land

MDPI

Article

The Transition Mechanism and Revitalization Path of Rural Industrial Land from a Spatial Governance Perspective: The Case of Shunde District, China

Lianma Zhang [1,2], Dazhuan Ge [2,*], Pan Sun [2] and Dongqi Sun [3]

1 Bureau of Natural Resources and Planning in Siyang County, Suqian 223700, China; 201301011@njnu.edu.cn
2 School of Geography, Nanjing Normal University, Nanjing 210023, China; 09429@njnu.edu.cn
3 Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing 100101, China; sundq@igsnrr.ac.cn
* Correspondence: gedz@njnu.edu.cn; Tel.: +86-25-8589-1347

Abstract: The transition of rural industrial land has a critical role to play in rural revitalization. The study of rural spatial governance is an important starting point for analyzing the processes and exploring the paths through which the transition of rural industrial land takes place. This study takes the case of Shunde District, China, a typical semi-urbanized area, as its research object and constructs an analytical framework for rural industrial land transition based on spatial governance; it uses this case to conduct an analysis of the spatiotemporal processes and dilemmas involved in rural industrial land transition. Hengding Industrial Park is taken as a specific example to study how the processes and mechanisms involved in the transition of rural industrial land work in practice from a spatial governance perspective, and the path of rural revitalization based on rural spatial governance is discussed. The conclusions are as follows: (1) the fragmentation of rural space, the difficulty of renewing rural industrial land, the chaos of ownership, and the incomplete mechanism of the differentiation and game of multiple subjects, are the main obstacles in the process of rural industrial land transition in Shunde District; (2) since the 1990s, the rural industrial land dominant morphology—including quantity, structure, and so on—and the recessive morphology, including property rights, organizational systems, and input–output efficiency, have all undergone significant changes; (3) the comprehensive governance of rural space under the analytical framework of "matter-ownership-organization," is an important starting point for analyzing the process of transition of rural industrial land. The "top-down" and "bottom-up" approaches, combining rural spatial governance strategy and the effective participation of multiple subjects, are important means of promoting the transition of rural industrial land; (4) rural spatial governance is conducive to promoting the transition of rural land use and the healthy development of rural space. The experience of semi-urbanized regions with rural revitalization is of vital significance for other regions.

Keywords: rural industrial land; rural spatial governance; land-use transition; rural revitalization

Citation: Zhang, L.; Ge, D.; Sun, P.; Sun, D. The Transition Mechanism and Revitalization Path of Rural Industrial Land from a Spatial Governance Perspective: The Case of Shunde District, China. *Land* **2021**, *10*, 746. https://doi.org/10.3390/land10070746

Academic Editor: Frank Vanclay

Received: 29 June 2021
Accepted: 15 July 2021
Published: 16 July 2021

1. Introduction

With the rapid development of urbanization and industrialization, land use has undergone a dramatic transition in both space and function. The concept of land-use transition, first proposed by Graninger [1], is based on the forest transition hypothesis model [2–5] and originally referred to the change in the morphology of regional land use during regional socio-economic development [6,7]. It is now understood to refer to the process whereby regional land use changes from one morphology (including the dominant and recessive morphologies) to another driven by economic and social changes and innovations during a period of time corresponding to a stage of transition in economic and social development [8]. In the existing research, studies of the driving forces of industrial land transition account for a large proportion of papers published, and this

topic is growing in popularity. There is, however, a lack of analysis of typical cases on the micro-scale.

The object of land-use transition studied in this paper is rural industrial land. In the context of urbanization, there are currently rapid changes in aspects of both urban and rural development. Rural industrial land, as the carrier with which human economic activity and rural industrial development are most closely related, has changed significantly in its spatial distribution characteristics, mode of use, and scale. Rural industrial land refers to construction land occupied by industrial enterprises in a village [9], which is mainly used collectively for various construction purposes, including industrial production, material transfer, professional acquisition, and storage. According to the spatial distribution pattern and spatiotemporal evolution characteristics of rural industrial land at different scales, in-depth exploration of the unique characteristics and laws of the transformation of rural industry can provide a basis for the transition and upgrading of rural industry. The existing research on rural industrial land mainly focuses on the qualitative analysis of property rights [10], business models [11], and land ownership [12].

The transition process of rural industrial land is inseparable from the promotion of multiple subjects. Since China's reform and opening up (an economic reform initiative implemented in 1978, featuring a socialist market economy and opening to the outside world), with the rapid development of urbanization and industrialization in the Pearl River Delta region, innovation in the "bottom-up" land shareholding system has played a positive role in the development of rural industry [13], which usually participates in the process of rural industrialization through land and factory leasing [14]. However, rural industrialization led by towns and villages is based on collective land. Against the background of the transition in the mode of economic development, the disadvantages of the original land-use methods have begun to emerge, such as inefficient use methods, lack of planned extensive development of rural industrial land, scattered collective construction land, and weak government macro-control capabilities [15,16]. So far, scholars have analyzed the "bottom-up" policy system for rural industrial land and have explored its operating mechanisms and implementation effects [17–21]. Related studies have also quantitatively described the evolutionary mechanism of the distribution pattern of rural industrial land, explored the dynamic changes in land use, and examined the reasons for scattered and inefficient land use [22–25]. The existing research has mainly focused on the role of the government [26–28] but less on the role of the multiple groups involved in rural industrial land transition. There is a lack of in-depth analysis of the power distribution and game mechanism among multiple subjects.

