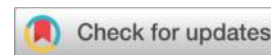


The Influencing Factors of the Active Utilization of Rural Idle Homestead Sites—Qualitative Comparative Analysis of Fuzzy Sets Based on 12 Cases

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Highlights:

1. A fuzzy set qualitative comparative analysis method was used to explore the combination of factors that affected the active utilization of idle house land.
2. No single influencing factor of active use of homestead was a necessary condition on its own for the increase in the number of active residences.
3. It was found that the mantras that promoted the revitalization of homestead included “government-led and steadily promoted type” and “government-guided and social-capital-driven type”.
4. “Information platform building” played an important role in increasing the number of revitalization households.

Abstract: The active utilization of rural idle homestead sites is of great significance in optimizing the market-oriented allocation of land elements, which effectively increases farmers’ incomes and stimulates rural vitality; it is an important part of the pilot work of deepening the reform of the homestead system. In combination with a practical summary of the active utilization of idle homestead sites in 12 pilot units, using the fuzzy set qualitative comparative analysis (fsQCA) method along with the PEST analysis model, the reform measures were organized into five aspects: the rate of real estate integration certificate issuance, the number of policy documents issued, reform funding support, multi-subject participation, and information platform construction; furthermore, the configuration effect between them and the degree of active utilization of homestead sites were studied. The results showed that the antecedent configurations of promoting the vitality of the homestead included “government-led and steadily promoted” and “government-guided social-capital-driven”. In addition,

“information platform construction” played an important role in increasing the number of revitalized families. Therefore, in the future, we need to pay attention to the construction of the homestead information platform and choose the revitalization mode according to local conditions to effectively promote the smooth progress of reform.

Keywords: idle homestead; revitalization and utilization; fsQCA; influence factor

1. Introduction

As the key point of the rural homestead system reform, the active utilization of idle homesteads is an effective strategy to coordinate the relationship between people and land, realize the value of land property, and strengthen the collective economy, which are of great significance in improving the market-oriented allocation of homestead resources, promoting rural reform, and the strategic process of rural revitalization. To accelerate the realization of this goal, China will implement a new pilot stage of rural homestead system reform in 2020 that is based on the exploration results of housing reform achieved in the “three pieces of land” reform pilot in 2015, in which clear requirements were put forward to activate the use of idle homesteads. Based on the actual situation of the region, the pilot units were actively explored and achieved much progress. At this time, the issue of how to further explore experiences in the pilot practice of the active utilization of idle homestead sites, and especially to form a scientific understanding of the key factors that affect their active utilization, is urgently needed to create laws for a new round of housing reform pilots and ensure the smooth progress of housing reform. To this end, this study took 12 city/county (district)-level pilot units in Heilongjiang, Liaoning, Shanxi, and Inner Mongolia as examples, used the fuzzy set qualitative comparative analysis method (fsQCA) to explore the combination of factors that affect the active use of idle homestead sites, and, through the configuration effect analysis of the causal complexity of active use, proposed targeted policy inspiration.

2. Literature Review and Theoretical Framework

2.1. Literature Review

At present, the active utilization of homestead land is mainly considered under the following research perspectives. (1) Research on farmers’ willingness and behavior regarding living on homestead land [1]. With the promotion of homestead reform and rural industry revitalization, the development of rural homesteads has become an important step in the reform. To this end, farmers’ willingness is the key condition for the feasibility and potential of the unified activation of idle homesteads [2]. Therefore,

farmers' willingness has become the main research object of researchers. The previous research mainly used quantitative analysis methods and quantitative software, such as SPSS, SATI, UCINET, and CiteSpace. Meanwhile, others analyzed farmers' willingness to revitalize idle homesteads [3–5] by selecting a set of influencing factors from the farmers' personal characteristics, family characteristics, homestead characteristics, policy cognitive characteristics, etc., and analyzed farmers' willingness to revitalize homestead use in terms of various dimensions, including their willingness to choose the activation mode of homesteads [6], their willingness to reuse homesteads [7], and their willingness to revitalize the housing base governance mode, accompanied by the analysis of the influencing factors [8]. (2) The realization and protection of farmers' rights and interests in homestead construction.

In the process of the active utilization of homestead land, farmers, as the users and operators of homestead land, are faced with the risk of land loss and/or property loss. Therefore, the question of how to protect farmers' rights and interests from infringement in the reform has become a crucial research topic. It has been considered that to protect farmers' rights and interests, we must start with political rights and interests, social rights, and economic rights and interests, and adhere to the dominant position of farmers. Ensuring farmers' long-term livelihood requires the flexible use of market mechanisms [9]. Based on the perspective of the "separation of three rights", some researchers believe that the key to strengthening collective ownership lies in clarifying the subject of rights and endowing complete power. To guarantee the farmers' qualification rights, we should first clarify the nature of the right and how it can enter the law. It is crucial to further relax the circulation scope and use function of the right of use to realize paid use [10]. On the other hand, protecting the realization of the property rights of farmers' homesteads is also an effective means to improve farmers' incomes and allow farmers' property to become assets. Researchers suggested that the transfer of the right to use homesteads would enable property rights to enter the market, thus promoting the decomposition of homestead rights, promoting the effective implementation of the "separation of three rights", giving full play to the property rights and market utility of homesteads, and playing a key role in increasing farmers' incomes [11]. (3) Analysis of the living mode and path of a homestead site. In terms of the choice of the active utilization mode of homestead sites, each region should adjust its measures to the local conditions, and multiple entities should take various measures to activate the use of idle homestead sites [12]. It was found that the practice mode of the active utilization of idle homestead sites in Beijing and the surrounding mountainous areas can be divided into four types: village-collective-led, government-led, enterprise-led, and expatriate-led [13]. However, some scholars believed that only the transfer mode of homesteads promoted by the village collective is conducive to

