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Untangle the Complex Stakeholder Relationships in Rural Settlement Consolidation in China: A Social Network Approach

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Received: 30 May 2020; Accepted: 24 June 2020; Published: 29 June 2020



Abstract: Rural settlement consolidation (RSC) has a critical role in facilitating the transformation of human settlement and land use transition in the rural revitalization process. RSC involves a diversity of stakeholder groups with complex and intertwined concerns. It is therefore crucial to identify the key stakeholders and their main concerns to effectively align rural planning and policymaking. However, this line of research remains underdeveloped. This study provides a novel and holistic network perspective for unpacking the complex relationships among different stakeholders. The results indicate: (1) the network of stakeholder concerns is relatively sparse, with 68 concern nodes and 159 concern ties; (2) The village committee, centralized residents, and contractors occupy the core position within the concerns network, while the local government has the majority of strongly connected nodes; (3) The lists of prominent concern nodes and ties are identified by different network indices, including the degree difference, the out-status centrality, closeness centrality, node betweenness centrality, and link betweenness centrality; (4) The main interaction type among stakeholder groups can be classified into five categories: financing, psychological attachment, stakeholder participation, project management, and the improvement in living conditions and infrastructure. This study reveals the relatively weak status of residents, the pivotal role of the village committee, as well as the indispensable part of the contractor and township government, with the aim to provide targeted guidance and decision-making supports for strengthening interactions and cooperation among different stakeholder groups. The findings shed new light on performing the multi-tasks of RSC and facilitating the sustainable management of rural areas.

Keywords: rural settlements; land use transition; stakeholder; social network analysis; case study

1. Introduction

A series of widespread phenomena have emerged that are contributing to rural decline, including population aging and the outflow of rural populations [1], the expansion of scattered built-up land in rural areas [2–4], and the growing number of “ghost” villages and areas of abandoned land [5–7]. Rural revitalization is facing great challenges in both developing and developed countries [8–12]. On this basis, there is a prominent trend toward the integration of key development facets—population, land, infrastructure, and capital—in order to revitalize rural areas and alleviate conflicts between urban area

expansion and arable land protection [13–17]. This trend has also been a catalyst for rural settlement consolidation (RSC) in grass-root villages as well as the construction of central villages, especially in developing countries such as China [18,19]. RSC involves the relocation of villagers living in dispersed areas into relatively concentrated settlements within the same village and the reclamation of arable lands that had previously been residential land. RSC is a multi-task process that reduces the total area of rural residential land [20], accelerates land use transition [21,22], achieves spatial restructuring [23], and improves the environments of rural human settlements [24]. The RSC process involves a wide range of aspects, including nature, the economy, society, the environment, and ecology [25], as well as many varied stakeholders. The effective identification of the complex interrelationships among stakeholders during the multi-task RSC process is an enormous challenge for successful RSC.

Function transformations, land rights adjustments, and the distribution of economic interests in RSC have triggered disputes among various stakeholders [26,27]. Prior research has focused on the trade-offs between fragmented and limited RSC stakeholder groups. Village residents and governments are the two main opposing stakeholder groups [28]. In the RSC process, the government not only pursues the public interest and land finance but also encourages the reclamation of arable land to meet the need for construction land arising from increasing demands and limited supply [29]. The low standing of village residents with respect to compensation decisions, benefits owed for property rights adjustments, and relocation costs results in their dissatisfaction [26,30]. Village residents and the village committee also share the physical, ecological, and social benefits allocated by RSC. Benefit allocation should be equitably balanced among the village residents, government, the village committee, and other agencies involved in RSC [31].

The coordination of stakeholder relationships can smoothly promote land use transition and reduce the conflict associated with the RSC process [22,32]. Land-use conflicts could be resolved by cooperation between planners and the village council [33]. RSC becomes popular when utilizing a bottom-up approach [34,35]. The careful consideration of the interests of residents in rural areas is crucial to reduce the failure rate of RSC [24,36]. The input of local elites such as the elderly, those with higher education, and local entrepreneurs can improve public participation and promote community-based development programs [37,38]. Therefore, it is necessary to gain an in-depth and systematic understanding of the concerns of different stakeholders in the RSC process [39–41].

The current research switches focus from few groups of stakeholders (e.g., the attitude and behaviors of government agencies and/or residents) to all potential stakeholder groups during the RSC process [42–45]. Furthermore, it is notable that the interactions of the concerns of different stakeholder groups are still unclear. Few studies have analyzed the network of stakeholder concerns in a quantitative and systematic way, yet it is critical to understand these interactions during the entire RSC process to better align RSC strategies. On this basis, this study employed social network analysis (SNA) to identify the main issues of concern, characterize their social network positions, analyze the stakeholders' concerns nodes and ties, and thereby shed new light on how to best manage the relationships among different stakeholders during the RSC process.

2. Research Background and Literature Review

The purpose of RSC is to readjust human-land relationships [46]. RSC offers an effective way to supplement the amount of available arable land, increase supply, and maintain a dynamic balance of the total quantity of arable land [35], which necessarily affects rural settlement patterns and scales [19]. By nature, RSC is a land use transition process. Figure 1 shows the general RSC process, which includes two principal lines. The first line is to initiate a new settlement project by the development of resettled construction land to ultimately provide new and centralized buildings for local residents. This project life-cycle comprises four main stages from feasibility study to delivery. The second line refers to the reclamation project that old and scattered houses are demolished to supplement the available arable land. As such, RSC also fundamentally changes the mode of production and lifestyle in rural areas [47]. In the RSC process, the local government provides funds with incentive programs for expanding the

available arable resources [31,48]. The land use policy enables RSC possible to generate economic benefits from the trade of land quota with the local government. The landowner can receive economic compensations for the land reclamation costs and loss of residential land [49].

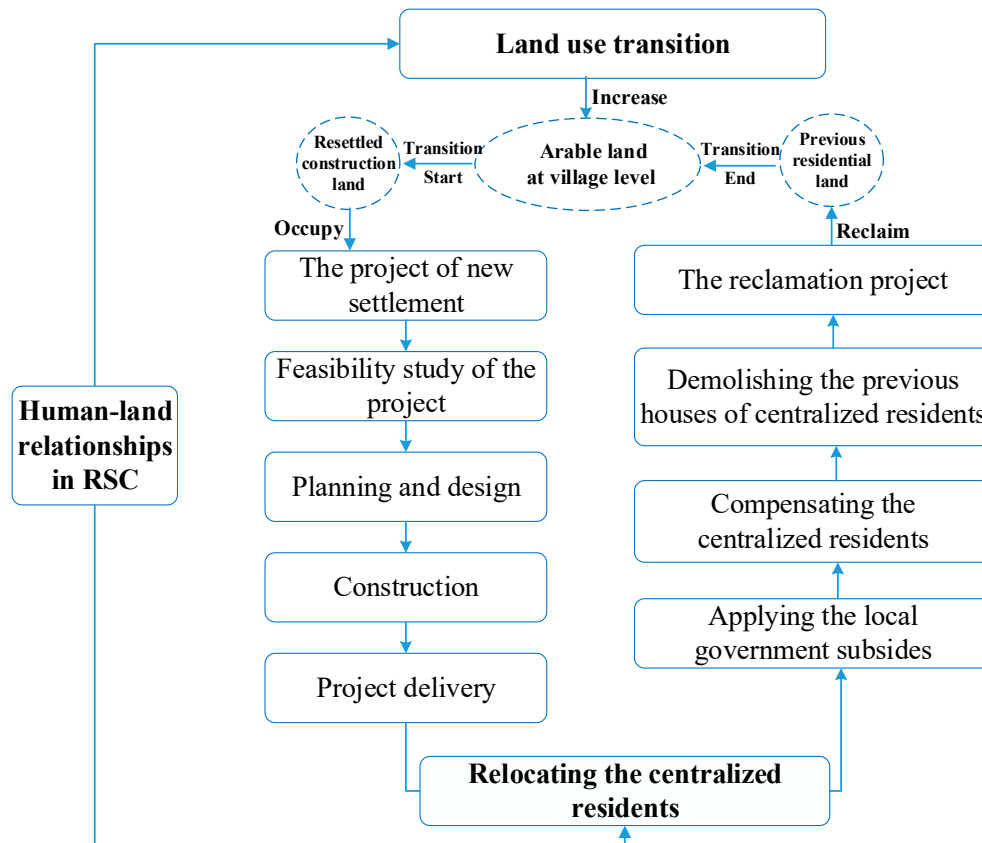


Figure 1. The general rural settlement consolidation (RSC) process.

2.1. Rural Settlement Consolidation (RSC) Stakeholders

Since the emergence of the “stakeholder” concept, stakeholder theory has rapidly gained popularity in the strategic management literature [50]. In the context of RSC, a “stakeholder” can be defined as an individual or group that can either affect or be affected by the multi-task of RSC. Specifically, stakeholders in RSC mainly include local government, village committee, villagers, different agencies, local elites, and the public [31,38].

The local government in China controls the allocation of land resources in the administrative district [3] and often attempts to impose various measures to increase rural arable land quotas in the implementation of RSC policies [26]. As policy executors, the local government plays a pivotal role in aligning the feasible implementation strategies [35]. Its main task is to investigate and collect data for the RSC, administer the RSC process, and formulate a series of corresponding policies with respect to demolition, resettlement, and compensation.