Rural space governance is an important means to promote the transition of land use, and its related theories are an important tool to analyze the process of land use transition. Rural spatial governance attempts to manage the social relations embodied in material space [29], thereby optimizing the organization and ownership of rural space and forming a joint force to promote rural development. This research field has gradually expanded to the study of the governance of rural ownership relationships and spatial organization modes; it attempts to optimize spatial relationships to create conditions for the integrated development of urban and rural areas [30]. Rural spatial governance research provides an important starting point for analyzing the internal mechanism of land-use transition, exploring the internal relationship between spatial governance and land-use transition, and providing references for the promotion of sustainable rural development. Based on this, this article starts with the theory of land-use transition oriented by rural spatial governance and shows how it can be applied to a case study of the transition process of rural industrial land in Shunde District; it deeply analyzes the transition mechanism of rural industrial land oriented by spatial governance and discusses how rural industrial transition and development can be perfected in semi-urbanized regions to further rural revitalization in other regions.

2. An Analytical Framework for Understanding Rural Industrial Land Transition from a Spatial Governance Perspective

2.1. Challenges in the Transition of Rural Industrial Land in the Pearl River Delta

Rural industrial land has played an important role in the process of rural transformation and development in the Pearl River Delta and has become an important feature in shaping the regional model. Since the 1980s, in the process of rural industrialization in the Pearl River Delta (an economic/geographical area located in the middle of Guangdong Province, China), the land transfer represented by the village collective establishment of joint-stock cooperatives and the rural industrial development model characterized by the leasing to village-level industrial enterprises have rapidly promoted rural industrial development. Over this period, village-level industrial parks have played a special and important role. The rural industrialization model of "every household in every village participates in industrialization" has greatly promoted the development of rural society and the rural economy. Basic village collective organizations have changed the use of collective land in rural areas (a large amount of agricultural land has been converted into industrial land), making the value of rural space substantially higher; the farmers generally earn dividends on their shares and effectively participate in the waves of industrialization. Against the background of the gradual withdrawal of township and village enterprises from the stage of history, the Pearl River Delta is unlike other regions in that rural industrial land still occupies an important position in its industrial development today. Rural industrial land plays an important role in the "bottom-up" urbanization of the Pearl River Delta. However, with the national demand for high-quality development and with the continuous improvement of the rule of law concerning rural space use, the rural industrial land transition in the Pearl River Delta is facing many challenges.

The fragmentation of rural space and renewal of rural industrial land have become new problems restricting rural development. The types of industry in rural areas are mainly labor-intensive, and there are problems of inefficient use of land and difficulties in industrial upgrading. The rural industrial land pattern presents a development form dominated by rural collective industrial land, and the spatial layout is characterized by a high proportion and scattered distribution, and the "fragmented" spatial pattern is prominent. The village collective members are the core land stock cooperatives. After more than 20 years of operation, their interests are intertwined, and industrial land has become the norm across villages and regions. Under the "Transformation of the Three Olds" (renovation measures for old towns, old factories, and old villages) due to the fragmentation of distribution, mixing of space, and intersection of interests, rural industrial land has become difficult to update, and there are few successful examples of attempts to do so. This has resulted in a conundrum for the revitalization of stock construction land.

Ownership disorder is a distinctive feature of the rural industrial land in the Pearl River Delta and is mainly manifested by unclear ownership of collective land and multi-layered transfer leases. Rural industrial land is based on collective land, and the illegal conversion of agricultural land to construction land has become a fait accompli in the era of weak land management laws and rural space-use control. In the process of gradual improvement of urban and rural planning laws, only a small part of this type of construction land has completed the required legal procedures, and there is still a considerable amount of rural land whose ownership relationships are difficult to determine legally (Figure 1). The notable feature is that the ownership relationships of rural industrial land are largely undetermined, and only a small amount has been confirmed as being owned by the state or the collective. In addition, the village land-share cooperative manages the collective land (use rights) of the village in a unified manner, and the village committee is responsible for attracting investment. The land of the joint-stock company was leased to early local enterprises (houses) for industrial activities in the form of "lease instead of sale" and "lease instead of levy," and the rent distribution plan was established. With the pursuit of short-term rent as the core goal, land-share cooperatives entered into agreements in which enterprises do not have any real rights when they expire. Moreover, rent is adjusted

every three to five years, leading to the phenomenon of rural industrial land subleasing and multilayered circulation, which further aggravates the chaos of rural industrial land ownership.

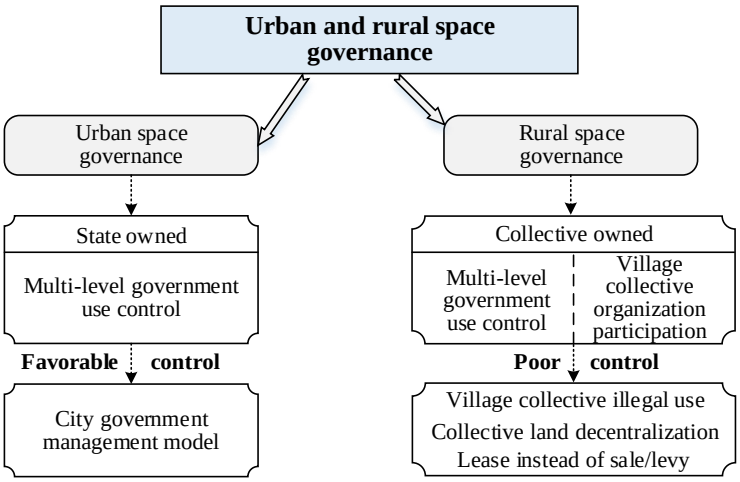

Figure 1. Different ownership of urban and rural spaces in China.

