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Willingness of Rural Households in Mountainous Areas towards Land Transfer

—A Case of Beiliang Village, Wuxiang County, Shanxi Province

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Abstract In this paper, the Beiliang Village, Wuxiang County of Shanxi Province is chosen as the study object. The methods investigation and interview are applied. And then the status quo of land transfer is analyzed from the aspects of private land transfer, the form of land transference, the land transfer fee, the contracts of the land transfer and farmers' knowledge on land transfer law and so on. Through the investigation and research on peasant households' willingness towards land transfer and the factors that affect the land transfer, the willingness of farmers' land transfer in recent years are transferred. Farmers' land transfer willingness in recent years is clear. On the strength of the analysis, the scientific basis for the reasonable transfer of land in mountainous areas is put forward for optimizing the land distribution and promoting the sustainable and healthy development of rural economy. The countermeasures aim at accelerating land transfer, increasing farmers' income; stringing the development of rural education, increasing the support on three agricultural problems concerning agriculture, countryside and farmers, and standardizing the rural land transfer behaviors are put forwarded as well.

Key words Peasant households, Land transfer, Willingness, Shanxi Province, China

Land is the fundamental base for peasants' survival, and the non-substitutability of agricultural land use, the instability of peasants' income source and the imperfection of rural security system make the peasants unwilling to transfer land or only want to transfer part of the land^[1]. In view of the willingness of peasant households, scholars at home have conducted widespread and profound research on it.

Many scholars at home think that the factors that affect the land transfer willingness of peasant households are: land contract right, peasants' desire on land use right, rural social security system, agricultural economic interests, rural nonagricultural industry^[2]. In foreign countries, the aim of land transfer is to expand the agricultural scale operation, and the expansion of agricultural land is based on the impetus of economic development, rural technology development, rural labor transfer, so a vast majority of peasants are willing to transfer land. Meanwhile, in the country, in which the land is private-owned, the individual peasant household-dominated land system, the private ownership of agricultural land has become the impediment of agricultural land transfer to a certain degree^[3]. The domestic scholars mainly attach their attentions to the peasant households' inclination of land transfer on eastern economically developed areas with frequent land transfer^[4], but few scholars research the land transference inclination of peasant household in Shanxi Province, especially the researches on the mountainous areas with land fragmentation and low land interest. Therefore, in this paper selects the Beiliang Village, Wuxiang County in Shanxi Province as the research sample and applies the

methods including investigation and interview. And then analyzes the factors that affect the inclination of land transfer profoundly and comprehensively, which are significant in optimizing the allocation of land resources and promoting the sustainable and healthy development of rural economic development.

1 Research sample and research materials

1.1 The basic situation of the study area The Beiliang Village, Wuxiang County of Shanxi Province locates in western Wuxiang County, 35 kilometers away from Wuxiang County. The region belongs to loess hill region and the landscape descends from the north to the south. There are two high mountains in the eastern and western sides, which belongs to the relict mountain of Taihang Mountain- the northeast border of Taihang Mountain. The length from the north to the south is 5.9 km and the width of the villages from east to west ranges from the maximum 2.25 km to the minimum 1.05 km. In the village, there are more mountains and less land and the land contains many sands. The aggregate administrative area is 744.67 hm², among which 400 hm² is waste land, 23.42 hm² is farmland and 10 hm² is water land. A river came from the Zhuquan River runs through the whole area and to Nie River, which belongs to Haihe River basin. The underground water resources are rich and the Wolong Spring in the eastern Village flows continuously.

Beiliang Village locates in sub-arid and sub-humid climate zone and belongs to temperate continental climate. In one year, it has four distinct seasons, long winter and short summer and frequent drought in a year. The average temperature of it is 8.1 °C; the annual average daily range of temperature is 13 °C; the range of temperature from the summer to winter is 50 °C; the annual average hours of sunshine are from 2 900 to

3 100 h; the annual average precipitation is 550 mm and the non-frost period is around 150 days.

