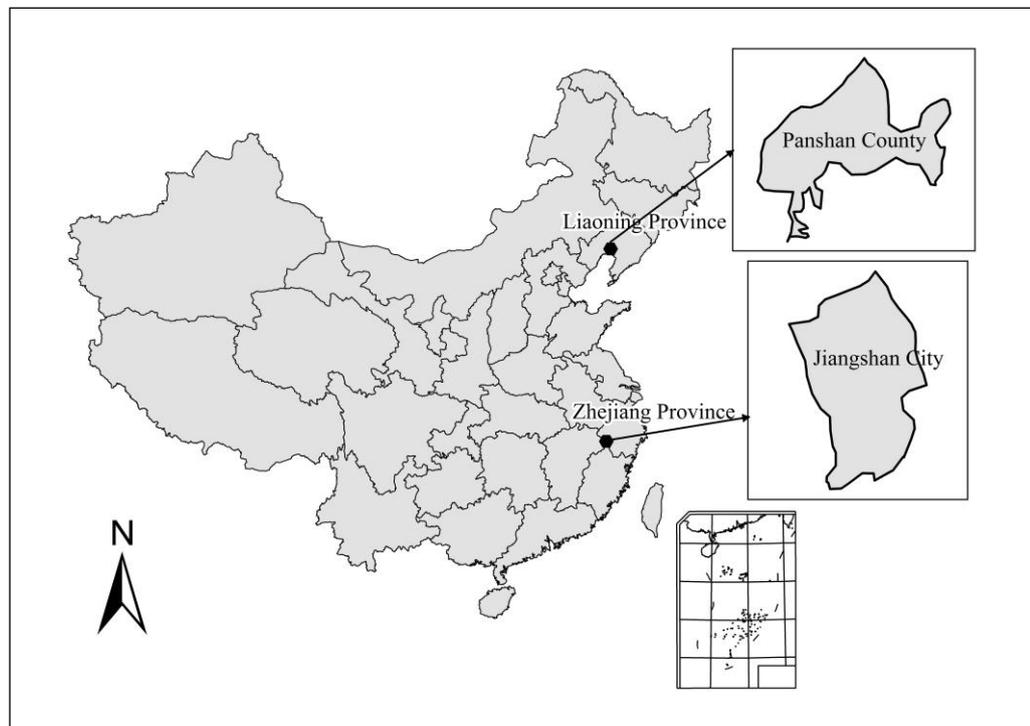


Fig.1. Location of study areas

2.2 Data sources

Data for this study was obtained from surveys of rural households in Jiangshan City and Panshan County from August to October, 2016. Supplemental survey data was obtained on October, 2017. First of all, we conducted a preliminary survey and revised the questionnaire according to the feedback. Then, 21 villages where centralized residence was not implemented in Jiangshan City and Panshan County were randomly selected. And we randomly selected about 20 households in each village. Next, multiple survey methods were used, including in-depth interviews, questionnaires and other means to carry out one-by-one household survey. Surveys focused on heads of household, who were sources of family income and decision makers. 220 questionnaires were distributed to Jiangshan City and Panshan County respectively. A total of 186 valid questionnaires were collected with the recovery rate of 84.5% in Jiangshan City, while 201 were recovered with the recovery rate of

91.3% in Panshan County.

2.3 Selection of variables and description

2.3.1 Selection of dependent variables

The dependent variable of this study is the desire of rural households in both locations for centralized residence. Scores of “1, 2, 3, 4, and 5” corresponded to “unwilling,” “a bit unwilling,” “willing,” “relatively willing,” and “extremely willing.” The higher the score, the more willing rural households were to participate in centralized residence. In addition, the five categories above were further divided into “unwilling” and “willing.” A binary regression analysis was implemented with values of 0 and 1.