The differentiation of multiple subjects and the unsound mechanism of interest game have become the organizational background factors hindering the renewal of rural industrial land. The vigorous development of rural industrial land in the rural areas of the Pearl River Delta continues to this day for reasons closely related to the village community formed by the bond of village clan relationships. There is a strong patriarchal concept that, superimposed on consistent economic interests, gives rise to a solid grassroots community of shared interests; grassroots village collective organizations with a stock of rural industrial land, a strong sense of rights and interests, and strong grassroots organizational capabilities; economic organizations such as land stock cooperatives, which further bolster the strength of the farmers' organizations in the region [16,22]. Since China's reform and opening up, in the process of pursuing economic development, the government's ability to control grassroots villages has weakened, and the space-use control policy has changed significantly. The notable feature is that the development of rural industrial land has changed from early encouragement to subsequent restrictions and then to the current guidance and renewal. A grassroots governance pattern of "weak government and strong society" has gradually formed. Local entrepreneurs and new foreign entrepreneur groups closely related to the development and leasing of rural industrial land are intertwined between the grassroots village collective organizations and multilevel governments, seeking to maximize benefits, thus making it normal for multiple entities to participate in the transformation and renewal of rural industrial land. In the face of the government's implementation of the "Transformation of the Three Olds", the "Double Compliance" (remediation measures for rural industrial parks to make environmental protection and safe production up to standards), and other rural industrial land renewal policies, the degree of differentiation of the interests of multiple subjects has further deepened (Figure 2). How to effectively promote the "top-down" linkage, fairness, and justice of the interests of multiple subjects has become a core issue.

Figure 2. Rural industrial land landscape in Shunde District (Source: Urban Renewal Bureau of Shunde District).

2.2. An Analytic Framework for Understanding Rural Industrial Land Transition from a Spatial Governance Perspective

Rural spatial governance starts with the restructuring of rural material space, the reshaping of spatial ownership relationships, and the reorganization of spatial relations, thus re-allocating the key resources of rural space, realizing the core goals of government space-use control and grassroots orderly governance, and mobilizing multiple subjects to participate actively in the process of spatial development. On the basis of promoting the fair and just distribution of space rights and interests, the implementation of a multi-subject effective game is realized. Rural industrial land has reached a special epoch in its development that is a product of the times, when solving the problems of rural employment and industrial development is of the utmost importance. Rural industrial land is embedded in the rural regional system and has a significant particularity in that its spatial economic value is significantly different from that of other rural lands. Rural industrial land has also become an important springboard for rural development in the region. Through the development of rural industry, the economic value of rural space has been significantly enlarged, and the means and capabilities of farmers to participate in economic development have been enhanced. In the new era, facing realistic demands for high-quality industrial development and the transition of ecological civilization, how to promote the transformation of a combination of "top-down" and "bottom-up" approaches and how to enable multiple subjects' participation in rural industrial land have become the core goals of rural spatial governance.

The combination of "top-down" and "bottom-up" approaches to rural spatial governance will be a desirable solution to the dilemma of the transition of rural industrial land. The combination of "top-down" and bottom-up" approaches to spatial governance means realizing the national "top-down" territorial space-use control and space-governance goals in the transition of rural industrial land, strengthening the government's spatial governance capabilities, and improving governance capabilities in areas where rural industrial land is widely distributed. In addition, through "bottom-up" grassroots governance, the rural spatial governance system will be improved, the self-organizing capabilities of governance entities will be coordinated, and a combination of "rigid restraint" and "flexible regulation" in rural spatial governance will be promoted (Figure 3). By strengthening the spatial governance path combining "top-down" and "bottom-up" approaches, the governance drawbacks of the "weak government and strong society" phenomenon in the transition of rural industrial land will be changed, and a benefits plan will be provided for improving the mechanism of rural industrial transition. Through the combination of "top-down" and "bottom-up" approaches to spatial governance logic, the entire development and regional revitalization of rural industrial land will be promoted, breaking the existing "fragmented" spatial distribution pattern, and also providing broad space for the implementation of the government's macro-industry layout plan [6,30]. Therefore, the "top-down" spatial

governance path promotes the improvement of the rural industrial land structure in the governance of physical space, emphasizes "planning and negotiation" in spatial organization and governance, and clarifies the spatial attributes of spatial ownership governance, which is conducive to promoting the transition and upgrading of rural industrial land as a whole.

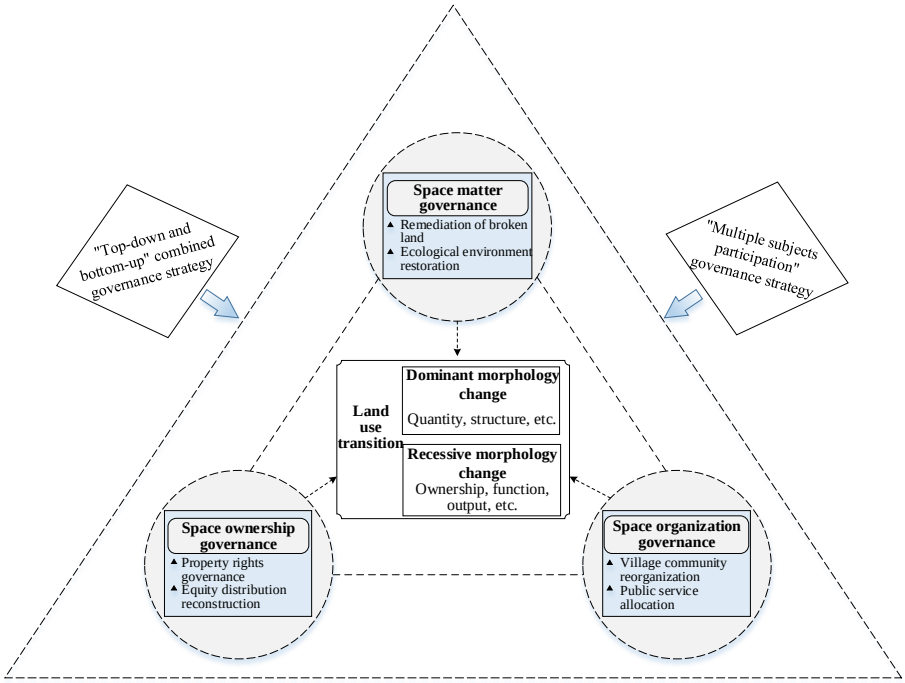

Figure 3. Analysis framework of rural industrial land transition oriented by space governance.