ensuring the maximization of farmers' welfare [14]. In the task of revitalizing the use of idle homesteads, some scholars emphasized that we should build a voluntary paid market exit mechanism in accordance with the law, explore a differentiated paid use mechanism for homesteads, revitalize farmers' rights to use homesteads, and explore a diversified realization model for the active use of idle homesteads [15]. In other words, the choice of the mode and path of residence site should fully respect the local differences, and we should adopt a more prudent strategy to promote the reform. (4) The real dilemma of idle homesteads. Previous studies mainly focused on the three aspects of "people", "land", and "operation mechanism" to address the dilemma of revitalization. The obstacles to revitalization caused by "people" are mainly reflected in the consolidation of farmers' ideas, such as the private concept of homesteads, a lack of motivation to participate in revitalization, and the difficulty of leaving home [16]. The obstacles caused by "land" are mainly due to the reform of the urban-rural dual system and the development of urbanization. A large number of farmers have poured into cities from the countryside. The original residential security function of the homestead has not been transferred to the higher populated cities, and it is difficult to exploit its property value, leading to a large number of idle homesteads; problems include building new houses without dismantling the old ones, inheriting an idle homestead, approving the homestead without an idle building, and going out to work seasonally while remaining idle in other seasons. Due to the diverse types of idleness, the revitalization methods cannot be generalized [17], which has greatly deepened the difficulty of reform. The obstacles to the "operation mechanism" are mainly reflected in the inadequate legal system, the slow progress of village planning, the inadequate supervision of homesteads, and the imperfect supporting policies. (5) Suggestions regarding the construction of idle homesteads. As the current legislative defects and vague systems have become the greatest obstacles to the active use of rural idle homestead sites [18], the current academic circles mainly put forward suggestions on legislation, systems, local policies, subject responsibilities, and other aspects. Some scholars proposed to strengthen the legislation for the management of house sites, formulate "measures for the revitalization and utilization of idle house sites and idle houses in rural areas", and regulate various measures for the revitalization and utilization of idle house sites and idle houses. It is necessary to clarify the responsibilities of the management subjects of rural collective economic organizations. Other experts suggested strengthening the rural "real estate integration" right confirmation and registration system, which directly affects the revitalization and utilization of idle homesteads and idle housing [19]; based on this, the "real estate integration" registration, as the basic work of activating the utilization of homesteads, should be promoted through legalization and rationalization.

In general, the current scholars' research on the active use of homestead sites mostly focused on two types. The first type mostly used regression methods to perform quantitative research on the linear relationships between factors that affect the active use of idle homestead sites from the perspective of farmers' psychology, and the second type used qualitative research through research methods such as investigation, literature reviews, and observation. This study used the fsQCA research method to explore the concurrent relationships between multiple factors in the active use of idle homestead sites from multiple perspectives that affect the active use of homestead sites. The analysis of the influencing factors was more conducive when it came to identifying the dynamic mechanism that stimulated the active use of homestead sites and then exploring a more scientific reform model path.

2.2. Theoretical Analysis Framework Based on PEST

The PEST model allows for an analysis of the macro-environment, where P stands for politics, E stands for economy, S stands for society, and T stands for technology [20]. PEST model analysis can usually be used to measure the situation faced by enterprises from four perspectives before they make major decisions, and it can be used to measure various environmental factors faced by government reforms [21], such as the macro-environment of government corruption; macro-environment analysis of digital government construction; or the environmental assessment of rural tourism industry development under the strategy of rural revitalization, which involves using the PEST analysis model to consider the feasibility of a government strategy. Through a literature review, it was found that the influencing factors related to the active use of idle homestead sites include economic and social, institutional, and policy aspects [22], and the perspectives contained in the PEST model are very consistent with those of the literature. Therefore, the PEST analysis model selected for this study has certain applicability, as it can not only verify previous research but also propose the possible supporting factors that affect the active use of homesteads, in combination with the pilot practice. Based on this method, we can understand and analyze the macro-environment in the process of revitalization and utilization, and it also helps to identify the condition variables that affect the results.

Based on the PEST model and practical research, the authors built a model analysis framework that included four supporting perspectives—political, economic, social, and technical—and set secondary conditions under each perspective (as shown in Figure 1).