Urbanization degree of this village is low and the function displayed by the county radiation is small and the secondary and tertiary industry are underdeveloped.

1.2 Samples and sources of the research data The survey subjects include the farmers who undertake agricultural production in the village; farmers who work outside and farmers who undertake the secondary and tertiary industry, so the subjects can represent the whole situation. The survey is based on questionnaires and combines the interview^[5]. The content of the questionnaires can be divided into three parts. The first part is the basic situation of peasant households, including the members in the households, the main work they are doing, the age of the head of the household, the operation situation of agricultural land, family income and its components and rural social security; the second part includes the survey of land transfer situation, the quantity of land transfer concerning farmland, the way of land transfer and the reasons for land transfer; the third part is the farmers' inclination of land transfer and the contents concerning the future way of land transfer, land transference fee, age limit, and the factors affect the land transfer and so on.

There are 168 valid questionnaires in this survey. According to the statistics, the total land area contracted by the sample peasant households is 86.87 hm²; the average area of farmland of per peasant household is 0.52 hm² with the maximum number of 1.33 hm² and the minimum area of 0.13 hm².

2 Results and analysis

2.1 Analysis on the status quo of peasant households' land transfer The agricultural land in the paper refers to the land owned by the rural collective, including agricultural production land, mountain waste and barren hill. The transfer of agricultural land is a type of land transfer and its essence is the transfer of land right among each subject^[6]. Specifically, the transfer of agricultural land is the behavior of peasant households who have the contract and management right (land use right) to transfer the right to other peasant household or economic organization^[7]. The paper mainly discusses the transfer of land management right. Specifically, the land transfer situation in this village shows the following features.

2.1.1 The private land transfer is prevalent and the quantity of land transfer is small. The survey shows that the private land transfer in the village is rather prevalent. As it is shown on Table 1, in the 168 households surveyed, 80 households of them have conducted land transfer, accounting for 47.6% of the total households. The land transfer is prevalent with small area of land. Generally speaking, the land transfer area is among 0.13 to 0.14 hm²; 30 peasant households transferred their land completely, accounting for 17.9% and 29.8% of the total peasant households have transferred part of the land, and a vast majority of the land is transferred among peasant households and a vast majority of the transfer is small scale transference among peasant households.

Table 1 Rural land transfer in Beiliang Village of Wuxiang County

Type of transfer	Number of households	Proportion//%
Entire transfer	30	17.9
Partial transfer	50	29.8
No transfer	88	52.3
Total	168	100.0

2.1.2 The way of land transfer is single and the major way is lease. According to the direction of management right, the land transfer can be divided into many forms including land transfer, exchange, (peasant household-peasant household), lease and transferring the contract rights to others (peasant household-ollection), profit sharing and stock ownership (peasant household-enterprises) and so on. The land transfer forms in the survey region are lease, letting other people to farm and cultivate and exchange. Among the three forms, 56.25% of peasant households transfer their land; 32.5% of peasant households transfer their land rights to other people and 11.25% of peasant households transfer their land completely (Table 2). It can be seen that lease is a good way that is easy to be accepted by its simple operation, clear rights and responsibility.

Table 2 Composition of rural land transfer form

Land transfer form	Number of investigated households	Proportion//%
Lease	45	56.25
Letting other people to cultivate land	26	32.50
Transfer	9	11.25
Exchange	0	0
Share purchasing	0	0
Others	0	0

2.1.3 The subjects of land circulation mainly come from the local villagers. The villagers from the same village are an important source of land transfer and another subjects mainly come from the neighboring village. The investigation shows in the 80 peasant households, 76 of them comes from the local village and four households come from the neighboring village (Table 3).