The village committee, as the initiator of the RSC strategy, mainly performs economic functions, such as formulating the planning scheme, adjusting property rights, consolidating and reclaiming land, and developing commercial land [18]. The village committee also serves as the link between the local government and villagers [48], simultaneously executing the decisions made by the local government while seeking to maximize the welfare of its villagers.

As the ultimate beneficiaries of RSC, the village residents who are being centralized are the direct participants in the relocation and compensation process [51]. They also play a supervisory role by

monitoring the behaviors of the local government and the village committee. The village committee and centralized residents also make investments according to what is needed in RSC. In summary, the local government, the village committee, and the centralized residents represent three core stakeholders in the RSC process.

In addition, RSC also involves a range of commercial agencies, such as the designer, contractor, real estate appraisal corporations, and land reclamation firms. The designers establish regional planning and building designs for the new rural residential areas [52]. The rights and interests of the contractor mainly focus on the construction stage of the resettlement project [42], and their primary concern is the economic benefits to be derived from the RSC process.

Local elites serve as a non-governmental organization consisting of prestigious residents. Their role is to mediate the affairs within the village and assist the village committee in solving the disputes that arise during the RSC process [53]. Local elites are crucial actors in village development, especially during the course of integration and coordination [43].

2.2. Interest Concerns of RSC Stakeholders

The local government represents the public interest in the RSC process [29]. The local government sets a reasonable compensation and replacement standard prior to the demolition of rural housing. The local government also promotes the transformation of land use patterns and acts as the main provider of land in the market. Local governments are increasingly turning to commercial entities seeking to maximize their economic benefits through RSC. However, the local government needs to avoid short-term behaviors while seeking to optimize economic benefit [26].

The village committee has three primary concerns. The first is to encourage growth in the local collective economy and prioritize rural collectively owned construction land and local development [32]. The second is to pursue upgrades in the village infrastructure and public services to thereby improve living and production conditions [18,30]. Third, it considers the emotional and psychological factors of its residents, such as their rural psychosocial identity [40].

The centralized residents who are willing to be relocated are mainly influenced by family structures, the dilapidated conditions of their residential land and home, their dependence on agriculture, and their social network [24]. Their top concern is to improve their living conditions with a focus on their lifestyles and residential environments [26,54]. The residents in an RSC village are expected to benefit from improved accessibility to public services facilities [20]. Centralized residents are also likely to experience homesickness for their original, demolished rural residential land [40].

The behaviors of different agencies are usually predictable and professional in nature, with the main focus being the potential economic benefits. In addition, the social benefits of RSC are also given consideration. Preserving rural scenes has been rated as extremely important by designers and contractors [55]. High-quality tourism resources are also a critical factor to consider in the RSC design stage [56,57].

3. Methodology

3.1. Social Network Analysis

Social network analysis (SNA) has long played a crucial role in identifying the dynamic evolutions and potential changes within organizations as well as in predicting events and behaviors. The "network" is defined as a series of social ties or relations linking the actors or their issues, with the relatively stable model of the network forming the social structure [58,59]. SNA has been widely used as an effective approach to the analysis of stakeholder-associated issues in construction project management [60] and urban renewal programs [61]. SNA also provides a quantitative approach to mapping complex and abstract interrelationships among multiple stakeholders [62,63].

Figure 2 shows the SNA research framework. A series of literature analyses and in-depth interviews were conducted to identify the concerns of different stakeholders, clarify and evaluate the

interaction of these concerns, and ultimately establish a network of the identified concerns. The key stakeholder roles in the RSC of Chenchi village were identified, along with their degree of influence and the existing interactive relationships, from which targeted guidance was developed to optimize the RSC process.

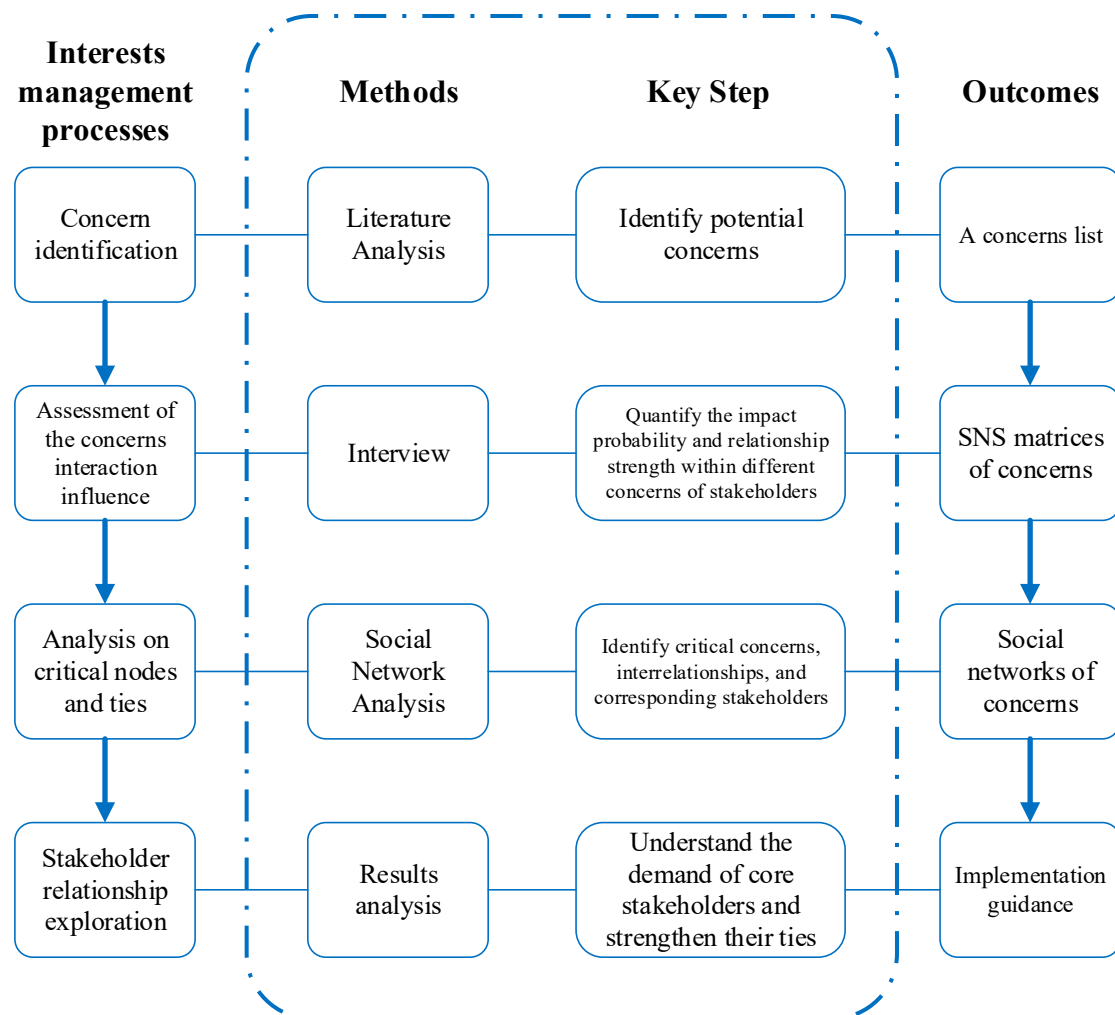


Figure 2. Research process based on a social network perspective.

3.2. Study Area

The village of Chenchi is located in the town of Wulipu, Hubei province in central China, with the coordinates 111° E and 30° N (Figure 3). The village covers a plain area of fifteen square kilometers, including 533.33 hectares of arable land, 80 hectares of mountain forest and prairie, and 67 hectares of exposed surface area. Chenchi reflects the epitome of a rural landscape and settlement in China, with fifteen groups of residents, 580 registered households, and 2600 people. It has a high-quality, well-established grape and rice agricultural base, with 20 hectares of vineyards.

As a typical pilot project, the RSC of Chenchi village was recognized by the government of Hubei province for its benchmarking practices. The project was initiated by the village committee after a village committee poll revealed that 180 villagers (about 30% of the total number of households) were willing to participate in the RSC. The first phase of RSC was completed with the involvement of 64 households in 2013. Thereafter, more than 30 new houses were planned for the second phase of RSC (starting in 2017). All the concentrated residents voluntarily opted to demolish their old houses and resettle with an investment of 70,000 CNY (~10,000 USD) per family. The RSC was funded

by the township government with an awarding 25,800 CNY (~3,686 USD) per mu (equivalent to 0.0667 hectares) to increase the availability of arable land and 1500–2000 CNY (~214–286 USD) per mu for the reclaimed land. Currently, 3000 m² of residential areas have been constructed, including a service hall, supermarket, clinic, and village square, as shown in Figure 4.