Political support includes two secondary conditions: “real estate registration and protection” and “policy formulation”. The clear ownership of the homestead and the houses on the land are prerequisites for homestead transfer, which is conducive to the

development of the homestead transfer market. “Real estate registration protection” is a government action that promotes clear ownership of homestead land and protects farmers’ property rights, which not only reflects the progress of the government’s confirmation of homestead rights but can also improve the value of homestead property and enhance the recognition of inflow parties; a clear ownership relationship can effectively avoid disputes, which are easily generated in the circulation process [23]. “Policy formulation” can most directly reflect the government’s refinement of the reform plan and relevant provisions, which mainly measure the effectiveness of the pilot areas at the institutional level.

Economic support mainly refers to the secondary condition of “reform funding support”. Specifically, it is represented by the special funds or financial allocations designated by the government for homestead reform. The amount of funds can directly affect the implementation progress and effect of the reform [24]. Through field research, it was found that most of the financial allocations for the pilot projects are used for the construction of basic information platforms and information transfer platforms, as well as the construction of real estate trading centers, which can reflect the government’s support for this work.

Social support mainly refers to the secondary condition of “multi-subject participation”. As the construction of house sites is a systematic and huge task, the government, as the main body of reform, has the right and obligation to introduce multiple subjects to participate in the reform. Based on the theory of subject collaboration, extensive collaborative innovation can bring about innovation efficiency, the availability of innovation resources, the sharing of innovation achievements, and the sustainability of innovation [25]. Therefore, in the process of revitalization, all parties actively participate in resource sharing, reform, and innovation, thereby promoting the whole task and producing a linkage effect where one plus one is greater than two.

Technical support mainly refers to the secondary condition of “information platform building”. The content of the information platform includes basic big data information and the process of approval and circulation of trading procedures. In the interaction between technology and revitalization, the advantages and disadvantages of using technology will affect the government’s adoption and application of revitalization opinions [26]. A perfect platform is conducive to the government’s mastering of regional basic information to make scientific and reasonable decisions. On the other hand, it can also play a role in clarifying property rights and promoting the occurrence of homestead transactions.

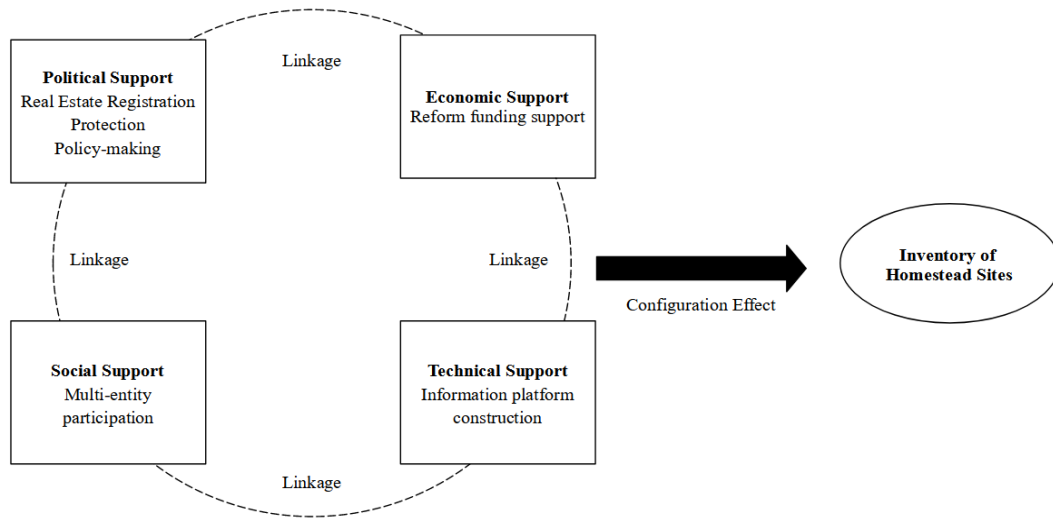


Figure 1. Research model of factors that affect the active utilization of idle homestead sites.

3. Research Methods and Data Construction

3.1. Applicability of the fsQCA Method

Qualitative comparative analysis (QCA) was proposed by Charles Larkin in the late 1980s. It is a case-oriented research method that uses configuration logic to analyze the impact of a variety of complex variable combinations on the results and solve complex social issues that are induced by multiple concurrent effects [27].

QCA is suitable for the study of small- and medium-sized samples. The cases investigated in this study were 12 pilot areas of homestead reform. Referring to previous studies, many scholars also used 12 or fewer sample cases to study this issue [28–30]; therefore, this study met the requirements of small sample cases of QCA. Many factors influence the active use of idle homestead sites, making the process complex, which conforms to the characteristics of “multiple complex concurrent causes and effects”. Therefore, the qualitative comparative analysis (QCA) method used in this study is not limited to the role of a single factor but starts from a combination of conditions to study the multiple concurrent causes and effects. By studying the combination of factors that affect the active use of homesteads, we can find the dynamic mechanism that stimulates the active homestead sites.