The effective participation of multiple subjects is an important guarantee for promoting the transition of rural industrial land. The disorder of ownership in rural spatial governance, the fragmentation of organizational systems, and the changes in and diversity of stakeholders involved determine whether the transition of rural industrial land can be successful [15]. Therefore, it is necessary to carry out targeted governance to address the above problems. Among the multiple subjects, multilevel governments, property rights issues, and market issues constitute the core issues in the organizational governance and ownership governance of rural industrial land. Any contradictions between the distribution of rights and interests and the governance plan for the transition of industrial land will result in a failure to achieve renewal, and the transition of rural industrial land will be put into a difficult situation. The effective participation of multiple entities, based on the government's establishment, will clarify the understanding of the property rights and interests of the various entities on rural industrial land, promote space ownership governance, and clarify the ownership of rural industrial land. In addition, the participation of market players is also an important factor in ensuring the transition of industrial land. Without the extensive participation of market players, it will be difficult to begin the transition of rural industrial land. The effective participation of multiple entities should ensure "legalization" and "standardization", reduce rent-seeking behavior in the process of spatial governance, strengthen the supervisory role of non-governmental organizations, establish smooth communication and discussion mechanisms to coordinate the differentiated interests of grassroots governance entities, and promote the establishment of a multi-round game mechanism.

The comprehensive management of physical space, space ownership, and spatial organization need to be strengthened with respect to rural industrial land. The management of the physical space of rural industrial land is mainly needed to change the quantitative and spatial structural characteristics of rural industrial land, promote its agglomeration, tap its

potential, and reverse its fragmentation, which will help further improve the efficiency of rural industrial land use. Rural industrial land ownership governance and organizational governance are the keys to ensuring the success of rural industrial land transition. The sustainable transition of the recessive morphology of property rights, organizational models, utilization efficiency, and functional characteristics of rural industrial land is the key to ensuring the success of the renewal of rural industrial land. In response to the disorder in the ownership of rural industrial land, it is necessary to amend the stock-cooperation charter and supervision mechanism, strengthen the implementation of space-use control, and control the chaos of space ownership. In the context of the continuous differentiation of market entities, we should start with the organization of property rights entities, standardize the circulation of rural industrial land, strengthen the coordinating role of multilevel governments in the organization of rural industrial land, and establish a game-based supervision mechanism for market entities and property rights entities in the renewal of rural industrial land to prevent damage to public interests.

3. An Analysis of the Spatiotemporal Process of the Transition of Rural Industrial Land in Shunde District

Shunde District, one of five districts of Foshan, is located in the core area of the Guangdong–Hong Kong–Macao Greater Bay Area. The district currently governs 4 streets, 6 towns, and 205 villages, with a total area of 806 km^2 (Figure 4). After more than 40 years of development since the beginning of China's reform and opening up, it has been ranked first among the top 100 regions in China for eight consecutive years and has created two 300 billion industrial clusters of home appliances and machinery. In 2018, the GDP of the district was RMB 316.393 billion, and the third industrial structure was 1.4%:56.1%:42.5%. At the end of 2018, the permanent population of the district was 2,704,700, and the registered population was 1,452,600. In 1993, Shunde was one of the earliest districts in China to implement the system of rural joint-stock cooperative economic cooperatives; it embarked on a rural industrialization path based on the development of village-level industrial parks and merged more than 2000 production teams into 197 village-resident joint-stock cooperatives. Taking the lead in development means taking the lead in facing new development issues. By the end of 2017, 382 village-level industrial parks were scattered across 205 villages, covering a total area of 78.36 km^2 and accounting for 55.65% of the current industrial land in the district. There are more than 19,000 enterprises in rural industrial land, but they only contribute 27% of the output value and 4.3% of the tax revenue in the whole area. The average floor area ratio is only 0.78, and the fragmentation of the spatial pattern of industrial land is extremely prominent (Figure 5). Moreover, dilapidated factory buildings, low-end industry, and safety hazards have become prominent problems in the process of high-quality development in Shunde District.

The social forces represented by the grassroots village community and active market entities in the Pearl River Delta have jointly shaped a grassroots social and economic governance system with regional characteristics. The scope of government power is limited to a relatively small domain, and the government's ability to manage village-level affairs is relatively weak [16]. The bottom of the society is linked by village collectives and share cooperatives, and clan-like interest groups with small village communities are gradually formed. The village community has a strong sense of identity and belonging. The core members of the community have a close relationship with the two village committees or assume important positions in them, which further strengthens the grassroots rights system with "geographical relationships, blood relationships, industry relationships" as links, thus shaping a grassroots social organization and governance logic with local characteristics. The fact that the village community has mastered the stock construction land indicator shows that the village community has strong negotiation capital and game ability in the renewal of rural industrial land.