2.3.2 Selection of independent variables

According to existing studies (Bai and Jiang, 2011; Wang et al., 2012c; Du et al., 2013; He et al., 2013; Zhang et al., 2013; Kong et al., 2014; Zhong et al., 2016), this study divided selected independent variables into five dimensions, from the perspective of microscopic behavior subjects: household characteristics, family economy, policy perception, housing characteristics, and social environment. These included 16 indexes in total. Detailed indexes are shown in Table 1.

Table 1 Description of Variables in the Model

Influencing Factors	Variables	Variable Assignment
Rural Households' Characteristics	Gender	Male=1, female=0
	Age(years)	20-30 years old = 1, 31-40 years old = 2, 41-50 years old = 3, 51-60 years old = 4, 61 years old and above = 5
	Education Degree	Uneducated=1, primary school=2, middle school=3, senior high=4, college and above=5
	Total Population Family	1-3 persons = 1, 4-5 persons = 2, 6 persons and above = 3
Family Economy	Non-agricultural Income(\$)	less than \$760= 1, \$760-\$3042 = 2, \$3042-\$7604 = 3, \$7604-\$15209 = 4, \$15209 and above = 5
	Arable Area(mu)	0-2 mu =1, 2.1-4 mu =2, 4.1-6 mu =3, 6.1-10 mu =4, 10 mu and above =5
	Arable Operation Means	Self-farming=1, mixed=2, lease=3, land abandonment=4
Housing Characteristics	Total Residential Land Area(m ²)	0-50 m ² = 1, 51-100 m ² = 2, 101-200 m ² = 3, 201-300 m ² = 4, 301 m ² and above = 5

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	Satisfaction with Living Conditions	with	Unsatisfied=1, a bit unsatisfied=2, relatively satisfied=3, satisfied=4, extremely satisfied=5
	Satisfaction with Infrastructure	with	Unsatisfied=1, a bit unsatisfied=2, relatively satisfied=3, satisfied=4, extremely satisfied=5
	Policy Familiarity		Never heard of it=1, heard some=2, extremely familiar=3
Policy Perception	Policy Expectation	Benefit	No knowledge of good or bad=1, No benefit at all=2, a bit beneficial=3, beneficial for the entire family=4
	Trust in Collective	Village	Distrustful=1, a bit distrustful=2, fair=3, relatively trustful =4, extremely trustful=5
	Superstition Degree		Skeptical=1, a bit trustful=2, so so=3, relatively trustful=4, extremely trustful=5
Social Environment	Neighborhood Relationship (weekly contacts times)		1-4 times = 1, 5-8 times = 2, 9-12 times = 3, 13-16 times = 4, 17 times or more = 5
	Environmental Safety		Unsafe=1, a bit unsafe=2, fairly safe=3, relatively safe=4, extremely safe=5

Descriptive statistical results of the variables are provided in Table 2.

2.4 Models selection

Logistic regression is a method for analyzing dependent variables in a binary or multinomial fashion. It can be divided into binary, disordered multinomial, and ordered multinomial regression according to the nature of dependent variables. This study selected three models. The first model is a binary logistic regression analysis model, applicable to the regression analysis with dichotomous variables. This is a binary discrete-selection model that regards logical distribution as the probability distribution of random errors, and the ideal model for analyzing individuals' decision-making behaviors (Chen et al., 2011). The second model is a logistic stepwise regression model (stepwise forward). According to this model, the number of variables kept increasing and at every step it is determined whether the optimal model was reached, pursuant to variable selection criterion. In addition, the most significant factors influencing rural households' desire for centralized residence will be chosen. The third model is a polynary-ordered logistic model (Ologit regression model), which can effectively avoid loss of massive data caused by binary logistic regress with the merger of multinomial results, and demonstrates orderly and multinomial features of empirical results. The original Brant test hypothesis is satisfied with parallel requirements and a P-value of greater than 0.05, which indicates that the model passed the parallel hypothesis. An important constraint of the Ologit regression model is that the explanatory variable has the same effect on the ratio of

dependent variables at any dividing point. In this way, the Ologit results obtained from fitting match the parallel hypothesis (Yi, 2017). This study comprehensively considered the three logistic regression models in determining the main factors that influence rural households' willingness of centralized residence, mainly in order to calibrate each other in the research methods and guarantee the stability of the model results.