In addition, qualitative comparative analysis (QCA) methods can be divided into three categories: clear set qualitative comparative analysis (csQCA), multivalued set qualitative comparative analysis (mvQCA), and fuzzy set qualitative comparative analysis (fsQCA). This study used the qualitative comparative analysis method of fuzzy sets because fuzzy set theory can deal with the relationship between sets as a degree relationship and can solve the problem of partial membership and degree change [31]. The condition variable selected in this study was a continuous variable,

which conforms to the characteristics of the degree change of fuzzy sets. Therefore, this method is not only consistent with the characteristics of actual samples but can also better explain the problems that this study aimed to investigate.

3.2. Data Construction

This study selected 12 counties and cities in the second batch of rural homestead system reform pilots as the case samples, which were Anda City, Lanxi County, and Huanan County in Heilongjiang Province; Shenbei New District, Yuhong District, and Lushunkou District in Liaoning Province; Qingxu County, Zezhou County, and Pingyao County in Shanxi Province; and Wuyuan County, Ulanhot City, and Kailu County in the Inner Mongolia Autonomous Region. The data came from the interview records from the field survey. From the case selection criteria for the application of the QCA method, first, the cases in this study met the requirement of at least 10 cases for the QCA [21]; second, the 12 pilot areas were all implementing reform tasks under the unified policy provisions of the central government to meet the requirements of “full homogeneity”, and the economic development level and specific reform measures of each region were significantly different, thus meeting the quality requirements of “maximum heterogeneity” —that is, results with similar backgrounds and large differences [23]. Therefore, the cases met the requirements for the use of the QCA method and were suitable for this study.

3.2.1. Result Variables

The result variable measured the number of active homestead sites. The Guidelines for the Pilot Work of Rural Homestead System Reform (hereinafter referred to as the Guidelines) issued by the Ministry of Agriculture and Rural Affairs in 2020 explains how to explore methods to revitalize and utilize idle rural homesteads and idle housing to develop rural industries: “encourage rural collective economic organizations and their members to revitalize idle rural homestead and idle housing according to laws and regulations by means of self operation, lease, equity participation, cooperation, etc., and develop rural industries that conform to rural characteristics, such as agritainment, leisure agriculture, rural tourism, catering and home stay, cultural experience, e-commerce, etc.” The guidelines do not specify which method should be considered for the active utilization of house sites. Therefore, this study, in combination with the previous literature, further explained and stipulated the concept and possible methods of the active utilization of idle house sites; the term “idle homestead” in this study mainly referred to idle land [32] caused by unused construction or low use efficiency of the original purpose, and the idle time was more than one year. The term “idle homestead site activation” mainly referred to the transfer of the right to use the homestead to a third party in a voluntary, paid, or unpaid manner

under the condition that residence was guaranteed. The methods of activation and utilization mainly included leasing, equity participation, and cooperation.

3.2.2. Condition Variables

The conditional variable “real estate integration license rate” was used to represent the “real estate registration protection” in the PEST model. Referring to the scholars’ measurement of the progress of the confirmation and certification of agricultural land contractual management rights [30], this study used the ratio of the number of “housing land integration certificates” issued by pilot counties and cities to the number of “housing land integration rights and registration surveys” to represent the rate of housing land integration certification.

The conditional variable “number of policy documents” was used to represent “policy formulation” in the PEST model. This was reflected in the number of policy documents issued by the pilot areas for the reform of homesteads. This condition in this study was mainly intended to reflect the reform plans and policies formulated separately by the pilot counties and cities, and it did not include the documents of provinces and autonomous regions. The types of documents included notices, opinions, decisions, methods, plans, announcements, plans, detailed rules, and guidelines [33].

Reform funding support: Reform funds are an important material guarantee for the implementation of the pilot project. The reform in this study directly reflected the support of the reform by measuring the special funds for the pilot project (including funds at all levels of provinces, cities, and counties).

Multi-subject participation: This was mainly measured by the types of subjects involved in revitalization. Referring to previous studies on multiple subjects, multi-subject participation mainly includes three aspects: policy enforcement subjects, social subjects, and subjects of homestead ownership and qualification [34]. The multiple subjects in this study mainly included five categories: individual farmers, rural collectives, government departments, enterprises, and banks. The six-valued fuzzy set was used for direct assignment. In this case, 0, 0.2, 0.4, 0.6, 0.8, and 1 indicated that there were zero, one, two, three, four, and five participants, respectively.

Information platform construction: This was mainly measured using the “degree of information platform construction”, which could be divided using a four-value fuzzy direct assignment: those that have not been built (given as 0), those that are being built (0.33), those that were built and are in trial operation (0.67), and those that were built and have been officially used (1).

3.2.3. Calibration

Calibration is the process of assigning set membership to cases, where the set membership after calibration is between 0 and 1 [21]. The data of this study were obtained from recent field research, and the direct calibration method [35] was adopted by referring to previous studies. The cross-point calibration standard of the conditional variables, i.e., the housing and land integration license rate, the number of policy documents issued, the support of reform funds, and the number of result variables revitalizing the number of housing bases, was set as the 0.5 quantile, which is fully subordinate to the calibration standard as the 0.95 quantile and completely non-subordinate to the calibration standard as the 0.05 quantile. Multi-subject participation and information platform building used the assignment method, which used the six-value fuzzy (0, 0.2, 0.4, 0.6, 0.8, 1) and four-value fuzzy (0, 0.33, 0.67, 1) systems to directly assign values. See Table 1 for the specific calibration anchor points and descriptive statistics.