2.1.4 The land transfer fee is low and the land transfer period is short. The land transfer fee is around 1 200 to 1 800 yuan in the study area (mainly refers to farmland), due to the two parties are relatives, so there is no standard of land transfer fee. The fee is determined by the condition of the farmland and the bargain of the two parties. Generally speaking, the transfer fee of the first-class land is around 1 650 yuan to 1 800 yuan per hm²; that of the second-class land is around 1 200 yuan to 1 500 yuan per hm² and the third-class land often can not transfer for its poor quality and low income. When encountering the year of bad harvest, the income can not meet the investment. So as for the third-class farmland, if it is suitable for being changing to forest, the best way is turn it to forestland.

The land transfer period is short in this village, 90% of the land transfer period is one year. When the two parties can not be transferred out of many reasons, they will discuss the land

transfer period. In the investigation of farmers' inclination on land transfer, a vast majority of peasant households expect that the land transfer period is one year.

2.1.5 Many land transfer does not have formal contract and peasant households know little about the law. In the process of land transfer, a vast majority of peasant households do not have formal contract, some of them are only oral contract. It can be seen from Table 3 that in the 80 surveyed peasant households, only 11 peasants households have land transfer contact, accounting for 14%.

It can be seen from Table 3 that, more than half of the peasant households hold the indifferent attitude towards land transfer contract, and 38.7% of peasant households hope the land transfer contract is in written form and 8.3% of the peasant households think the oral negotiation of land transfer is enough.

The survey shows that most peasant households know little about the relevant law, intermediary agency and the joint stock cooperative system of land contract right. The peasant households who know the above three aspects accounting for

4.2%, 12.5% and 4.2% respectively; peasant households who do not know them accounting for 39.9%, 87.5% and 44.0% respectively. In the interview, they explain that because most of the land is transferred among relatives and friends, so fewer problems happen in the process of land transference, when there are problems, it will be easy to negotiate it and solve it. Thus, they do not need to know this.

Generally speaking, in the process of land transfer, the main subject is farmland; many peasant households involve in the land transference and the land transference is prevalent; the small scale land transference among peasant households is prevalent; a vast majority of farmland stays in the scattered and small scale state with small land transference. In terms of land transference, the major way is lease, many peasants choose to transfer their land to their friends and relatives; the scale of farmland transfer is small and the transference does not face to the market. In addition, the land transference fee is low; the land transference period is one year basically and there are no formal contact and standard in the process of land transference.

Table 3 Information about the subjects in land transfer

Item	Type	Number of households	Proportion//%
Scope of the parties in rural land transfer	In the village	76	95.0
	Out of the village	4	5.0
Expected form of land transfer contract by the farmers	Oral form	14	8.3
	Written form	65	38.7
	Indifference	89	53.0
Situation of rural land transfer contract	Have contract	11	14.0
	No contract	69	86.0

Table 4 Farmers' understanding of relevant factors of land transfer in Beiliang Village of Wuxiang County

Item	Understanding		Slight understanding		No understanding	
	Number of households	Proportion %	Number of households	Proportion %	Number of households	Proportion %
Related laws about land contractual right	7	4.2	94	55.9	67	39.9
Land transfer intermediaries	21	12.5	–	–	147	87.5
Land stock cooperative system	7	4.2	87	51.8	74	44.0

2.2 Analysis on rural households' inclination and the influence factors of land transfer

2.2.1 Analysis on rural households' inclination on land transfer. Land transfer includes out and in of the land. In the area, peasant households' inclination on land transfer can be seen on Table 5. From Table 5, a vast majority of peasant households want to transfer can be seen, accounting for 72.9% of all the peasant households. About 1/3 of peasant households want to transfer their land to other people, if they go out to work, they will want to transfer all their land to other people. About 53.0% of peasant households want to get the land from other people, for they think they do not have much land to cultivate, so they want to get more land from other people. Besides, about 1/5 of peasant households want to maintain the status quo.

The survey shows that most young and strong labor forces go out to work; peasant households' willingness on land transfer is strong and farmers with high income have strong willingness of land transfer. As for the peasant households with people work outside, if they can find jobs in a short time, their dependence on land will be lowered and their willingness on land transfer will be strengthened relatively.