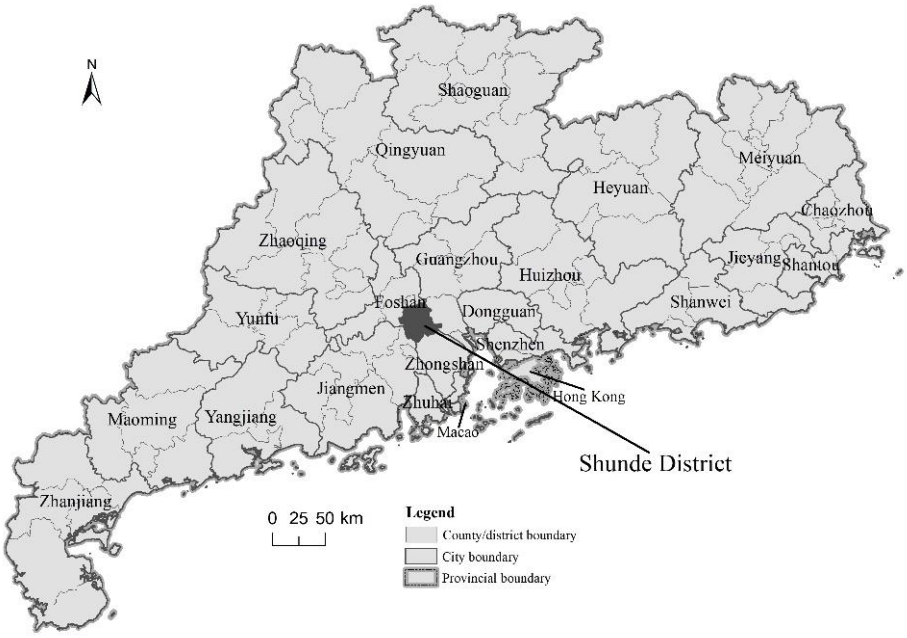

Figure 4. Location of Shunde District in Guangdong Province.

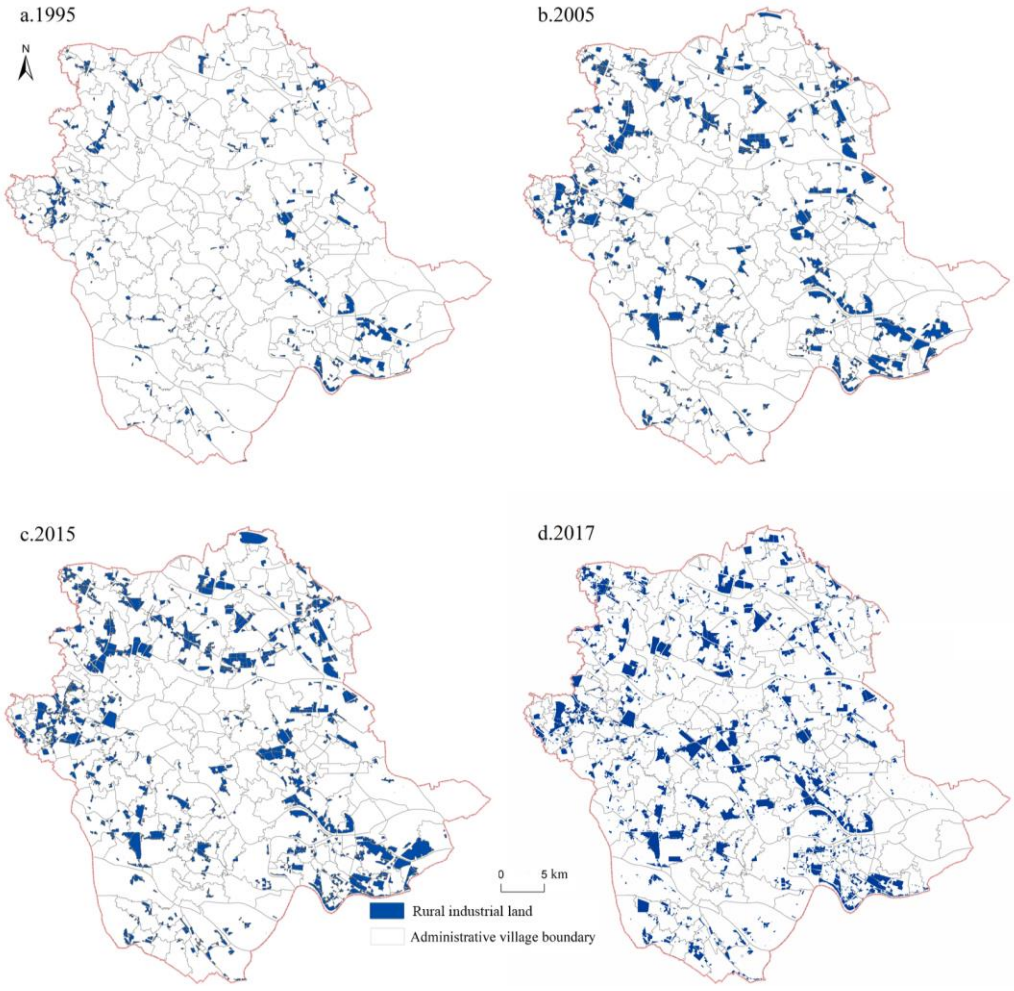

Figure 5. Rural industrial land of Shunde District in 1995 (**a**), 2005 (**b**), 2015 (**c**), 2017 (**d**).

3.1. The Process of Evolution of the Dominant Morphology of Rural Industrial Land in Shunde District

Since the 1990s, the dominant morphological changes to rural industrial land in Shunde District have mainly been manifested in three aspects: quantitative changes, spatial expansion, and structural changes. This process has, on the whole, resulted in the quantity of rural industrial land in Shunde District and its spatial scope increasing and the structural characteristics becoming more complex (Figure 5). In the 1990s, during the implementation of the land shareholding system, collectively contracted land continued to be transformed into industrial land. A large number of village-level industrial parks appeared in Shunde, but these were generally small in scale and scattered in distribution, and most were based on village groups. The rural land-share cooperation system established a rural land property rights system in which collective land rights are shared by collectives and farmers, creating conditions for village collectives to carry out rural industrialization through land leases and factory leases. However, there is a strong sense of community and clan relationships within the villages in the district. Rural industrialization often occurs within the villages, resulting in an excessive number of joint-stock cooperatives that are too small and the fragmentation of industrial land.