Table 1. Calibration and descriptive statistics.

Variable	Calibration			Mean Value	Descriptive Statistics		
	Full Subordination	Intersection	Not Affiliated at All		Standard Deviation	Minimum Value	Maximum
Number of revitalized housing bases	1019.25	17	0	200.5	510.827	0	1869
Certificate-issuing rate of integrated real estate	0.656	0.060	0.001	0.156	0.234	0	0.733
Number of policy documents	26	13.25	6.65	13.25	6.30	5	26
Reform funding support	3922.5	1158	14.15	1486.508	1276.157	7	4500
Multi-subject participation	1	—	0	2.417	1.498	0	4
Information platform construction	1	—	0	2.583	0.954	1	4

4. Data Analysis and Empirical Results

4.1. Single-Condition Necessity Analysis

Before the configuration analysis, this study analyzed the necessary conditions for each variable to verify whether each variable could constitute a necessary condition for activating the number of houses. For example, when activating the house base, it was necessary to consider whether there was a condition variable that always existed. If there was, this variable was a necessary condition for the result variable. In the fsQCA method, consistency is the standard for testing the necessary conditions.

When the consistency of variables is greater than 0.9, it is a necessary condition [35]. In this study, the fsQCA software was used to analyze the revitalization of 12 pilot areas of homestead reform nationwide. Table 2 shows that the consistency levels of all the conditions were less than 0.9, and thus, no variable was a necessary condition, which indicated that no single variable on its own could lead to more or less revitalization of the number of homestead bases.

Table 2. Analysis of the necessary conditions for the number of idle homestead sites.

Conditional variable	The Number of Idle Homestead Sites for Active Utilization Was Large		The Number of Idle Homestead Sites for Active Utilization Was Small	
	Consistency	Coverage	Consistency	Coverage
High rate of integrated real estate certification	0.444	0.423	0.528	0.811
Low rate of integrated real estate certification	0.802	0.513	0.625	0.645
Large number of policy documents	0.494	0.474	0.522	0.808
Few policy documents	0.800	0.509	0.660	0.678
Large reform funds	0.721	0.571	0.556	0.710
Less support for reform funds	0.634	0.470	0.664	0.793
Multi-subject participation	0.856	0.678	0.545	0.696
Less participation of multiple subjects	0.616	0.456	0.748	0.893
Complete information platform construction	0.821	0.595	0.563	0.658
Lack of information platform construction	0.527	0.428	0.653	0.855

4.2. Sufficiency Analysis of the Condition Configuration

The sufficiency analysis of conditional configuration is a process that attempts to reveal the sufficiency of results caused by different configurations composed of multiple conditions [35]. Consistency can measure the adequacy of condition configuration, and its standard is not less than 0.75. The frequency threshold should also be determined according to the number of samples. In the study of large samples, the frequency threshold should be greater than 1, but in small- and medium-sized samples, the frequency threshold is 1 [36]. In this study, the 12 cases met this standard, the consistency threshold was set to 0.8, the frequency threshold was set to 1 [37], and the PRI threshold was selected as 0.6 [38].

Three types of solutions, which were a complex solution, an intermediate solution, and a simple solution, were obtained using the fsQCA software. According to Ragin's [37] suggestion, the intermediate solution was usually selected, and the core

conditions were distinguished using the reduced solution and the intermediate solution. Table 3 shows the analysis results of the configuration of the number of active residential sites. It can be seen that there were three configurations with a large number of active residential sites. M1, M2, and M3 could be regarded as a sufficient combination of conditions with a large number of active residential sites. The overall consistency level was 0.836. Both the overall consistency and the consistency of individual configurations were higher than the minimum standard of 0.75 [39]. The coverage of the overall solution was 0.690, indicating that the three-configuration combination of M1, M2, and M3 could effectively explain 69% of successful cases. According to the actual situation of the reform, this study classified the three configurations into two types of revitalization, namely, “government-led and steadily promoted” and “government-guided social-capital-driven”.

A Large Number of Cases Were Revitalized and Utilized			
Condition	M1	M2	M3
Certificate-issuing rate of integrated real estate	⊗	⊗	●
Number of policy documents	⊗	⊗	●
Reform funding support	●		●
Multi-subject participation		●	●
Information platform construction	●	●	●
Consistency	0.858	0.847	0.811
Original coverage	0.499	0.529	0.309
Unique coverage	0.065	0.096	0.096
Overall consistency		0.836	
Overall coverage		0.690	

Table 3. Configuration of active utilization area of homestead sites.

Note: ● and ⊗ indicate a core presence and a core absence, respectively, and • and ⊗ indicate an edge presence and an edge absence, respectively. A blank space indicates that the condition may or may not exist.