3 RESULTS

According to the logistic regression models mentioned above, STATA 14.0 was used to conduct binary logistic regression, logistic stepwise regression, and the multinomial, ordered Ologit model. The results indicated the factors influencing the willingness of centralized residence for rural households in the nonpure (Jiangshan City) and pure (Panshan County) farming areas, as shown in Table 3.

Based on survey results, approximately 68.2% of rural households in Jiangshan City were willing to live in a centralized area, while 31.8% were unwilling. Approximately 60.2% of rural households in Panshan County were in favor of centralized residence, while 39.8% were against it. Overall, the willingness of rural households in the nonpure farming area (Jiangshan City) was slightly greater than that of the pure farming area (Panshan County). In this study, the steps in determining the main factors that influence rural households' willingness of centralized residence were as follows: first of all, in order to guarantee the stability of the model results, the factors that were significant in two or more models were selected as the main factors. Secondly, we screened out the indicators that significantly tested at 1% significance level among the above significant factors as the most significant factors, and the rest of the significant factors were the general main factors which influencing rural households' willingness of centralized residence. It can be noted from the results of the logistic regression models in Table 3. In Jiangshan City, the most significant factors were trust in the village collective and arable area, the other main factors were satisfaction with infrastructure and non-agricultural income. According to results of the models on Panshan County, the most significant factors were policy benefit expectation, and the other main factors were environmental safety, non-agricultural income and arable operation means.

Table 3 Model operation results

	Jiangshan City			Panshan County		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Gender	-0.171		-0.214	0.343		-0.065
Age	-0.450		-0.167	0.140		0.101
Education	-0.592		-0.443	-0.008		-0.329
Degree						
Total Family Population	-0.238		-0.216	0.046		0.066
Non-agricultural Income	0.360*		0.367***	0.601***	0.554***	0.405**
Arable Area	-1.203***	-1.024***	-0.578***	0.194		0.142
Arable Operation Means	0.065		-0.090	0.752*	0.801**	0.792***
Total Residential Land Area Satisfaction	0.050		0.006	-1.081*		-0.448
with Living Conditions Satisfaction	0.351		0.320*	0.117		0.175
with Infrastructure Policy Familiarity	0.431**		0.363**	-0.320*		-0.165
Policy Benefit Expectation	0.254		0.163	0.130		0.284*
Trust in Village Collective Superstition Degree	-0.171		-0.070	1.080***	1.059***	0.613***
Neighborhood Relationship	0.915***	0.829***	0.920***	0.122		0.053
Environmental Safety	0.335		0.229	0.263		0.075
_cons	0.265		0.191	0.178		0.137
	-0.421		-0.015	1.230***	1.003**	0.639**
	-0.735	-0.406		-8.526	-8.485	

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Log likelihood	-80.724	-46.196	-213.884	-89.617	-95.762	-279.756
Pseudo R2	0.305	0.215	0.158	0.336	0.291	0.130
			Brant Test (p=0.167)			Brant Test (p=0.943)

Note: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

3.1 Analysis of factors influencing Jiangshan City's rural households' willingness for centralized residence

The most significant factor over rural households' centralized residence is trust in the village collective, which positively correlates with rural households' willingness. This means that Jiangshan City's rural households' willingness is largely related to the ability of the local village collective. The attitude and behavior of the village collective, as the basic-level worker in China's rural area, may directly affect rural residents' attitudes towards and understanding of policies. Generally speaking, the organizational ability of the village collective is positively correlated with local economic and social development levels. Jiangshan City has rapid urbanization. The village collective, as the self-governance organization at the basic level, shoulders more responsibility to coordinate, organize, and manage every aspect of rural households' production and life, which are closely related with rural residents. If the village collective shows greater enthusiasm about centralized residence, makes greater efforts to publicize it, and takes a fair approach during the process, rural households will view this as government support, and more willingly accept the policy.