After 2000, with the further development of rural industrialization, the quantity of rural industrial land continued to increase, and the structural characteristics of industrial land became more complex. Contiguous industrial land has emerged, but its ownership still belongs to the original village collective or developer. From 1995 to 2005, the total area of rural industrial land in Shunde District increased from about 22.71 km^2 to about 62.00 km^2. The number of industrial sites rose sharply, while the scale of existing industrial sites continued to expand. In structure, in the process of expansion of scale, rural industrial land is restricted by the scale of village land use, resulting in the interconnection of land with different ownerships, and a large number of cross-village industrial parks have appeared. During this period, the number of smaller industrial parks started to decrease, and the number of larger industrial parks started to increase.

At the beginning of the implementation of the "Transformation of the Three Olds" policy, the amount of rural industrial land in Shunde District was still on the rise, but the restrictions on new development land resulted in fewer new industrial sites, and the scale of new industrial sites was generally small. Land-use restrictions have kept the scale of existing rural industrial sites unchanged, and only a small number of industrial parks have expanded in scale. By 2015, the total area of rural industrial land in Shunde District was 80.93 km^2. With the deepening of the implementation of the "Transformation of the Three Olds" and other policies, the amount of rural industrial land in Shunde District began to decline, and its scale began to decrease. The reason is that part of the industrial land has undergone land use conversion (such as conversion to residential land and commercial land) and ownership conversation (such as conversion to provincial industrial land). By 2018, the total area of rural industrial land in Shunde District had dropped to 78.36 km^2. Land consolidation reduced the number and scale of existing industrial sites, significantly changing the structure of rural industrial land, and at the same time promoting greater land-use efficiency.

3.2. The Process of Evolution of the Recessive Morphology of Rural Industrial Land in Shunde District

Changes in the recessive morphology of rural industrial land in Shunde District mainly involve property rights, organizational systems, and input–output efficiency. The implementation of the land shareholding system in the villages of Shunde District and the "Transformation of the Three Olds" carried out in the later period have significantly changed the property rights to rural industrial land, and prompted changes in the quantity, scale, and type of rural industrial land. In the process of rural industrialization, a diverse set of actors based on the three main groups of social entities (the original landowners, village collectives, etc.), market entities (developers, investors, consumers, etc.), and government entities (cities, districts, town governments, village committees, etc.) continue to compete

with each other and divide, and their respective powers ebb and flow, which jointly promote the changes in the rural industrial land organization system in Shunde District. Extensive development and scale restrictions have caused problems, such as inefficient input and output of rural industrial land.

The land shareholding transition in Shunde District has promoted the transition of the recessive morphology of rural industrial land. The land shareholding system further separates collective land's contract right and management rights (the ownership of land belongs to the state or collective, and citizens have the contract right to own collective land through a contract and the management right to use the land and enjoy the benefits), allowing collective land and farmers' contracted land in the village to participate in the process of rural industrialization through a form of "land shareholding," changing the way of realizing property rights to village land and strengthening the trend toward commercialization of land property rights. In addition, in the process of rural industrialization, external entities have continuously participated in the development of rural industrial land, and the land-use organization system has changed from one of single to multiple differentiation. Market players participate in the development and construction of rural industrial land. In the process, foreign entrepreneurs have further strengthened the gaming role of diversified market players in the development of rural industrial land. The multilevel government entities are leaders of changes in the organizational system of rural industrial land, the social entities are both providers of industrial land and participants in the process of industrialization, and the market entities are one of the core forces promoting this process. From the perspective of input–output efficiency, with the conversion of local land-use properties from agricultural land and residential land to industrial land, the input–output efficiency of land has been greatly improved, but disordered expansion has also brought with it waste of land resources and inefficient land use.

The "Transformation of the Three Olds" has profoundly changed the morphology of rural industrial land in Shunde District. The "Transformation of the Three Olds" allows for the improvement of the historical land-use procedures according to the status quo, the use of agreements for land transfer [21], and the value-added benefits of land redevelopment to be shared between the government and the rights-holders. From the perspective of property rights, the "Transformation of the Three Olds" clarified the property rights to existing land, rectified the land that did not meet the development plan, integrated part of the fragmented land, and re-developed low-efficiency land, which promoted clarity of property rights (Figure 6). From the perspective of the organizational system, the "Transformation of the Three Olds" uses a combination of "top-down" and "bottom-up" governance methods to build a multiple-game mechanism of multiple subjects. In addition, the "Transformation of the Three Olds" has effectively improved the input and output efficiency of rural industrial land, and the efficiency of land use and degree of intensification have been continuously improved.