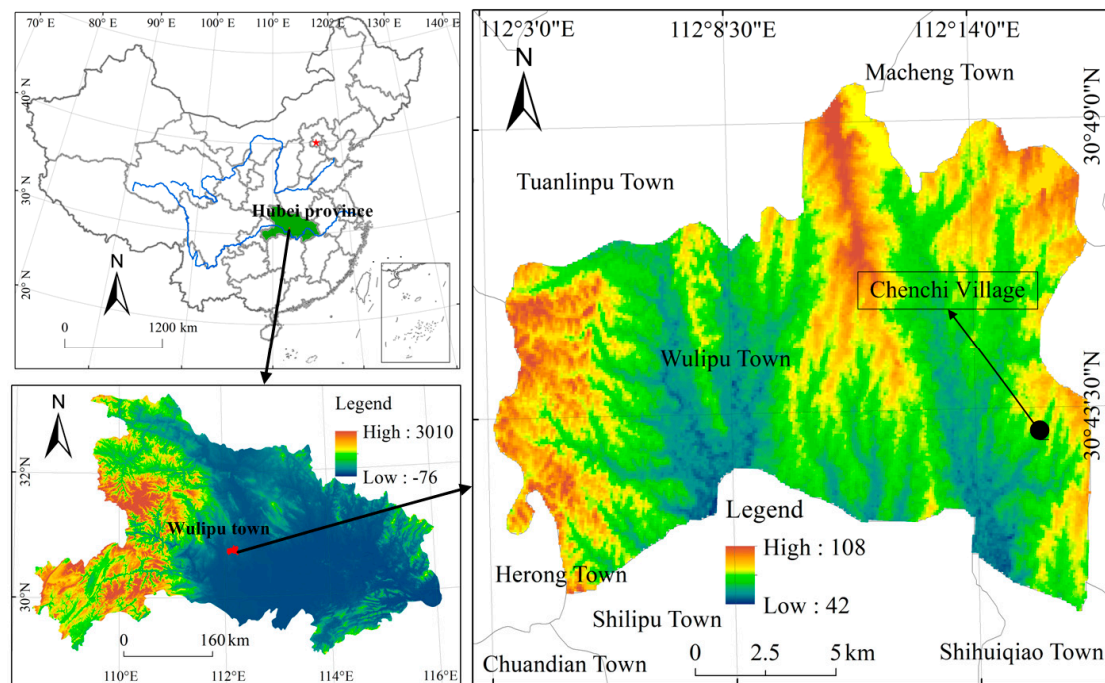


Figure 3. The RSC study area.



Figure 4. Chenchi village dwelling before (left) and after (right) RSC (Photos taken by the authors).

3.3. Data Collection

Based on a literature review and an in-depth survey, the major stakeholders were identified in the RSC of Chenchi village included the village committee (S1), the township government as the local government (S2), the centralized residents (S3), the non-centralized residents (S4), the designer (S5), the contractor (S6), the general public (S7), and local elites (S8). The information from all of the eight groups can generate an acceptable stakeholder concern network.

The second step is the summary of concerns and the selection of each stakeholder group. A list of 33 concerns was preliminarily drafted based on the literature review and pre-survey. We employed a snowball technique to expend the interview sample size across different types of stakeholder groups. Initially, we had a series of conversations with both centralized and non-centralized residents to obtain

a preliminary understanding of the RCS process. Thereafter, we asked these initial respondents to suggest more residents for our interviews. The village committee (S1) was composed of five persons (one was out of the village, another one received our pre-survey and rejected the subsequent interview, the remaining three received both pre-survey and formal interviews). Residents suggested the deputy mayor as the representative of the township government (S2). This deputy mayor was promoted from Chenchi village and had a comprehensive understanding of the RCS process. Furthermore, the designer (the president of a design company) of RCS planning and design in Wulipu town was willing to receive our interview. Two respondents from the contractor (S6) participated in the Chenchi project and had sufficient RCS-related working experience. Among the general public (S7), visiting tourists are open to meet our interviews. An institute, Five Types of Elderly, was regarded as the local elites (S8) by villagers. Finally, a series of interviews were, therefore, conducted within different types of stakeholder groups. For example, what are the concerns that you may focus on during the RCS process within the list items or based on your proposal? Then, by combining the stakeholders (code S) with the identified concerns (code C), a total of 68 potential concern nodes were determined.

Third, a total of 28 selected people with sufficient information of the RCS in Chenchi village were surveyed taking around 1.5 hours per person: three people from the village committee (S1), including the Chenchi village headman, the director of the village women' club, and the village accountant; one person from the township government (S2), the deputy mayor of the town of Wulipu; eight centralized residents (S3); six non-centralized residents (S4); one designer (S5), the president of the Shayang County Urban-Rural Planning and Design Institute; two contractors (S6), including the site manager and project manager; four members of the general public (S7), tourists; and three local elites (S8), including a retired teacher of the local elementary school, the former village headman, and an elderly member of the Communist Party. With the exception of visiting tourists, all interviewees participated in the RCS of Chenchi village and had a good understanding of the whole process. According to the response of interviewees, we identified the likelihood of the relationship between two concern nodes and the degree of influence one concern node had on the other. For example, if the interviewee indicated that there is a potential influencing relationship (tie) between two concern nodes, there are two further questions about his/her comment on the non-linear relationship. (1) What is the likelihood of this relationship (i.e., the possibility of influence)? (2) What is the degree of influence? A five-point scale was used to measure the results of each, whereby "1" indicated a low level and "5" indicated a high level. Thus, the strength of the relationship between two concern nodes was determined by multiplying the probability of linkage with the degree of influence. In data processing, we used the mean value of the evaluation results from different stakeholders.

NetMiner¹, a powerful network analysis software for data mining, was employed to visually analyze the social network. As one of the most effective SNA tools, NetMiner can perform exploratory analyses and provide comprehensive network measurements [64,65].

4. Results

4.1. Results of Social Network Visualization and Status Centrality Analysis

The 33 concerns identified in this study were divided into six categories: social, economic, environmental, amenities, engineering, and the political interest [66–68], which resulted in 159 interest concern ties among 68 interest concern nodes (Table 1).

In Figure 5, the different colors represent different stakeholders and the different shapes represent different types of stakeholder issues of concern. The thickness of the line indicates the strength of the concern relationships. The center of the network is sprinkled with nodes that have many ties, whereas

¹ As an application software for network analysis and visualization, NetMiner is developed by Cyram Inc., Seoul, South Korea.

those at the periphery area have few ties. The network includes 68 concern nodes and 159 concern ties. Its overall density value is 0.0697, indicating that the network is relatively sparse.

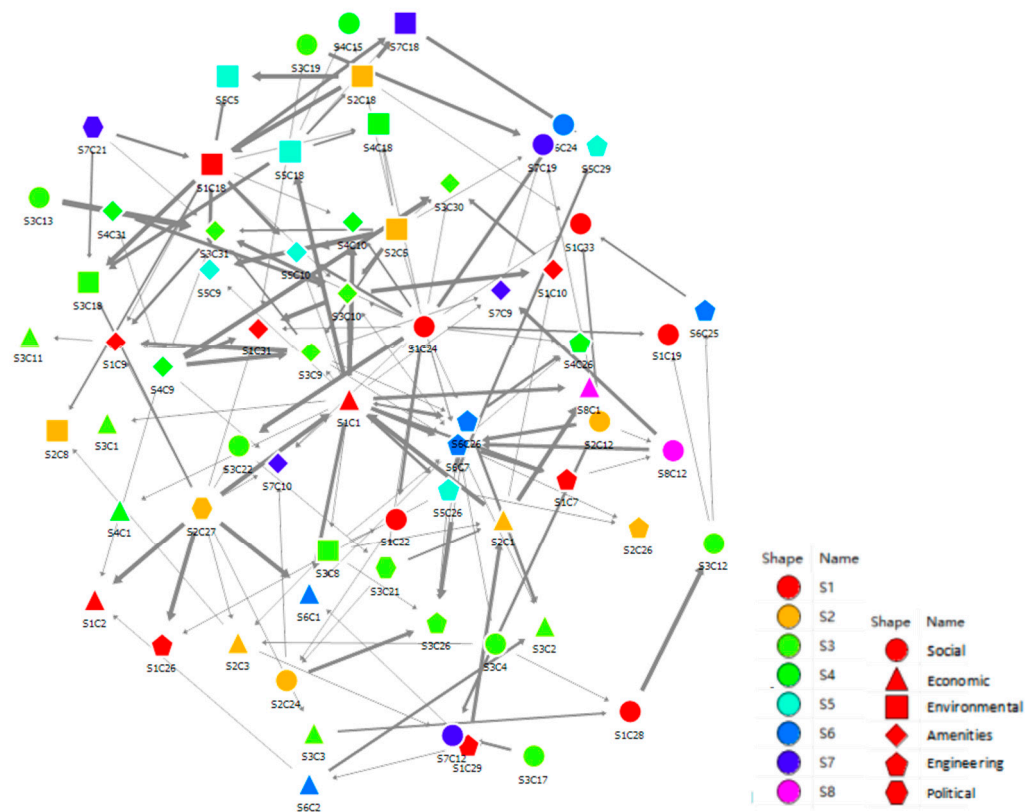


Figure 5. Network visualization graph of stakeholders. Note: S1= village committee; S2= township government; S3= centralized residents; S4= non-centralized residents; S5= designer; S6=contractor; S7= general public; S8= local elites.