The second most important factor is the arable area that negatively correlates with rural households' willingness of centralized residence. Jiangshan City has more mountains and hills, and less arable land. The per capita arable area is small. As a result, any slight change in the arable area affects agricultural production and revenue. The greater the arable area, the more dependent residents are, and the weaker their ability to bear unknown risks. Accordingly, rural households' expectation for future benefits of centralized residence will weaken, which results in their unwillingness to participate. If rural households' dependence on land return decreases with a decrease in arable area, residents will be more willing to take part in it. Such an impact as the arable area on Jiangshan City's rural households' willingness for centralized residence determines resident satisfaction with the outcome of future policies.

The third factor is satisfaction with infrastructure that exerts positive influences over rural households' desire for centralized residence, which is the opposite of the expected hypothesis. The more satisfied rural households are with the current infrastructure, the more willing they are to accept centralized residence. This may be attributed to desirable economic development

of Jiangshan City and improved infrastructure conditions in the neighborhood. However, most rural homes were constructed in the 1980s and are not high quality, starkly contrasting with the surrounding environment. Hence, rural households are more willing to ameliorate their living conditions through centralized residence. Unsatisfied rural residents mostly worked in downtown Jiangshan City or Hangzhou, which has superior infrastructure conditions. As a result, they often noticed the immense differences between rural and urban infrastructure, and were thus unsatisfied with rural infrastructure. However, given that they have high incomes and may have bought apartments in the town or the city where they live, they were not sensitive to centralized residence or emotionally connected to keeping their old houses.

The fourth factor is non-agricultural income which positively correlates with rural households' willingness. The higher non-agricultural income rural households have, the more willing they are to accept centralized residence. This means that the rural households have the ability and strong desire to improve their current living conditions and standards only if they have a relatively high level of non-agricultural income.

3.2 Analysis of factors influencing Panshan County's rural households' willingness for centralized residence

The most significant factor regarding rural households' willingness to accept centralized residence was the policy benefit expectation, which positively correlated with it. This mainly impacted rural households' judgment of the policy prospect. The higher the expected benefits, the more willing households were to accept it. When compared with other factors, rural households of Panshan County valued actual benefits more, which was probably linked with local residents' production means that centered on farming. As shown by the surveys, the proportions of "self-farming" in Panshan County accounted for 56.2%. The majority of land in Panshan County is farmland, and most rural households live nearby. Rural households living on agricultural income may be required to live farther from farms if they moved, which means an inconvenience for agricultural production and higher costs for centralized residence. Therefore, rural households are more sensitive to the direct benefit expectation of the policy.

The second factor is environmental safety, which impacts rural households' desire for centralized residence in a positive way. It's different from the hypothesis as well. A possible explanation is that the greater rural households' sense of safety about surrounding environment, the better the current social order. It objectively provides stable social environment for implementation of the centralized residence policy, thus guaranteeing sustainable and effective promotion of the policy. In a relatively safe and stable environment, rural households are more willing to support implementation of the policy and their

immediate interest will be ensured. On the contrary, in a chaotic environment, rural households can hardly fend for themselves and take a skeptical attitude towards the policy of centralized residence.

The third factor is non-agricultural income, which has a positive effect on rural households' willingness of centralized residence. In Panshan County, the higher non-agricultural income rural households have, the better life they are. The strong desire to improve the current living condition make the rural households accept centralized residence more likely. This result is similar to that of most scholars' studies. The rural households with higher non-agricultural income have been gradually gotten rid of the economic dependence on the farmland. Due to their revenue diversification, the impacts of centralized residence on their income is relatively smaller comparing with the households who regard agricultural income as the main revenue source. On the other hand, rural households with higher incomes are relatively more willing to leave the village and move to the town or city to pursue higher living conditions. Thus, rural households with higher non-agricultural income have more possibilities to accept centralized residence.