Peasants' inclination of land transfer is a dynamic psychological state, which is restricted and affected by factors from various aspects. The factors which affect the inclination of the villagers can be seen on Table 6. From Table 6, we know that the main factors that affect peasant households' inclination on land transfer are non-agricultural employment opportunities, rural social security system, and land importance, which accounting for 61.3%, 76.2% and 50% respectively; the following factors are government policy, land profits, which account for 35.1% and 44.6% respectively.

Table 5 Farmers' inclination on land transfer in Beiliang Village of Wuxiang County

Inclination of land transfer	Number of households	Proportion//%
Willingness to transfer in	44	26.2
Willingness to transfer out	89	53.0
Unwilling to transfer	35	20.8
Total	168	100.0

2.2.2 Analysis on the factors that affect rural households' land transfer.

2.2.2.1 The impact of non-agricultural employment opportunities. The net income of sample rural households in the survey

region in 2008 is 2 300 yuan, and the main economic income sources are listed on Table 7. Among the income, 45% of it comes from agricultural income, 43% of it is obtained by working out (including doing one's own business and undertaking the secondary and tertiary industry). Undertaking agricultural production and working outside have become a main source of local farmers' income. Obviously, the non-agricultural income has become the main economic income source of more and more peasants.

Generally speaking, the more the opportunity of peasant households attending the non-agricultural activities, the higher the non-agricultural income of households will be. Therefore, in the households without surplus labors and the non-agricultural income can maintain their life, they may transfer part or all of their land. Whereas, the households with less opportunities of attending non-agricultural activities and less non-agricultural income, may want to transfer in land in order to improve the labor efficiency of the household. In the 168 surveyed peasant

Table 7 Income source of the sample households and their wiliness on increasing farmlands

Item	Type	Number of households	Proportion//%
Main income source of	Agriculture income	76	45
	Income obtained from working outside	72	43
	Other salaries	16	10
	Others	4	2
Expected increase of farmland areas	Increase	140	84
	No change	26	15
	Depends on specific situation	2	1
	Decrease	0	0

In the study area, the natural conditions and economic situation are bad, and the land profits are low for the small scale cultivation. Comparing with undertaking agriculture, working outside can get more profits, so many young and strong labors go out to work, peasant households' willingness on land transference is strong and more households are involved in the land transference. The survey indicates that people with high income has strong willingness of land transference. The peasant households who work in the secondary and tertiary industry

Table 8 Income structure and land transference of rural household in Beiliang Village of Wuxiang County

Income source	Per household income//yuan	Proportion//%	Proportion of transfer area to total farmland area//%
Agriculture	4 000	32.3	50
Job (Including independent operation)	10 000	64.5	80
Others	500	3.2	14

It can be seen from Table 8 that in the survey area, in the rural households with high income, 80% of the high income comes from non-agricultural income, and they mainly undertake the secondary and tertiary industries. In addition, the greatest scale of rural land transference happens among them. Among the rural households with low income, most of their income comes from the primary industry, accounting for 50% of all the household income.

2.2.2.2 The impact of the rural households' self factors. The paper has discussed the impact of the rural households' willingness on land transference in the two aspects including educational degree and age. Generally speaking, the rural households with high educational degree are easy to accept new

households, 103 households, accounting for 61.3% of the peasant households think that the non-agricultural employment opportunities has great effect on land transference (Table 6).