Compared with other stakeholders, the village committee (S1) and centralized residents (S3) have more nodes, which means that they expressed more concerns and have more complicated relationships. Although there are not many nodes associated with the township government (S2), most of these nodes have strong ties, which indicates the important influence of the township government (S2) in RSC. Most of the concerns related to the social aspect are at the periphery of the network, which indicates that stakeholders have fewer concerns related to the social aspect of RSC. Their concerns are mainly focused on aspects related to economics, amenities, and engineering.

Figure 6 shows a concentric circle of the status centrality of each concern node (SC), which reflects the status and importance of each SC in the RSC process. The status centrality of SC describes how a node is affected by other nodes. The nodes within the third ring road are the centralized residents' need for improvement of living conditions (S3C31) and preserving rural scenes (S3C18), guarantees about the construction schedule by the contractor (S6C7), and project financing of the village committee (S1C1). Light green, red, and blue nodes occur often at the center of this map, which implies that the village committee (S1), centralized residents (S3), and contractors (S6) occupy important positions in the RSC process. In contrast, the non-centralized residents (S4), general public (S7), and township government (S2) are situated more peripherally.

Table 1. Stakeholder-identified issues of concern in rural settlement consolidation.

Nodes of Stakeholders' Concern	Stakeholders Code	Concern Code	Content of Concerns	References	Concern Category
S1C1;S2C1;S3C1;S4C1;S6C1;S8C1	S1;S2;S3;S4;S6;S8	C1	Project finance	[69]	Economic
S1C2;S3C2;S6C2	S1;S3;S6	C2	Cost control	[31,70]	Economic
S2C3;S3C3	S2;S3	C3	Compensation method	[71]	Economic
S3C4	S3	C4	Fair benefit distribution	[31]	Economic
S2C5;S5C5	S2;S5	C5	Reasonable planning and design	[72]	Environmental
S2C6	C6	C6	Reasonable compensation standard	[30,73]	Economic
S1C7;S6C7	S1;S6	C7	Construction schedule	[48]	Engineering
S2C8;S3C8	S2;S3	C8	Reasonable site selection	[74]	Engineering
S1C9;S3C9;S4C9;S5C9;S7C9	S1;S3;S4;S5;S7	C9	Improvement of general public service	[75]	Amenities
S1C10;S3C10;S4C10;S5C10;S7C10	S1;S3;S4;S5;S7	C10	Infrastructure improvement	[76]	Amenities
S3C11	S3	C11	More job opportunities	[34]	Economic
S2C12;S3C12;S7C12;S8C12	S2;S3;S7;S8	C12	Attention to group incidents	[77]	Social
S3C13	S3	C13	Reinforcing neighborhood relationship	[36]	Social
S2C14;S3C14	S2;S3	C14	Ownership disputes	[78]	Social
S4C15	S4	C15	Sense of belonging	[5]	Social
S1C16;S2C16;S4C16	S1;S2;S4	C16	Poverty reduction effect	[79]	Social
S3C17	S3	C17	Avoiding violent demolition	[80]	Social
S1C18;S2C18;S3C18;S4C18;S5C18;S7C18	S1;S2;S3;S4;S5;S7	C18	Preserving rural scenes	[55,81]	Environmental
S1C19;S3C19;S7C19	S1;S3;S7	C19	Safety	[36]	Engineering
S3C20	S3	C20	Rural residential property	[82]	Economic
S3C21;S7C21	S3;S7	C21	Public policy	[83]	Political
S1C22;S3C22	S1;S3	C22	Fair relocation	[28]	Engineering
S1C23;S7C23	S1;S7	C23	Protection of folk customs	[13,81]	Social
S1C24;S2C24;S6C24	S1;S2;S6	C24	Channels for stakeholder participation	[24,45]	Social
S6C25	S6	C25	Avoiding construction accidents	Interview	Engineering
S1C26;S2C26;S3C26;S4C26;S5C26;S6C26	S1;S2;S3;S4;S5;S6	C26	Housing quality	[23,51]	Engineering
S2C27	S2	C27	Coherent policy	[36]	Political
S1C28	S1	C28	Opposition and resistance of residents	[35]	Social
S1C29;S5C29	S1;S5	C29	Feasibility study	[84]	Engineering
S3C30	S3	C30	Improvement of production conditions	[85,85]	Amenities
S1C31;S3C31;S4C31	S1;S3;S3	C31	Improvement of living conditions	[30,51]	Amenities
S3C32;S5C32	S3;S5	C32	Upgrading agricultural facilities	[40]	Amenities
S1C33	S1	C33	Political promotion	[86]	Social

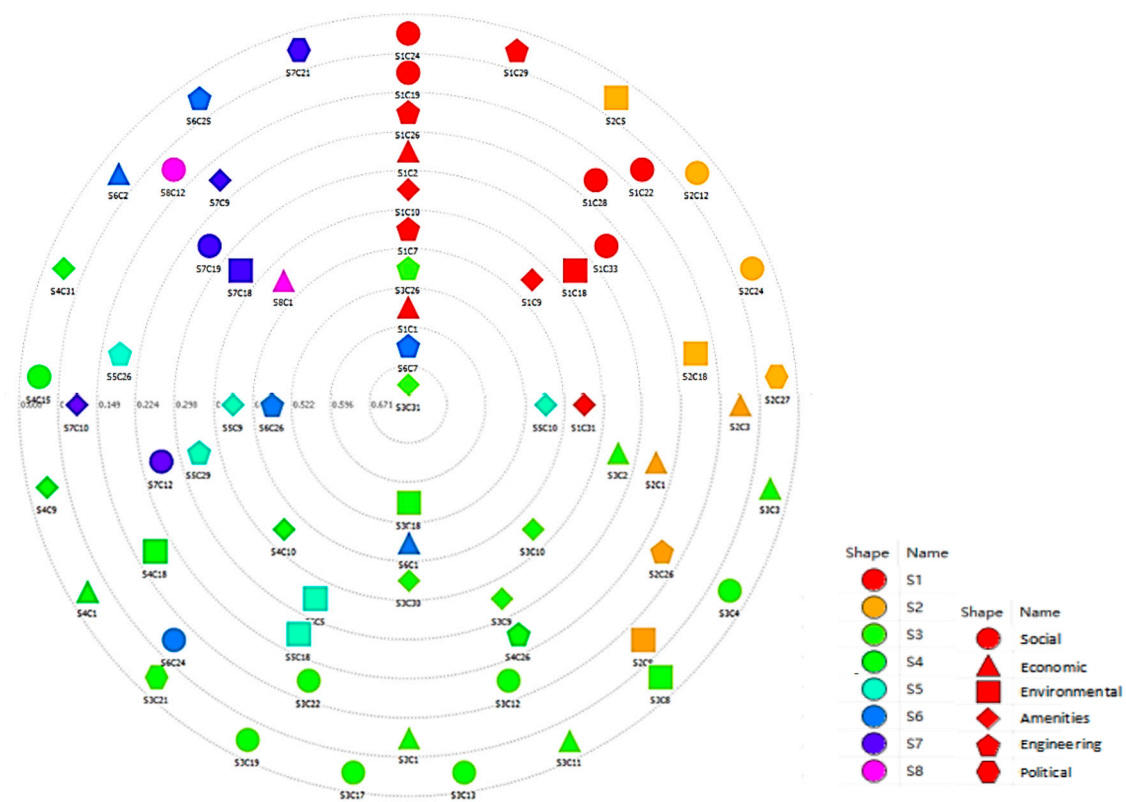


Figure 6. Locations of stakeholder concerns on the status centrality map. Note: S1= village committee; S2= township government; S3= centralized residents; S4= non-centralized residents; S5= designer; S6=contractor; S7= general public; S8= local elites.

4.2. Identification of Key Stakeholders' Concerns and Relationships

Key nodes are highly influential and not easily affected by other nodes. To distinguish these key stakeholder concerns, further calculations were made to determine the degree difference, out-status centrality, closeness centrality, and node betweenness centrality. For example, the degree difference of a node is the difference between the in-degree and out-degree, whereby a node has a greater influence if its out-degree is much greater than its in-degree; in addition, link betweenness centrality as a link-level metric is calculated that is the most critical indicator to measure the importance of the ties that are influencing many other ties in the whole network. Therefore, these kinds of nodes and ties were highlighted and ranked accordingly, as shown in Table 2.

Out-status centrality measures the ability of a node to influence others. Nodes with the higher out-status centrality, i.e., the project financing of the village committee (S1C1), the coherent policies of the township government (S2C27), and the general public participation channels established by the village committee (S1C24), are the three types of stakeholders concerns that merit greater attention in the network.

Closeness centrality of a node considers the geodesic distance to other nodes in the network to reflect the independence of each stakeholder's concern in the exchange of information. The geodesic distance is the length of the shortest local path between two nodes in space. The higher the closeness value is, the shorter the communication time within the whole network. The stakeholder concerns that were found to have the greatest closeness centrality are as follows: the project financing of the village committee (S1C1), the housing quality ensured by the contractor (S6C26), and the coherent policies of the township government (S2C27).