In addition to the above important factors, arable operation means and total residential land area also affect households' willingness of centralized residence. The results of showed that in Panshan County, rural households who chose to rent farmland and had larger residential land area, are more willing to accept centralized residence policy. Compared with land lease, households who chose to cultivate their own farmland may be less likely to accept centralized residence, because they would worry about some inconveniences caused by centralized residence. For example, residence was staying away from farming and there wasn't space to store farming machinery and equipment after centralized residence. Additionally, Due to the low economic development level in Panshan County, rural households pay more attention to the actual benefits gained from centralized residence. The more residence land households owns, the more potential compensation they will receive, and the higher willing they are accept centralized residence.

3.3 Comparative analysis of factors influencing the willingness of rural households in Jiangshan City and Panshan County

For Jiangshan City (nonpure farming area), the most significant factor was trust in the village collective. Jiangshan City emphasized fairness more in the centralized residence process. Therefore, strengthened prestige of the village collective and greater transparency of policies made rural households more willing to accept centralized residence. In addition to arable area, other influencing factors showed that rural households had higher expectations for better

quality of life and superior infrastructure conditions. For the pure farming area (Panshan County), rural households placed greater importance on the expected benefits of centralized residence, mainly because of the focus on agricultural income. Centralized residence will have a major impact on production and life. Another common influencing factor suggests residents' concerns about the safety of the surrounding environment, which is a reflection of how they can be compensated after moving to centralized areas. Additionally, non-agricultural income is the common influencing factor in Jiangshan City and Panshan County, which shows that the improvement of the economic development level will continuously stimulate households' desire to improve their living conditions.

Households in the nonpure farming area were more concerned about fairness in the centralized residence procedure, while households in the pure farming area were more concerned with implementation of compensation measures. The difference between influencing factors fundamentally reflects variations between the two regions in terms of social and economic development. The economic development level of the nonpure farming area is higher, and most residents are engaged in the second and tertiary industry downtown, with a high nonagricultural income. This means they are less dependent on agricultural income. Hence, they have a stronger ability to shoulder rising living costs after centralized residence. These residents not only care about benefits but also fairness and justice in the process. The pure farming area is characterized by an underdeveloped economy, higher ratio of agricultural income, and low family income levels. Rural households focus more on the actual benefits of centralized residence, hoping to live in a stable social environment to guarantee their rights and interest, of which they are entitled to.

With regards to the nature of the influencing factors between the model results of the two regions, the most prominent factors influencing rural households' willingness in Jiangshan and Panshan are trust in the village collective and policy benefit expectation, respectively, which can have an impact at the policy level. The same factors indicate that policy plays a significant role in both the pure and nonpure farming areas, and significantly influences if rural households are willing to accept centralized residence. Hence, in places where centralized residence is planned, the government and village collective should build a favorable image, solicit extensive rural households' opinions, deliver timely, related information to residents, safeguard their immediate interests, and create a desirable policy environment for conducting the centralized residence.

4 Discussion and conclusions

This study applied three logistic regression models to explore the differences between the nonpure and pure farming areas, and the factors influencing rural households' willingness to accept centralized residence according to five aspects: households individual characteristics, family economy, policy perception, housing conditions, and social environment. Results show that, in the nonpure farming area of Jiangshan City, when there is greater trust in the village collective, less arable area, more satisfaction with the infrastructure and higher non-agricultural income, rural households are more willing to accept centralized residence. In the pure farming area of Panshan County, when there is greater policy expectations, safer the environments and higher non-agricultural income, the more willing households are to accept centralized residence. By comparison, rural households in the nonpure farming area valued fairness and expectations of future quality of life, while those in the pure farming area valued implementation and compensation guarantees.