Table 6 Factors influencing the land transfer Willingness of farmers in Beiliang Village of Wuxiang County

Influencing factors	Number of households	Proportion %
Non-agricultural employment opportunities	103	61.3
Personal factors of farmers	26	15.5
Government policy	59	35.1
Village collective work	14	8.3
Rural social security system	128	76.2
Land transfer conditions	25	14.9
Land profits	75	44.6
Land importance	84	50.0
Others	21	12.5

Note: The investigation on the factors influencing the land transfer adopts multiple choice questions, therefore the statistic number of households is more than 168.

mainly run their own business and have stable income, and the income is far more than the income of agricultural production, so they are willing to transfer out their land and do not care about the transference conditions. Therefore, the conclusion is that the non-agricultural income has the obvious impact on both in and out of land transference, which reveals that attending the non-agricultural activities is one of the main motivations of promoting land transference.

things and have strong adaptability and the possibility of getting success when working out or starting their own business is higher. Thus, they are willing to transfer their lands. But in the sample village, the educational degree of the rural households has little impact on land transference, so it does not follow the rule. But as a basic element, the quality of the labors directly affects the results of production and operation and the income of labors. In the long run, improving the cultural and education degree of farmers is the essential measure of improving the production efficiency of agricultural land. The survey suggests that the age of the rural households have close relations to land transference (Table 9). People with the age form 20 to 39 do not transfer in land, only 19.4% of them transfer in land. They

do not rely on their land so much. Among the households, the main labors work outside, but cultivate at home in harvest season. In the interview, they explain that the main reason why they do not transfer in or transfer in a small amount of land is that there is no a large amount of land available and their own land is insufficient as well (the village implement the strict land policy, most households among the age of 20 to 39 only have one male labor, so they only has 0.13 hm² of land), so they

have to work out. The rural households among the age of 40 to 64 transfer in more land than the transfer out land (they have enough labors and rely on land deeply); the households with the age ranges from 65 to 80 only cultivate their own land, when necessary, they will transfer in the land of their relatives (most of the land is their sons, for they often work out); if the old-aged people does not have the working ability they will transfer their land to their relatives, friends and neighbors.

Table 9 Land transfer of farmers with different ages in Beiliang Village of Wuxiang County

Age	Number of investigated households	Number of households without transferred land	Proportion of households without transferred land//%	Number of households with in-transferred land	Proportion of households with in-transferred land//%	Number of households with out-transferred land	Proportion of households with out-transferred land//%
20–39 years old	36	14	38.9	7	19.4	15	41.7
40–64 yearsold	112	64	57.1	30	26.8	18	16.1
65–80 years old	20	10	50	5	25.0	5	25.0
Total	168	80	–	42	–	38	–

2.2.2.3 The impact of government policy and village collective. The stimulus restricted policies stipulates by the government have a decisive influence on the willingness and behaviors of rural households' participation on land transfer^[8]. The governments at various levels should supervise, manage and regulate land transfer; improve agricultural production situation; increase the fiscal investment to agriculture; step up the construction of rural infrastructure, and then stimulate the enthusiasm of rural households^[9]. It can be seen from Table 7 that, since the implementation of rural taxation system in 2003, 84% of the studied rural households want to increase the sown acreage, that is to say, most of the villagers want to increase the acreage of land.

At present, the land contact is determined by the villages' committee, but it is invalid in law. The survey shows that most of the land is transferred privately, and few of them get the agreement of village collective. In the interview, most rural households do not expect the collective to interfere in the land transfer, and they just want to inflow the land from the village collective, rather than out flowing land to village committee. The main reason is that the land in flowed from the village collective is paid by lump-sum payment; the rural households do not need to care about the possible problems. However, if the rural households flow out the land, their compensation can not be fully ensured. Some rural households can not get compensation or reasonable compensation, even several years after their land has been expropriated.

2.2.2.4 The impact of rural social security system. Rural social security system is one of the main factors that affect the rural households' willingness on land transfer. In the households studied, 76.2% rural households' willingness on land transfer is affected (Table 6).

At present, Chinese rural land not only provides the basic financial income, but also the basic living guarantee, social security and employment^[10]. Under the cases that the rural social security system has not been fully established, land is still the base for farmers' existence and development. Although the income of agricultural land is low, the rational farmers still do not

dare to transfer their land. Farmers' employment in urban areas is limited by residence registration, so their jobs are unstable and there are some problems in their children's education, so if the farmers transfer their land contract rights, they will lose the guarantee of survival. Therefore, most rural households and even the households with high income choose to cultivate land while undertaking other businesses rather than transfer out their land, which leads to the insufficient land transfer and slow down the speed of land transfer. Thus, rural social security system directly affects the scale and speed of rural land transfer, especially, affects the land supply of rural households.