Betweenness centrality is determined based on the degree to which a node appears on the geodesic path between other node pairs. Nodes with high betweenness values are those that control information

within the network—otherwise known as information brokers. There are only three nodes whose betweenness centrality is above 0.3, including the project financing of the village committee (S1C1), the housing quality ensured by the contractor (S6C26), and the guarantee of construction schedule by the contractor (S6C7).

Table 2. Key stakeholder concern nodes and ties.

Rank	SC	Degree Difference	SC	Out-Status Centrality	SC	Closeness Centrality	SC	Node Betweenness Centrality	Tie	Link Betweenness Centrality
1	S1C24	17	S1C1	2.79	S1C1	0.475	S1C1	0.10	S6C26→S1C1	250.83
2	S1C1	14	S2C27	2	S6C26	0.366	S6C26	0.05	S2C1→S1C1	177.83
3	S2C27	11	S1C24	1.79	S2C27	0.345	S6C7	0.04	S1C1→S5C18	133.00
4	S2C5	10	S2C5	1.39	S2C1	0.324	S2C1	0.03	S3C26→S6C26	97.00
5	S1C18	8	S1C18	1.29	S3C8	0.307	S3C10	0.03	S2C24→S3C26	93.67
6	S4C9	7	S2C1	1.28	S6C7	0.306	S5C18	0.03	S1C1→S3C8	88.83
7	S2C12	5	S2C18	1.15	S1C24	0.306	S3C26	0.02	S3C21→S2C1	83.33
8	S3C8	4	S6C26	1.05	S3C9	0.303	S3C9	0.02	S5C18→S2C18	83.00
9	S5C18	4	S4C9	0.98	S3C26	0.302	S2C18	0.02	S3C9→S6C26	75.00
10	S5C26	4	S5C26	0.81	S3C10	0.282	S3C8	0.02	S6C7→S3C10	63.33
11	S2C18	3	S3C10	0.8	S5C26	0.273	S1C18	0.02	S2C18→S1C18	63.00
12	S1C29	3	S2C12	0.74	S2C5	0.255	S2C24	0.01	S1C22→S2C24	56.00
13	S3C4	3	S5C18	0.62	S1C18	0.236	S3C21	0.01	S1C18→S3C10	55.00
14	S7C21	3	S1C29	0.53	S3C21	0.233	S1C7	0.01	S1C7→S8C12	55.00
15	S3C9	2	S7C21	0.51	S2C24	0.223	S2C3	0.01	S3C10→S6C7	54.00

Note: SC refers to stakeholders' concern.

The key stakeholder concerns include the centralized residents' concern about the improvement of living conditions (S3C31) and the provision of sufficient project financing by the village committee (S1C1). Other stakeholder concerns were as follows: the contractor's control on construction schedule (S6C7) and the coherence of township government policies (S2C27), the concern of centralized residents and the contractor regarding housing quality (S3C26, S6C26), and the desire of a range of stakeholders to preserve rural scenes (S1C18, S2C18, S3C18, and S4C18).

4.3. Interaction Type and Implementing Guidance

The relationships and connections between multi-stakeholders in rural communities are the basis for network collaborations and coordinations [87–89]. There are different rankings of the key nodes and ties for different SNA indices. In this study, the top ten nodes and ties were chosen from each ranking list. In combination with the interviews, this study adopted the principle of "understanding the demand of the core stakeholders and enhancing the interaction of their ties based on the main interaction type". The logic behind this approach is to enhance local networks and establish stakeholder collaboration by shaping targeted interactions. The main interaction types can be classified into the following five categories: financing, psychological attachment, stakeholder participation, project management, and the improvement of living conditions and infrastructure (Table 3).

Financing is the key to a successful RSC. The project financing of the village committee (S1C1) is mainly derived from subsidies funded by the township government (S2C1). S1C1 affects many nodes, such as the designer's attention to preserving rural scenes (S5C18), the centralized residents' demands for a reasonable relocation plan (S3C8), and the improvement of general public services and infrastructure (S3C9, S3C10). The success of project financing (S1C1) can guarantee the successful adherence to the construction schedule in practice (S6C7). However, the support of the government exerts great pressure on local finances. There is a need to encourage enterprises and other market forces to invest in and explore the profitability opportunities arising from RSC.

Psychological attachment involves two facets: the centralized residents' attachment to rural scenes (S3C18) and the nostalgia of non-centralized residents for the local living environment (S4C15). Although both the centralized and non-centralized residents have relatively weak influence in the network, the village committee and the township government also expressed strong concern about preserving rural scenes (S1C18 and S2C18).

Table 3. Main interaction type during the RSC process.

Type	Key Stakeholders' Concerns/Ties	Stakeholders
Financing	S6C26→S1C1	Contractor
	S2C1→S1C1	Township government
	S1C1→S5C18	Village committee
	S1C1→S3C8	Village committee
	S1C1→S3C9	Village committee
	S1C1→S3C10	Village committee
	S1C1	Village committee
	S2C1	Township government
Psychological attachment	S5C18→S2C18	Designer
	S1C18→S3C10	Village committee
	S2C18→S1C18	Township government
	S4C15→S1C18	The non-centralized
	S3C13→S1C18	Centralized residents
	S5C18	Designer
	S3C18	Centralized residents
	S2C12	Township government
Stakeholder Participation	S2C24→S3C26	Township government
	S3C21→S2C1	Centralized residents
	S1C24	Village committee
	S7C21	The general public
Project management	S3C26→S6C26	Centralized residents
	S1C1→S6C26	Village committee
	S3C9→S6C26	Centralized residents
	S1C7→S8C12	Village committee
	S6C7→S3C10	Contractor
	S6C7	Contractor
The improvement of living conditions and infrastructure	S6C26	Contractor
	S1C18→S3C10	Village committee
	S1C1→S3C10	Village committee
	S1C24→S3C10	Village committee
	S1C10→S3C30	Village committee
	S1C9→S3C31	Village committee
	S5C10	Designer
	S3C31	Centralized residents

Stakeholder participation is necessary to match the goals and measures of RSC [45]. The findings of this study reveal that the establishment of stakeholder participation channels by the village committees (S1C24) can ensure some measure of supervision by residents of the quality of their housing (S6C26). Specifically, if residents develop a greater understanding of the RSC policies (S3C21), they can better safeguard their own interests by better communicating with the village committee and the township government, and effectively cooperating during the whole RSC process.

Housing quality and the construction schedule are rooted in project management, and these two concerns are often underestimated in the RSC process. Unexpectedly, these related nodes were identified as key nodes in the RSC network. Careful attention by the centralized residents to the infrastructure improvement (S3C10) and a focus by the local elites on group incidents (S8C12) can be expected to accelerate the construction schedule (S1C7, S6C7) to a large extent. Adherence to a reasonable construction schedule can also better guarantee appropriate housing quality (S6C26).

The improvement of living conditions and infrastructure (S3C10, S3C31) are the main contributors to the satisfaction of the centralized residents (Cheng et al., 2018). These nodes can be affected by various aspects in different ways. The financing condition (C1), the level of housing quality (C26), the retention of rural scenes (C18), and the degree of stakeholders' participation (C24) are all involved.

5. Discussion

5.1. Recognition of the Engineering Aspect of RSC

The RSC involves social, economic, and ecological aspects [25,31]. There are an increasing number of studies that consider engineering as a fourth aspect [30,32,41,90]. The engineering aspect is usually embedded in a “project,” with the goal of achieving land use transition, space restructuring, and living conditions and infrastructure improvements [15,18,42]. This study revealed that three main groups, i.e., the centralized residents, village committee, and contractor, as being most concerned with the engineering aspect.

“I knew my new dwelling’s location after the publicity of the final design drawings. I have already paid 70,000 CNY. Our supervision is one of the most powerful ways we engage to maintain the construction that is safe and good quality. I went to the construction site every day until the dwelling had been completed. The contractor could respond to my questions with the help of the village committee on site.” (Interview with a centralized resident, August 2018)

The attention of centralized residents (S3C26) can facilitate the control of housing quality (S6C26). The village committee’s concern about the construction schedule (S1C7) could affect the likelihood of group incidents (S8C12). The final housing quality (S6C26) and reasonable relocation planning (S3C8) require the guarantee of finance from the village committee (S1C1). The engineering aspect has greater interaction with the economic and social aspects than the ecological aspect.

5.2. Encouragement of Stakeholder Interaction in RSC

Few studies have investigated the RSC process from the perspective of its stakeholders [34,35,40]. The significance of stakeholder participation lies in its ability to address concerns via interaction cooperation on the development of policies and planning [45]. The study results reveal that interaction cooperation involves the village committee, township government, centralized residents, and the contractor, with the aim of achieving a successful RSC. Furthermore, the ranked list of stakeholders’ influence within the local network is as follows: the village committee > contractor > township government > the centralized residents. In this case, the village committee is under intense pressure to raise sufficient funds when implementing the resettlement project. The role of the township government is to provide funds with incentive programs for expanding the arable land resources [31,48]. Usually, the provider of funds has more power than the one demanding funds due to their unequal positions in the marketplace. Surprisingly, the study results indicate that the village committee as the fund demander (S1C1) has more influence than the township government (fund provider) in terms of project financing (S2C1). We note that the contractor had already cooperated with the village committee in Chenchi village for seven years. The contractor can also assume the cost of project implementation in advance and then claim back these costs at the follow-up stage (S6C1). Within rural society, informal and recessive “social capital” cannot be ignored [34,87,91]. This study reveals that improvement in living conditions (S3C31) has the highest degree in a status centrality map. Interestingly, the values of S3C31 with respect to other indices are relatively low, which indicates that centralized residents are very likely to be affected; however, it is difficult to affect other stakeholders. These results can assist RSC policy-makers in reformulating cooperative interactions and strategies for a targeted approach. On one hand, the village committee must strengthen its financing ability, develop local adaptive financing mechanisms for RSC, and explore the role of “social capital,” trust, and the contributions of partners. On the other hand, based on RSC’s economic, amenity-related, and engineering elements, the goals of resource sharing should be aligned to establish stable partnerships based on the main interaction of stakeholders, i.e., financing, psychological attachment, project management, and improvement of living conditions and infrastructure.