4.2.1. Government-Led and Steadily Promoted Type

The government-led and steadily promoted type referred to the type in which the government promoted the increase in the number of living homestead sites through the construction of information platforms in the early stage of the reform. The corresponding configurations of this type were M1 and M2. In M1 (non-real-estate-integrated license issuing rate * non-policy-issuing quantity * reform funding support * information platform construction), the non-real-estate-integrated license issuing rate and information platform construction were the core conditions, while the policy-issuing quantity and reform funding support were marginal conditions. This shows that after the information platform was built in this region, even if the real-estate-integrated license issuing rate was low and the number of policy texts was not large, it was also possible to promote the revitalization of homesteads. Although reform funds existed as marginal conditions, in practice, we know that funds play an important role in platform construction and even in the promotion of reform. In M2 (non-real-estate-integrated license issuance rate * number of non-policy documents * multi-subject participation * information platform construction), the core conditions were the same as for M1, but the difference was that the marginal condition was multi-subject participation, which indicated that multi-subject participation was not a necessary factor for this path to promote revitalization, and both of these paths were dominated by local governments, which promoted the steady progress of reform through administrative means, such as investment and information mastery.

Zezhou County in Shanxi Province is in line with the government-led and steadily advancing model. The number of activated homestead plots in this county was 1869, which was the largest among the 12 pilot areas. Zezhou County first established the homestead management database and the homestead data management application platform, which has been deployed and operated on the local server, of which four modules—namely, application approval, a map of homestead accounts, policy release, and revitalization—were completed. Second, it established an institutional system containing 15 county-level policy documents to form a set of management models that were adapted to local conditions. Then, by clarifying the “three rights” relationship of rural homesteads, it was clear that the “three rights” power could build a homestead management pattern. Finally, through the “five measures”, we explored a path to revitalize Zezhou County, namely, spot entry, house for house, house for elderly care, “circulation + healthcare” mode, and centralized resettlement mode. ① Spot entry: In combination with the “Hundred Villages and Hundred Courtyards” project, Dayang Town unified the original homestead land under collective ownership

by the village collectives. After the paid withdrawal of the attachments on the land, the village collectives will be the main market entrants through village renovation. They will enter the market with separate courtyards or collectively carry the collective business construction land into the market according to several courtyards in the project functional area after completion and transfer it to the corresponding main investment body. The service life was determined to be 40 years. ②House for house: We took the construction of Danhe New City as an opportunity to explore the establishment of a room ticket system. For the farmers who had permanently withdrawn from the homestead in the villages of Bianyuanshan District, they were allowed to purchase houses throughout the county. The converted amount of the room ticket was used to offset the purchase price. ③Provide the aged with a house: for the elderly who are alone or widowed and those who are willing to give up their homesteads, the government will take back the homestead, centralize the resettlement for the elderly, and achieve a sense of security for the elderly. ④“Circulation + healthcare” mode: farmers’ houses will be leased or invested in by professional companies to develop the healthcare industry. ⑤Centralized resettlement mode. Through the relocation and resettlement of the whole village in the coal mining subsidence area and poor villages, or the relocation of the whole village into hollow villages and unmanned villages, the village will be moved out of the old site for whole-village reclamation, forming a supplementary farmland index for transactions, and the transaction cost will be used for the centralized construction of the resettlement community to improve the living conditions of the masses and promote social harmony and stability (as shown in Figure 2).

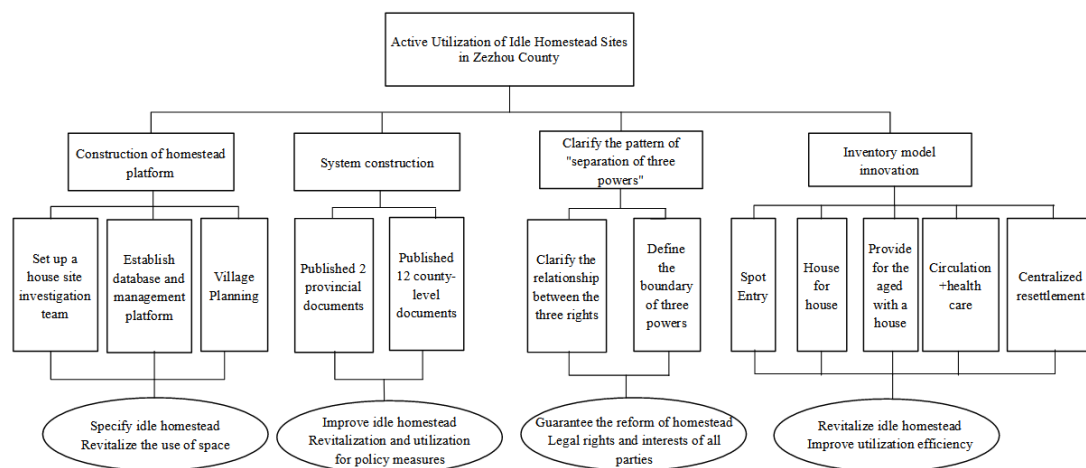


Figure 2. Active utilization of idle homestead sites in Zezhou County.