Centralized residence is a behavior guided by national policy that is driven by rural households' desires for improvement of living and production conditions and urbanization pressure. Driving forces for centralized residence can be categorized into self-driven and government-driven forces. For the former, increase in rural households' income, changes in family structure, rural aging, and educational enhancement result in higher requirements for living conditions. Original houses are old, with unsound infrastructure and public facilities, motivating them to build new houses or move to new communities with better conditions. Given the significant costs of moving, residents hope to enhance their living conditions with the help of the country and government. With the government-driven factor, urbanization and industrialization cause constantly increasing pressure for urban construction land. Limited by the policy regarding the balance between construction land and arable land, and the reality of insufficient arable land resources, the increase in urban construction land depends on the decrease in available rural construction land. By connecting urban and rural construction land use, governments in different places aim to implement centralized residence and exchange the related land for extra construction land quotas used for urban development. Because rural residence is a behavior driven by rural households and the government, its implementation comprehensively accounts for rural households' willingness and the demand of the government. At present, some local Chinese governments ignore rural households' willingness and conduct centralized residence, with the motive of expanding urban construction land to meet urban development demands. This goes against the initial intention of improving rural residents' living conditions and enhancing their quality of life. It is also a violation of resident's rights to residential land.

It can be observed from the survey on rural households that 68.2% of rural households in

Jiangshan City were willing to accept centralized residence, while 60.2% were willing in Panshan County. The gross regional production of Jiangshan City in 2015 was \$ 39.2 million, and the per capita disposable income of rural permanent residents was \$2,773, with an urbanization rate of 38%. The gross regional production of Panshan County in 2015 was \$ 23.7 million, and the per capita disposable income of rural permanent residents was \$2,148, with an urbanization rate of 28%. The economic development, income level, and urbanization level of Jiangshan city were greater than those of Panshan County. The suitability of rural households for centralized residence and willingness to accept it was greatly determined by income level and local economic and social development. In general, the desire of rural households in the area of higher economic development is stronger, compared with the area of lower economic development level (Du et al., 2013; Liu et al., 2015), primarily because of three aspects. First, the production means is fast in the developed area, and rural households depend less on agricultural income. Second, the income level is higher in the developed area, and rural households have a greater ability to shoulder rising living costs after centralized residence. Third, the government in the developed area provides more policy support for centralized residence and satisfies diverse demands of rural households. Hence, local governments must consider economic and social development level while implementing centralized residence. For developed areas, industrialization and urbanization have the ability to support agriculture with industry. At the same time, nonagricultural industries become the main fields of employment, agricultural mechanization is high, and rural residents' income levels are adequate for their cost of living. Under such circumstances, residents can make greater efforts to guide centralized residence. For underdeveloped areas, especially pure farming areas with low levels of industrialization and urbanization and limited ability to absorb rural labor forces where agriculture is the main production activity and land is the major means of guarantee, the rural living model focused on villages is more suitable, for the sake of convenient living and production activities. In addition, they have lower income and are worried about affording the cost of living after centralized residence, thus reducing their living levels. As a result, their desire for centralized residence is not as high. WU Xiumin (2005) noted, "Rural households need to pay certain costs and shoulder certain risks for centralized residence so certain income is necessary." In this case, it's not suitable for local governments to impose centralized residence on rural households.

This study analyzes the factors influencing rural households' willingness of centralized residence and explores differences between pure and non-pure farming areas. In this case, the study areas, both Jiangshan City and Panshan County, are located in the east of China. It is a region which is experiencing the fastest processes of economic growth in the whole of China. Thus, the analysis cannot be considered representative of all rural China, especially with regard to remote rural areas in the western and central part of China. Although the focus is on

a case study, the analysis presented can give useful insights as to what factors affect the willingness of centralized residence from the households' perspective on pure and nonpure farming areas. Nevertheless, to have a clearer and integrated idea of the influencing factors of households' willingness at national scales, more resources should be directed toward the inclusion of a larger number of investigated households and rural areas. Further studies on extending investigated households and different rural areas are needed to improve the applicability of research findings at national scales.

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