5.3. *Emphasis on Preserving the Features and Landscape of Rural Settlements*

The rural-style and functional features, such as farmland, kitchen gardens, orchard, pond, yards, and fence, provide emotional sustenance to rural residents in their daily lives [92]. The aesthetic and cultural value of landscape elements must be carefully considered during the RSC process [56]. Often, the designer and the villagers lack communication during RSC planning [29]. In the current study, the designer (S5), the community committee (S1), and the centralized residents (S3) demonstrated good communications.

“We applied the standard collective drawings at first, however, the centralized villagers were not satisfied with the first version of design drawings shown at the first forum, and their opinions stressed the importance of adding kitchen gardens, yards, and fences. The village committee was initially opposed to yards and fences because the raising of domestic fowl and livestock was not considered suitable in a centralized settlement environment. After the subsequent forums, a final design was agreed upon and only the kitchen garden was kept.” (Interview with a designer, August 2018).

This study shows that preserving rural scenes (C18) attracted the most extensive attention from various stakeholders. The concerns of the centralized residents and village committee (S1C18 and S3C18) influenced the designs proposed by the designer (S5C18). Furthermore, the concern of the township government (S2C18) strengthened the village committees’ commitment to the rural scenes (S1C18) which was also influenced by the non-centralized residents’ sense of belonging (S4C15). It is noteworthy that critiques about high-rise apartments and the stereotyped resettled communities are ongoing [13,28,93], though it is feasible to establish more compatible planning and design to preserve a rural character and address the common concerns of different stakeholders.

6. Conclusions

The RSC process in Chenchi Village was a proactive, bottom-up activity promoted by the village committee. This implementation mode is an important supplement to the top-bottom mode dominated by local governments. As a typical pilot case, the characteristics of the Chenchi RSC network provides a reference for similar projects that are either planning to implement RSC or have already started. Prior studies have examined the key concerns of a few stakeholder groups [16,29,36,91]. The current research explores the interaction of stakeholder-associated concerns from a holistic social network perspective and provides a quantitative evaluation of each stakeholder’s concerns. A total of 68 concerns from different stakeholder groups are identified through literature analyses and on-site surveys (Table 1). Key stakeholder’s concerns and ties are sorted by five types of network indicators (Table 2). The current study reveals that the village committee (S1) is the most critical stakeholders shaping the RSC process (Table 3). Within the entire network, the main concerns of centralized residents (S3), the village committee (S1), and contractor (S6) hinge on strong demands for economic and living conditions rather than social aspects. As highlighted earlier, the township government (S2) is the most powerful stakeholder. However, the concerns of S2 are not all in the core of the network, with focuses on social and environmental aspects. Unexpectedly, the contractor’s concern regarding engineering aspects is located in the center of the network and lacks sufficient considerations. Crucial factors, including financing, psychological attachment, stakeholders’ participation, project management, and improved living conditions, are explored to strengthen the interaction and cooperation among different stakeholder groups during the RSC process.

Despite its contributions, this study has limitations that call for future research. First, the non-linear influence relationship among different stakeholders was simplified in the networking process. Future studies are expected to explore the multi-dimensional influence of interest concerns. Second, a cross-case dataset that integrates different types of RSC processes (i.e., both bottom-up and up-down approaches) can be developed to establish a larger network of relationships. Third, the selected case of this study is located in a plain area in central China. A natural extension of this research is to compare how concern networks manifest themselves within different cultural and institutional environments.

Author Contributions: Conceptualization, F.Y. and G.C.; methodology, G.W.; software, S.T.; investigation, F.Y., S.T., Y.L., and C.J.; writing—original draft preparation, F.Y. and S.T.; writing—review and editing, G.C. and G.W.; visualization, F.Y. and S.T.; supervision, G.C.; project administration, G.W.; funding acquisition, F.Y. and G.W.; All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by the Humanities and Social Sciences Foundation of the Ministry of Education of China (Project Number: 15YJC630155), the National Natural Science Foundation of China (Project Number: 71901101), the Fundamental Research Funds for the Central Universities, China (Program Numbers: 2662015QC058 and 2662018QD006), and the Featured Program for Practical Training of Talents, Hubei Province, China (Program Number: 2019SJJPA2002).

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Bathrellos, G.D.; Gaki-Papanastassiou, K.; Skilodimou, H.D.; Skianis, G.A.; Chousianitis, K.G. Assessment of rural community and agricultural development using geomorphological-geological factors and GIS in the Trikala prefecture (Central Greece). *Stoch. Environ. Res. Risk Assess.* **2013**, *27*, 573–588. [\[CrossRef\]](#)
2. Topole, M.; Bole, D.; Petek, F.; Repolusk, P. Spatial and functional changes in built-up areas in selected slovene rural settlements after 1991. *Acta Geogr. Slov.* **2006**, *46*, 189–249. [\[CrossRef\]](#)
3. Long, H.; Li, Y.; Liu, Y.; Woods, M.; Zou, J. Accelerated restructuring in rural China fueled by ‘increasing vs. decreasing balance’ land-use policy for dealing with hollowed villages. *Land Use Policy* **2012**, *29*, 11–22. [\[CrossRef\]](#)
4. Gkartzios, M.; Scott, M. Attitudes to housing and planning policy in rural localities: Disparities between long-term and mobile rural populations in Ireland. *Land Use Policy* **2013**, *31*, 347–357. [\[CrossRef\]](#)
5. Di Figlia, L. Turnaround: Abandoned villages, from discarded elements of modern Italian society to possible resources. *Int. Plan. Stud.* **2016**, *21*, 278–297. [\[CrossRef\]](#)
6. Prunty, M.C. Idle Rural Land Phenomena in Madison County, Georgia. *Southeast. Geogr.* **1961**, *1*, 39–49. [\[CrossRef\]](#)
7. Liu, Y.; Liu, Y.; Chen, Y.; Long, H. The process and driving forces of rural hollowing in China under rapid urbanization. *J. Geogr. Sci.* **2010**, *20*, 876–888. [\[CrossRef\]](#)
8. Gladwin, C.H.; Long, B.F.; Babb, E.M.; Beaulieu, L.J.; Moseley, A.; Mulkey, D.; Zimet, D.J. Rural Entrepreneurship: One Key to Rural Revitalization. *Am. J. Agric. Econ.* **1989**, *71*, 1305–1314. [\[CrossRef\]](#)
9. Knight, J. Rural Revitalization in Japan: Spirit of the Village and Taste of the Country. *Asian Surv.* **1994**, *34*, 634–646. [\[CrossRef\]](#)
10. Liu, Y.; Li, Y. Revitalize the world’s countryside. *Nature* **2017**, *548*, 275–277. [\[CrossRef\]](#) [\[PubMed\]](#)
11. Tian, Y.; Liu, Y.; Kong, X. Restructuring rural settlements based on mutualism at a patch scale: A case study of Huangpi District, central China. *Appl. Geogr.* **2018**, *92*, 74–84. [\[CrossRef\]](#)
12. Gorbenkova, E.; Shcherbina, E. Historical-Genetic Features in Rural Settlement System: A Case Study from Mogilev District (Mogilev Oblast, Belarus). *Land* **2020**, *9*, 165. [\[CrossRef\]](#)
13. Tu, S.; Long, H. Rural restructuring in China: Theory, approaches and research prospect. *J. Geogr. Sci.* **2017**, *27*, 1169–1184. [\[CrossRef\]](#)
14. Long, H.; Tu, S.; Ge, D.; Li, T.; Liu, Y. The allocation and management of critical resources in rural China under restructuring: Problems and prospects. *J. Rural Stud.* **2016**, *47*, 392–412. [\[CrossRef\]](#)
15. Jin, X.; Xu, X.; Xiang, X.; Bai, Q.; Zhou, Y. System-dynamic analysis on socio-economic impacts of land consolidation in China. *Habitat Int.* **2016**, *56*, 166–175. [\[CrossRef\]](#)
16. Gedefaw, A.A.; Atzberger, C.; Seher, W.; Mansberger, R. Farmers willingness to participate in voluntary land consolidation in Gozamin District, Ethiopia. *Land* **2019**, *8*, 148. [\[CrossRef\]](#)
17. Wang, G.; Wu, P.; Wu, X.; Zhang, H.; Guo, Q.; Cai, Y. Mapping global research on sustainability of megaproject management: A scientometric review. *J. Clean. Prod.* **2020**, *259*, 120831. [\[CrossRef\]](#)
18. Liu, W.; Yang, C.; Liu, Y.; Wei, C.; Yang, X. Impacts of concentrated rural resettlement policy on rural restructuring in upland areas: A case study of Qiantang Town in Chongqing, China. *Land Use Policy* **2018**, *77*, 732–744. [\[CrossRef\]](#)
19. Yang, R.; Liu, Y.; Long, H.; Qiao, L. Spatio-temporal characteristics of rural settlements and land use in the Bohai Rim of China. *J. Geogr. Sci.* **2015**, *25*, 559–572. [\[CrossRef\]](#)