4.2.2. Government-Guided Social-Capital-Driven Type

The government-guided social-capital-driven type referred to the type in which the government guided the implementation of the reform and actively introduced

companies to participate in the reform by mastering the basic information of the homestead, formulating plans and policies, and investing certain funds to support and promote the revitalization of the homestead through investment or equity. The corresponding configuration of this type was M3 (real estate integration license rate * number of policy documents * support for reform funds * participation of multiple entities * construction of information platform). In M3, all variables were the core conditions, which showed that the five variables were complementary and could promote the revitalization of the homestead only if they existed at the same time. This type of region was mainly guided by the government and driven by social capital. Social forces have invested more in the reform and played a more catalytic role. Enterprises formed an interest linkage mechanism between the government and farmers to jointly revitalize the land and create income, and finally, they developed a reasonable interest distribution model to increase the incomes of farmers and village collectives.

The government-guided social-capital-driven areas included the “Rice Dream Space” project in the Shenbei New District of Shenyang City, where Shanjia Village, Xinglongtai Street, is the core area of the “Rice Dream Space”. Shanjia Village had convenient traffic conditions, rich tourism resources, and natural advantages for developing the homestay industry. The village has adopted the mode of “transfer of homestead use right + active utilization”. Through the introduction of third-party capital, the village has cooperated with the Daomeng Space Scenic Area, forming a three-party steady cooperation mode of “villagers + collective economic organizations + enterprises”. The villagers rent the homestead to the village collective and sign the Real Estate Lease Agreement, the village collective subleases the use right to the enterprise at the original price and signs the Real Estate Lease Agreement, and the enterprise carries out commercial activities on the homestead. The enterprise rented 10 idle homesteads to develop homestay tourism projects, with a total investment of CNY 30 million, supporting the construction of 500 square meters of homestay facilities and 700 square meters of oil painting galleries. At present, 10 households were built and will be open in October 2020. The enterprise pays rent of CNY 3000 to the villagers every year, in addition to dividends, which were CNY 20,000 in the first two years and will be CNY 30,000 in the third year. In the fourth year of cooperation, the enterprise will withdraw 8% of the net profit, 50% of the village collective will retain dividends as collective income, and the remaining 50% will be equally distributed to the villagers participating in the construction. The project will enable farmers to earn rent, a salary, and cash, as well as share capital. It was estimated that the annual income of farmers will reach CNY 33,000. Regarding the two Real Estate Leasing Agreements signed by the village collective economic organization, villagers and enterprises broke the barriers to enterprises’ subleasing villagers’ land. At the same time, the village collective,

as an intermediary, can also avoid a direct connection between enterprises and farmers, which is conducive to reducing conflicts and disputes, ultimately achieving the reform goal of the smooth transfer of the right to use, increasing farmers' income sources and stimulating rural vitality (see Figure 3).

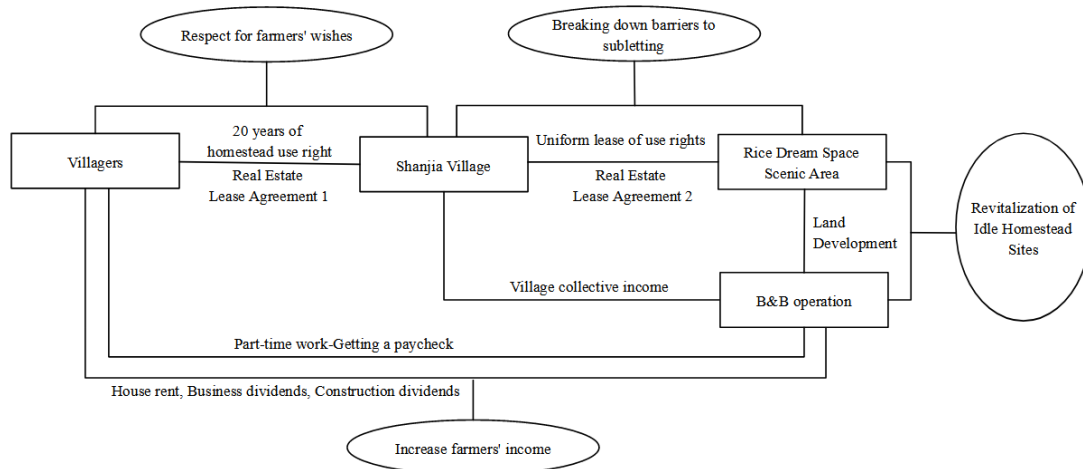


Figure 3. Living mode of idle homestead sites in Shanjia Village, Shenbei New District.