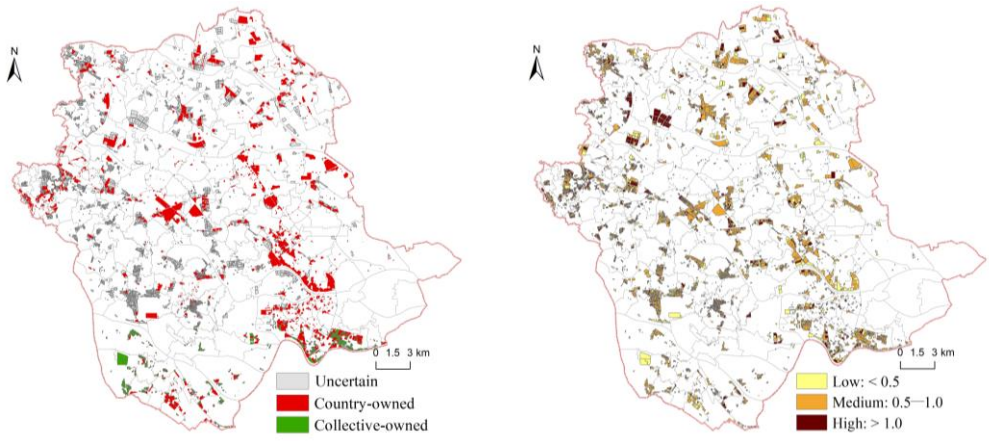

Figure 6. Ownership and plot ratio of rural industrial land in Shunde District (2018).

3.3. An Analysis of the Dilemma Involved in the Transition of Rural Industrial Land in Shunde District from the Perspective of Spatial Governance

In the process of rural industrialization, the transition of rural industrial land in Shunde District is faced with problems such as fragmentation of the land pattern, vague property rights, and entanglement of interests. The fragmented pattern caused by the decentralized development of village-level units has caused problems such as inefficient input and output of land, waste of land resources, limited development scale, and pollution of the natural environment of human settlements. Various types of ownership of industrial land are intertwined with each other, compete with each other in a disordered manner, and are often restricted in different ways. The property rights to some lands are not clear, which has created huge difficulties for the sound development of industrial land in the region. At the same time, the interests of government entities, social entities, and market entities are entangled with each other, and the collective consciousness of local clans is strong, further highlighting the urgency of developing comprehensive spatial governance. The large amount and complex structure of rural industrial land in Shunde District and the intertwining of the interests of multiple subjects have become important obstacles restricting the transition and upgrading of rural industrial land. In the face of these problems, Shunde District has adopted diversified governance ideas and achieved certain results, but there are still many problems. The problems faced in the transition of rural industrial land can be summarized as the "incomplete comprehensive governance system," "inadequate integration of upper and lower levels," and "inadequate participation of multiple subjects".

Faced with the problems of the large number of village-level industrial parks, their diversity of types, scattered layout, inefficient use of land, and weak industrial upgrading, the existing policy of the "Transformation of the Three Olds" alone cannot achieve comprehensive management of large amounts of rural industrial land. The disordered expansion of rural industrial land and the infringement and occupation of land have been effectively curbed in the gradual strengthening of land-use control. However, the scale of industrial parks with village-level units is often greatly restricted, and large-scale development cannot be achieved. Measures such as land-use improvement and restoration of the ecological environment based on material effective space governance cannot play a positive role. Complicated property rights and a scattered organizational system for rural industrial land have become important obstacles acting as a check on the large-scale governance of rural industrial land. The "Transformation of the Three Olds" is based on a plan to identify village-level current land use. It is a recognition of the unreasonable land use in the past, which further strengthens the village community's awareness of its rights and increases the difficulty of managing property rights relationships with respect to industrial land. The lack of coordination between the governance of industrial land property rights and the organization and governance of industrial land stakeholders further highlights the problem of rural industrial land governance in Shunde District. In addition, the inability to break through the scattered distribution of village-level industrial land means that there is still a long way to go in the governance of rural industrial land.

In the process of implementing rural industrial land governance, the divergence between "top-down" rigid control and "bottom-up" flexible governance has become an important factor restricting the transition of rural industrial land. It is difficult for the government to implement the relevant national standards for the "double compliance" of industrial land. Due to the interleaved layout of "production and living spaces" between residential buildings and industrial plants, it is difficult to meet the standard that the distance between residential buildings and industrial plants should exceed 50 m. As rural industrial areas cannot connect to the municipal pipe network, it is more difficult to achieve environmentally friendly discharge of industrial wastewater. The strongly conflicting relationship between the government and the grassroots entities in the implementation of space-control policies makes it difficult to promote industrial land governance. The asymmetry of information has increased the villagers' distrust of government policies. In

today's game the village community has the negotiation advantage about land governance, which makes it difficult to advance industrial land governance. The core of the above problems is insufficient "linkage of upper and lower levels" of industrial land governance. It would be beneficial to promote the realization of industrial land governance by paying attention to realistic demands for flexible governance at the grassroots level and avoiding the governance logic of "one-size-fits-all".

Insufficient participation of multiple subjects and unsmooth game mechanisms are important factors influencing the dilemma of rural industrial land transition in Shunde District. Even in response to the call for the "Transformation of the Three Olds," the original problems of rural industrial land still exist. Moreover, the "Transformation of the Three Olds" itself faces many problems. For example, 80% of the renovation projects are of a real estate development type, and most of the projects implemented are the renovation of old factories. Among the approved "Transformation of the Three Olds" projects, 78% of the projects are demolitions and reconstructions, resulting in a substantial increase in development intensity, and there are difficulties in "organic renewal". An in-depth study of the internal mechanisms behind this would need to pay close attention to the difficulty of effectively balancing the interests of the multiple subjects involved in spatial governance. Against the background that the land finance is unsustainable, the main body of the government hopes to revitalize the existing land resources but lacks sufficient funds for renewal and transformation. Therefore, it is necessary to introduce market capital for governance actions, but then the governance model of retreating from industrial land to real estate land with a higher rate of return emerges. With the characteristics of pursuing interests, market entities, for enterprises (households), terms due to issues such as land, contracts, leases, etc., it is impossible to invest capital for upgrading and transformation under the current land lease mechanism. However, social capital is rational with respect to economic benefits, and social capital in the form of high subsidies under the drive of interests is used to promote the development of real estate projects. Different village collectives and different interest groups within the village collectives are entangled with each other due to their internal clan ties, community consciousness, and interest relations, which have created huge obstacles to the renovation of local industrial land and the large-scale and collaborative development of rural industry. The dividends due to stockholders on account of industrial land governance may be stranded or damaged in a short period of time, making the villagers more resistant. It is difficult for multiple subjects to achieve a balance among the demands for their interests in industrial land, and it is difficult to resolve contradictions; this makes it difficult to achieve a breakthrough in the governance dilemma of rural industrial land in a short period of time.