2.2.2.5 The impact of the situation and efficiency of land transfer. Comparing with other industries, agriculture is a weak industry with high social interests but low economic interests out of its long production period, slow speed of capital turnover and low comparative interests. The agricultural modernization level is low in this village, only the relatively flat land can use machine, and the land is owned by different rural households, so it is impossible to actualize the large scale application of machine. Besides, the agricultural production is gravely affected by the natural conditions. The agricultural income is unstable, so farmers do not want to transfer their land. In the interview, most rural households hold that when there are a large number of surplus labors, there will be more land available to be transferred, but they do not dare to transfer more land, for its risky and they can not afford the results.

2.2.2.6 The importance of land. Rural land plays a significant role in providing social guarantee for farmer to a large degree, so as for most rural households, unless they have gotten solid income source and other security measures, they would not lose their affection on land. In the interview, a vast majority of villagers say that land is still very important for them. Land is the base for their existence and development.

Only when the rural households' survival is guaranteed, their economic rationality could be exemplified. But at present, the farmers can not completely leave their land, for the shortness of social security, the unclearness and definition of law to land and land transfer right, bad jobs provided by urban labor

market, increasing saturation of job opportunities, difficult working conditions of migrant workers and the existence of large amount of returning migrant workers. Therefore, most farmers transfer their land temporally.

3 Conclusions and suggestions

Through investigation, the factors such as the non-agricultural job opportunity, education degree and age of rural households, government policy and rural collective work, rural social security system, the condition of land transfer and some other factors all affect the willingness of rural land transfer.

Most farmers say that they will not transfer their land or only transfer small part of their land out as a result of the unhealthy social security system and unstable non-agricultural economic income. Some people have transferred out their land completely because they have completely qualified to free from agricultural production. That is to say, they have stable non-agricultural income. There are also some people who want to transfer in land, for they think agriculture is profitable and they do not have the ability to undertake other non-agricultural production (if they have the ability to undertake non-agricultural production and have stable income and the income is higher than undertaking agricultural production, they will not transfer land). In the village, there are surplus labors and their management skills allow them to expand the operation scale, but the current land situation can not meet the demand, which shows the inharmonious relations between people and land.

With the acceleration of urbanization, rural households' willingness on land transfer has changed slightly^[11]. But at present, the quality of Chinese farmers is low and they lack the competitiveness in the rapidly developed secondary and tertiary industry, so it is hard for them to get stable job and non-agricultural income. Therefore, in the first place, the government should vigorously develop the rural education; improve farmers' quality and cultural level; develop the township enterprises; develop the secondary and tertiary industry and absorb rural surplus labors. In the second place, the government should stabilize the land system owned by the collective; further define the land property relations; further intensify the support on three agricultural problems concerning agriculture, countryside and farmers; develop rural economy; supply capital, technology, agricultural product processing and sales for the farmers throughout the process of agricultural production; provide favorable environment for rural land transfer and ensure and improve

the economic interest of rural land transfer. In the third place, the government should regulate the behaviors of rural land transfer; strengthen the management on rural land transfer procedure; protect the legal rights of the two parties of land transfer. Last but not the least, the government should solve the rural social security problems concerning employment, medical care and old-age security well from the reality, and fundamentally solve farmers' worries on land transfer.

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and during the process many factors may affect the grain production, for example, sown acreage, agricultural policy, agricultural infrastructure, climatic factor, natural disasters and so on. Besides, the influence factors vary according to the time periods. Therefore, there must be some errors if using grain yield in the past to predict future grain yield, and it is the problems of all the prediction models. So we should adjust the prediction model in due time, so as to reduce the error and realize the accurate prediction.