20. He, Q.; Tan, S.; Yin, C.; Zhou, M. Collaborative optimization of rural residential land consolidation and urban construction land expansion: A case study of Huangpi in Wuhan, China. *Comput. Environ. Urban Syst.* **2019**, *74*, 218–228. [\[CrossRef\]](#)
21. Li, T.; Long, H.; Liu, Y.; Tu, S. Multi-scale analysis of rural housing land transition under China's rapid urbanization: The case of Bohai Rim. *Habitat Int.* **2015**, *48*, 227–238. [\[CrossRef\]](#)
22. Long, H.; Qu, Y. Land use transitions and land management: A mutual feedback perspective. *Land Use Policy* **2018**, *74*, 111–120. [\[CrossRef\]](#)
23. Lo, K.; Xue, L.; Wang, M. Spatial restructuring through poverty alleviation resettlement in rural China. *J. Rural Stud.* **2016**, *47*, 496–505. [\[CrossRef\]](#)
24. Fang, Y.-G.; Shi, K.-J.; Niu, C.-C. A comparison of the means and ends of rural construction land consolidation: Case studies of villagers' attitudes and behaviours in Changchun City, Jilin province, China. *J. Rural Stud.* **2016**, *47*, 459–473. [\[CrossRef\]](#)
25. Ma, W.; Jiang, G.; Li, W.; Zhou, T.; Zhang, R. Multifunctionality assessment of the land use system in rural residential areas: Confronting land use supply with rural sustainability demand. *J. Environ. Manag.* **2019**, *231*, 73–85. [\[CrossRef\]](#)
26. Tang, Y.; Mason, R.J.; Sun, P. Interest distribution in the process of coordination of urban and rural construction land in China. *Habitat Int.* **2012**, *36*, 388–395. [\[CrossRef\]](#)
27. Zhang, B.-L.; Jiang, G.-H.; Cai, W.-M.; Sun, P.-L.; Zhang, F.-R. Productive functional evolution of rural settlements: Analysis of livelihood strategy and land use transition in eastern China. *J. Mt. Sci.* **2017**, *14*, 2540–2554. [\[CrossRef\]](#)
28. Yep, R.; Forrest, R. Elevating the peasants into high-rise apartments: The land bill system in Chongqing as a solution for land conflicts in China? *J. Rural Stud.* **2016**, *47*, 474–484. [\[CrossRef\]](#)
29. Tang, Y.; Mason, R.J.; Wang, Y. Governments' functions in the process of integrated consolidation and allocation of rural–urban construction land in China. *J. Rural Stud.* **2015**, *42*, 43–51. [\[CrossRef\]](#)
30. Cheng, L.; Liu, Y.; Brown, G.; Searle, G. Factors affecting farmers' satisfaction with contemporary China's land allocation policy—The Link Policy: Based on the empirical research of Ezhou. *Habitat Int.* **2018**, *75*, 38–49. [\[CrossRef\]](#)
31. Zhao, Q.; Zhang, Z. Does China's 'increasing versus decreasing balance' land-restructuring policy restructure rural life? Evidence from Dongfan Village, Shaanxi Province. *Land Use Policy* **2017**, *68*, 649–659. [\[CrossRef\]](#)
32. Minjun, S.; Hongjuan, W.; Junqi, X.; Zhiyuan, S.; Dingyang, Z. Rural Collective Construction Land Transfer Based on Stakeholder Analysis. *J. Resour. Ecol.* **2015**, *6*, 155–163. [\[CrossRef\]](#)
33. Lerise, F. Centralised spatial planning practice and land development realities in rural Tanzania. *Habitat Int.* **2000**, *24*, 185–200. [\[CrossRef\]](#)
34. Li, Y.; Westlund, H.; Zheng, X.; Liu, Y. Bottom-up initiatives and revival in the face of rural decline: Case studies from China and Sweden. *J. Rural Stud.* **2016**, *47*, 506–513. [\[CrossRef\]](#)
35. Wang, Q.; Zhang, M.; Cheong, K.C. Stakeholder perspectives of China's land consolidation program: A case study of Dongnan Village, Shandong Province. *Habitat Int.* **2014**, *43*, 172–180. [\[CrossRef\]](#)
36. Zhang, Z.; Wen, Y.; Wang, R.; Han, W. Factors influencing rural households' willingness of centralized residence: Comparing pure and nonpure farming areas in China. *Habitat Int.* **2018**, *73*, 25–33. [\[CrossRef\]](#)
37. Liu, Z.; Müller, M.; Rommel, J.; Feng, S. Community-based agricultural land consolidation and local elites: Survey evidence from China. *J. Rural Stud.* **2016**, *47*, 449–458. [\[CrossRef\]](#)
38. Onitsuka, K.; Hoshino, S. Inter-community networks of rural leaders and key people: Case study on a rural revitalization program in Kyoto Prefecture, Japan. *J. Rural Stud.* **2018**, *61*, 123–136. [\[CrossRef\]](#)
39. Kerselaers, E.; Rogge, E.; Vanempten, E.; Lauwers, L.; Van Huylenbroeck, G. Changing land use in the countryside: Stakeholders' perception of the ongoing rural planning processes in Flanders. *Land Use Policy* **2013**, *32*, 197–206. [\[CrossRef\]](#)
40. Li, Y.; Wu, W.; Liu, Y. Land consolidation for rural sustainability in China: Practical reflections and policy implications. *Land Use Policy* **2018**, *74*, 137–141. [\[CrossRef\]](#)
41. Long, H. Land consolidation: An indispensable way of spatial restructuring in rural China. *J. Geogr. Sci.* **2014**, *24*, 211–225. [\[CrossRef\]](#)
42. Liu, W.; Yang, X.; Zhong, S.; Sissoko, F.; Wei, C. Can community-based concentration revitalise the upland villages? A case comparison of two villages in Chongqing, Southwestern China. *Habitat Int.* **2018**, *77*, 153–166. [\[CrossRef\]](#)