4.3. Robustness Check

The robustness test is an important means to judge whether the results are reliable and robust. This study tested the robustness of the results by changing the one-time threshold in the truth table operation of the fsQCA software. There are two main criteria for judging robustness: the first is to check the difference between the coverage and consistency of the configuration path and the original data after changing the threshold value. If the difference is small, it is more robust. The second is that if the verified configuration path shows an obvious subset relationship with the original configuration path, it is robust. Based on this, the original consistency threshold of 0.8 was adjusted to 0.85 in this study. The software results showed that the two configuration paths were subsets of the original results, and the consistencies of the solution were 0.858 and 0.847, respectively, which are greater than the threshold of 0.8 (see Table 4). Therefore, it shows that the improvement of the consistency threshold increased the accuracy of the results, but the detection results were still similar to the original results and were not affected by the change in the threshold, which showed that the configuration path analysis described above had good robustness.

Table 4. Robustness test results.

Result Variable: Number of Active Homestead Sites					
Conditional variable configura- tion path	Original cover- age	Unique cover- age	Consistency	Overall cover- age	Overall con- sistency
~Certificate-issuing rate of inte- grated real estate * ~number of policy documents * reform fund- ing support	0.499	0.065	0.858		
* Information platform construc- tion				0.595	0.850
~Certificate-issuing rate of inte- grated real estate * ~number of policy documents * multi-subject participation * information plat- form construction	0.529	0.096	0.847		

5. Conclusions and Enlightenment

5.1. Conclusion

Promoting the better utilization of idle homesteads is an important goal of homestead reform. In the process of reform, the economic development level of each pilot area is different, and the working methods and progress are different. The question of how to innovate the reform mode and improve the effectiveness of the homestead site was an important topic in this study. Based on the configuration perspective, combined with the fsQCA method, this study analyzed the multiple factors that affected the active use of homestead sites. Through the research, it was found that none of the five factors that affected the active use of the homestead sites was a necessary condition on its own for the increase in the active area. The increase in the number of active areas was the result of the joint action of many factors, but the construction of an information platform played an important role in improving the number of active areas. Second, this study used the fsQCA method to find three combinations of influencing factors that can improve the living use of homestead sites. These three combinations reflected the multiple strategies by which the living number of homestead sites in different pilot areas can be improved. They were ultimately classified into two types of activation, namely, “government-led steady progress” and “government-guided social-capital-driven”. In the government-led pilot, the government grasps the basic information about the homestead and the progress of the homestead reform in nine aspects through the information platform. The transparency and visualization of the information help the government to make more scientific and reasonable decisions, guide the reform personnel to carry out their work more efficiently, and, at the same time, the clarity of the ownership of the homestead also prevents the conflicts that easily arise in the subsequent revitalization process. Therefore, the government often invests most of the reform funds in the construction of information platforms. In the

pilot areas driven by social capital, the government played a leading role in formulating corresponding reform measures and providing policy support for enterprises, while enterprises played a leading role in obtaining land use rights through circulation, participating in land development and consolidation, and conducting commercial activities on the revitalized land.

5.2. Revelation

(1) From the research results of this study, there were indeed common factors that promote the revitalization of idle homesteads. Among the three configuration results, “information platform building” was the core condition, which indicated that this factor had a more universal role in generating the result of more active use of homesteads. Therefore, more attention should be paid to the development of this work in the reform. All regions should combine the existing foundation, improve the basic information survey of homesteads, realize the data-sharing mechanism, build a rural homestead digital management system, and achieve a map of homestead accounts. In combination with the needs of farmers, it is necessary to build an information platform with farmers and investors as the main service end and the government as the main governance end to improve the efficiency of the homestead business at the service end, create a homestead transfer market, provide market-oriented transfer and investment channels, and create a good trading platform for farmers and investors. At the governance end, reform should focus on the nine tasks in the guidelines; standardize the approval management, monitoring, and supervision of rural homestead construction through digital reform; formulate policies related to homesteads; and solve problems such as insufficient land, funds, and strategies in the reform.

(2) According to the configuration results, this study classified the revitalization path into “government-led and steadily promoted” and “government-guided social-capital-driven”. The difference between the two was how many subjects participated in the reform. However, the three configurations reflected the fact that whether there were multiple subjects involved or not, they could ultimately achieve the effect of housing site revitalization. Therefore, each region should respect its differences according to the actual situation and identify its reform path. If it is necessary to introduce social capital, each pilot government can adopt an innovative reform mode based on local conditions, actively attract investment, guide social capital to the sink, and give preferential policies to investment enterprises to create a good business environment. According to the type of local idle space, innovation and revitalization should take place in utilization mode. On the premise of ensuring that farmers can live in their homes, leasing, shareholding, cooperation, and other methods should be used to revitalize the idle homestead, reorganize and develop the original idle homestead, expand agricultural functions to diversified directions, extend the industrial chain, and

finally build an ecological business circle that integrates homestays, picking, tourism, and other forms of business, and ultimately promote the village collective, villagers, and enterprises to achieve a “tripartite income increase”. At the same time, enterprises should assume social responsibilities, such as establishing a reasonable interest connection mechanism, ensuring the maximization of farmers’ interests, and providing jobs for poorer farmers, so that farmers can not only obtain property benefits but also increase their wage benefits, and ultimately stimulate rural vitality among the people, land, industry, and other aspects.

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