43. Li, Y.; Fan, P.; Liu, Y. What makes better village development in traditional agricultural areas of China? Evidence from long-term observation of typical villages. *Habitat Int.* **2019**, *83*, 111–124. [\[CrossRef\]](#)
44. Gullino, P.; Devecchi, M.; Larcher, F. How can different stakeholders contribute to rural landscape planning policy? The case study of Pralormo municipality (Italy). *J. Rural Stud.* **2018**, *57*, 99–109. [\[CrossRef\]](#)
45. Sisto, R.; Lopolito, A.; van Vliet, M. Stakeholder participation in planning rural development strategies: Using backcasting to support Local Action Groups in complying with CLLD requirements. *Land Use Policy* **2018**, *70*, 442–450. [\[CrossRef\]](#)
46. Qu, Y.; Jiang, G.H.; Li, Z.; Tian, Y.; Wei, S. Understanding rural land use transition and regional consolidation implications in China. *Land Use Policy* **2019**, *82*, 742–753. [\[CrossRef\]](#)
47. Ge, D.; Long, H.; Zhang, Y.; Ma, L.; Li, T. Farmland transition and its influences on grain production in China. *Land Use Policy* **2018**, *70*, 94–105. [\[CrossRef\]](#)
48. Li, Y.; Liu, Y.; Long, H.; Cui, W. Community-based rural residential land consolidation and allocation can help to revitalize hollowed villages in traditional agricultural areas of China: Evidence from Dancheng County, Henan Province. *Land Use Policy* **2014**, *39*, 188–198. [\[CrossRef\]](#)
49. Bai, X.; Shi, P.; Liu, Y. Realizing China's urban dream. *Nature* **2014**, *509*, 158–160. [\[CrossRef\]](#)
50. Freeman, R. *Strategic Planning: A Stakeholder Approach*; Pitman Publishing Inc.: Boston, MD, USA, 1984.
51. Chen, Y.; Lü, B.; Chen, R. Evaluating the life satisfaction of peasants in concentrated residential areas of Nanjing, China: A fuzzy approach. *Habitat Int.* **2016**, *53*, 556–568. [\[CrossRef\]](#)
52. Demetriou, D.; Stillwell, J.; See, L. Land consolidation in Cyprus: Why is an Integrated Planning and Decision Support System required? *Land Use Policy* **2012**, *29*, 131–142. [\[CrossRef\]](#)
53. Liu, P.; Ravenscroft, N. Collective action in implementing top-down land policy: The case of Chengdu, China. *Land Use Policy* **2017**, *65*, 45–52. [\[CrossRef\]](#)
54. Wang, R.; Tan, R. Rural renewal of China in the context of rural-urban integration: Governance fit and performance differences. *Sustainability* **2018**, *10*, 393. [\[CrossRef\]](#)
55. Ryan, R.L. Comparing the attitudes of local residents, planners, and developers about preserving rural character in New England. *Landsc. Urban Plan.* **2006**, *75*, 5–22. [\[CrossRef\]](#)
56. Kupidura, A.; Luczewski, M.; Home, R.; Kupidura, P. Public perceptions of rural landscapes in land consolidation procedures in Poland. *Land Use Policy* **2014**, *39*, 313–319. [\[CrossRef\]](#)
57. Yu, L.; Wang, G.; Marcouiller, D.W. A scientometric review of pro-poor tourism research: Visualization and analysis. *Tour. Manag. Perspect.* **2019**, *30*, 75–88. [\[CrossRef\]](#)
58. Butts, C.T. Social network analysis with sna. *J. Stat. Softw.* **2008**, *24*. [\[CrossRef\]](#)
59. Scott, J.; Carrington, P. *The SAGE Handbook of Social Network Analysis*; SAGE Publications Ltd.: London, UK, 2011.
60. Yu, T.; Shen, G.Q.; Shi, Q.; Lai, X.; Li, C.Z.; Xu, K. Managing social risks at the housing demolition stage of urban redevelopment projects: A stakeholder-oriented study using social network analysis. *Int. J. Proj. Manag.* **2017**, *35*, 925–941. [\[CrossRef\]](#)
61. Zhuang, T.; Qian, Q.K.; Visscher, H.J.; Elsinga, M.G.; Wu, W. The role of stakeholders and their participation network in decision-making of urban renewal in China: The case of Chongqing. *Cities* **2019**, *92*, 47–58. [\[CrossRef\]](#)
62. Chinowsky, P.; Diekmann, J.; Galotti, V. Social Network Model of Construction. *J. Constr. Eng. Manag.* **2008**, *134*, 804–812. [\[CrossRef\]](#)
63. Wang, S.; Shen, W.; Tang, W.; Wang, Y.; Duffield, C.F.; Hui, F.K.P. Understanding the social network of stakeholders in hydropower project development: An owners' view. *Renew. Energy* **2019**, *132*, 326–334. [\[CrossRef\]](#)
64. Tang, P.; Lai, S. A framework for managing public security risks with complex interactions in cities and its application evidenced from Shenzhen City in China. *Cities* **2019**, *95*, 102390. [\[CrossRef\]](#)
65. Van Ham, F.; Schulz, H.-J.; Dimicco, J.M. Honeycomb: Visual Analysis of Large Scale Social Networks. In *IFIP Conference on Human-Computer Interaction*; Springer: Berlin/Heidelberg, Germany, 2009; pp. 429–442.
66. Byrd, E.T. Stakeholders in sustainable tourism development and their roles: Applying stakeholder theory to sustainable tourism development. *Tour. Rev.* **2007**, *62*, 6–13. [\[CrossRef\]](#)
67. Eskerod, P.; Huemann, M. Sustainable development and project stakeholder management: What standards say. *Int. J. Manag. Proj. Bus.* **2013**, *6*, 36–50. [\[CrossRef\]](#)

68. Shakoory, A. Rural Development in Iran: A Survey of Policies and Outcomes. *J. Dev. Soc.* **2019**, *35*, 346–366. [[CrossRef](#)]
69. Janus, J.; Taszakowski, J. Spatial differentiation of indicators presenting selected barriers in the productivity of agricultural areas: A regional approach to setting land consolidation priorities. *Ecol. Indic.* **2018**, *93*, 718–729. [[CrossRef](#)]
70. Cay, T.; Ayten, T.; Iscan, F. Effects of different land reallocation models on the success of land consolidation projects: Social and economic approaches. *Land Use Policy* **2010**, *27*, 262–269. [[CrossRef](#)]
71. Zhang, X.; Han, L. Which Factors Affect Farmers' Willingness for rural community remediation? A tale of three rural villages in China. *Land Use Policy* **2018**, *74*, 195–203. [[CrossRef](#)]
72. Wu, W.; Zhao, D.; Xiao, J. Analysis of Settlement in New Rural Planning and Design. In Proceedings of the 2011 International Conference on Electrical and Control Engineering, Yichang, China, 16–18 September 2011; pp. 3350–3353.
73. Tang, S.; Hao, P.; Huang, X. Land conversion and urban settlement intentions of the rural population in China: A case study of suburban Nanjing. *Habitat Int.* **2016**, *51*, 149–158. [[CrossRef](#)]
74. Tian, Y.; Liu, Y.; Liu, X.; Kong, X.; Liu, G. Restructuring rural settlements based on subjective well-being (SWB): A case study in Hubei province, central China. *Land Use Policy* **2017**, *63*, 255–265. [[CrossRef](#)]
75. Zhu, F.; Zhang, F.; Li, C.; Zhu, T. Functional transition of the rural settlement: Analysis of land-use differentiation in a transect of Beijing, China. *Habitat Int.* **2014**, *41*, 262–271. [[CrossRef](#)]
76. Zhou, G.; He, Y.; Tang, C.; Yu, T.; Xiao, G.; Zhong, T. Dynamic mechanism and present situation of rural settlement evolution in China. *J. Geogr. Sci.* **2013**, *23*, 513–524. [[CrossRef](#)]
77. Ouyang, M.; Jiang, C. Study on Flexible Treatment of Society Group Incident. In Proceedings of the 2011 2nd IEEE International Conference on Emergency Management and Management Sciences, Beijing, China, 8–10 August 2011. [[CrossRef](#)]
78. Jürgenson, E. Land reform, land fragmentation and perspectives for future land consolidation in Estonia. *Land Use Policy* **2016**, *57*, 34–43. [[CrossRef](#)]
79. Zhou, Y.; Guo, Y.; Liu, Y.; Wu, W.; Li, Y. Targeted poverty alleviation and land policy innovation: Some practice and policy implications from China. *Land Use Policy* **2018**, *74*, 53–65. [[CrossRef](#)]
80. Ip, D. When farmers are planting houses. *China J. Soc. Work* **2015**, *8*, 284–292. [[CrossRef](#)]
81. Jaszczak, A.; Žukovskis, J.; Antolak, M. the Role of Rural Renewal Program in Planning of the Village Public Spaces: Systematic Approach. *Manag. Theory Stud. Rural Bus. Infrastruct. Dev.* **2017**, *39*, 432–441. [[CrossRef](#)]
82. Wang, H.; Wang, L.; Su, F.; Tao, R. Rural residential properties in China: Land use patterns, efficiency and prospects for reform. *Habitat Int.* **2012**, *36*, 201–209. [[CrossRef](#)]
83. Scott, M. Rural housing: Politics, public policy and planning. *Hous. Contemp. Irel. Polycysoc. Shelter* **2005**, 344–363. [[CrossRef](#)]
84. Peng, Y.; Shen, L.; Zhang, X.; Ochoa, J.J. The feasibility of concentrated rural settlement in a context of post-disaster reconstruction: A study of China. *Disasters* **2014**, *38*, 108–124. [[CrossRef](#)]
85. Du, X.; Zhang, X.; Jin, X. Assessing the effectiveness of land consolidation for improving agricultural productivity in China. *Land Use Policy* **2018**, *70*, 360–367. [[CrossRef](#)]
86. Chen, H. State Power and Village Cadres in Contemporary China: The case of rural land transfer in Shandong province. *J. Contemp. China* **2015**, *24*, 778–797. [[CrossRef](#)]
87. Sanginga, P.C.; Chitsike, C.A.; Njuki, J.; Kaaria, S.; Kanzikwera, R. Enhanced learning from multi-stakeholder partnerships: Lessons from the Enabling Rural Innovation in Africa programme. *Nat. Resour. Forum* **2007**, *31*, 273–285. [[CrossRef](#)]
88. Scott, M. Building institutional capacity in rural Northern Ireland: The role of partnership governance in the LEADER II programme. *J. Rural Stud.* **2004**, *20*, 49–59. [[CrossRef](#)]
89. Scott, M.; Murray, M. Housing rural communities: Connecting rural dwellings to rural development in Ireland. *Hous. Stud.* **2009**, *24*, 755–774. [[CrossRef](#)]
90. Huang, X.; Li, H.; Zhang, X.; Zhang, X. Land use policy as an instrument of rural resilience—The case of land withdrawal mechanism for rural homesteads in China. *Ecol. Indic.* **2018**, *87*, 47–55. [[CrossRef](#)]
91. Chen, C.; Gao, J.; Chen, J. Behavioral logics of local actors enrolled in the restructuring of rural China: A case study of Haoqiao Village in northern Jiangsu. *J. Rural Stud.* **2019**, 1–11. [[CrossRef](#)]

92. Ryan, R.L. Preserving rural character in New England: Local residents' perceptions of alternative residential development. *Landsc. Urban Plan.* **2002**, *61*, 19–35. [[CrossRef](#)]
93. Kong, X.; Liu, D.; Tian, Y.; Liu, Y. Multi-objective spatial reconstruction of rural settlements considering intervillage social connections. *J. Rural Stud.* **2019**. [[CrossRef](#)]



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