4. The Transition and Upgrading of Rural Industrial Land Based on Spatial Governance: Taking Hengding Industrial Park as an Example

4.1. The Process of Transition and Upgrading of Rural Industrial Land in Hengding Industrial Park

Hengding Industrial Park is located within the first phase of Ronggui Huakou Environmental Protection Industrial Park and is located in the neighborhood committee of Huakou Community, Ronggui Street, with a project area of 43,147.23 m^2. Its predecessor was Ronggui Huakou Electroplating City, which was built around 2000 and was one of the designated electroplating production bases in Shunde. After years of development, the 26 metal-surface processing enterprises in the electroplating city had become scattered. The electroplating city's sewage and waste gas treatment system was unable to meet modern environmental protection requirements, causing risks to the environmental protection of the surrounding environment. The average plot ratio was 0.43, and the land-use efficiency was relatively low. Due to the relatively dispersed distribution and small scale of enterprises, the lack of rigorous management of wastewater discharge within the enterprise, and the unclassified or imperfect classification of electroplating wastewater in some enterprises, the cost and difficulty of wastewater treatment increased (Figure 7). Excessive discharge occurred from time to time and caused dissatisfaction among the surrounding

people. The land used in the park belongs to the collective land of the village. During the development of the park, there were phenomena such as land subleases, and the situation of the "second landlord" became more common. In the face of the assessment pressure of "double compliance" and the awakening of public awareness of environmental protection, how to effectively promote the transition and upgrading of the park became the common goal of all parties.

Figure 7. Before and after comparison of the renewal of Hengding Industrial Park (photo source: Urban Renewal Bureau of Shunde District).

In 2012, Hengding Industrial Park realized the reconstruction of industrial land property rights through the "Transformation of the Three Olds" policy and improved the procedures for historical land use. In August 2013, it was transferred to Hengding Investment Co., Ltd. through a public transaction for development by the Hengding Company. The high-standard factory buildings were built only to be rented but not sold. On the one hand, the successful transformation of the project solved the remaining problems and integrated scattered land into high-quality industrial land. High-standard factory buildings were built, and industry was moved into buildings, greatly improving the efficiency of land use and providing sufficient space for industrial transformation and upgrading. On the other hand, through the construction of high-standard wastewater and waste gas treatment facilities, the wastewater and waste gas in the park are treated in a unified and centralized manner, and the environmental protection requirements are strictly implemented, which fundamentally solves the environmental protection problems of electroplating enterprises. After completion, the Hengding Industrial Park has attracted a large number of electroplating companies to settle in. Currently, 16 electroplating companies have set up operations, using 58 floors of factory buildings. Hengding Industrial Park has become a successful example of rural industrial land in Shunde District retreating from use as industrial land to serve as an industrial development space. An analysis of the transition of the park's industrial land may serve as a representative example for other districts to emulate.

4.2. An Analysis of the Mechanism of Transition of the Hengding Industrial Park from a Spatial Governance Perspective

The spatial governance process combining "top-down" and "bottom-up" approaches is an important means for the transformation and upgrading of industrial land. Hengding Industrial Park did not have legal land-use procedures before the implementation of the "Transformation of the Three Olds" policy. It belongs to the self-use state-owned construction land of Ronggui Street Huakou Cooperative Economic Cooperative. The ownership relationship is mixed. The land-use procedures of superimposing multiple layers of subleasing have resulted in complicated industrial land property rights. In 2012, the land-use procedures of Hengding Industrial Park were improved through the enhancement of land acquisition compensation procedures, and the historical land-use procedures were supplemented and perfected, and transformed into legal state-owned industrial land (the government applies the current construction land for approval for the land included in

the scope of "Transformation of the Three Olds," exempting the formalities for agricultural conversion). A successful transition of land use is the result of the comprehensive effect of the "top-down" policy transmission and the "bottom-up" multi-subject game. "Top-down" use-control transmission includes both the "rigid constraints" of policies (such as environmental protection assessment, use control, etc.) and "flexible guidance" (such as supplementary land-use procedures, plot ratio compensation, etc.). The "bottom-up" space governance is mainly manifested in the protection of basic-level utilization demands and rights protection under reasonable circumstances. By guiding the development of the whole block of regional land, the government has carried out the upgrading plans of industrial parks to realize the transition and upgrading of industrial land. The "top-down" and "bottom-up" negotiation and communication mechanisms in the transition and upgrading of Hengding's industrial land are the guarantee for the smooth development of spatial governance. In this process, the property rights of rural industrial land are more clearly defined, and the fragmentation and inefficient characteristics are ameliorated.

The effective participation of "multiple subjects" is one of the internal reasons for the successful transition of Hengding Industrial Park. For a long time, village-level industrial land has had problems such as difficulty in transformation, few successful cases, and differences from the expectations of the "Transformation of the Three Olds" policy. The success of Hengding Industrial Park is closely related to the introduction of multiple subjects in the transformation process to participate in spatial governance. In the process of optimizing the industrial structure for rural industrial land, it is first necessary to coordinate the relationship among stakeholders such as multiple levels of government, new land developers, members of joint-stock cooperatives, village collective economic organizations, plant contractors (or second or third landlords). In the transition of industrial land into a park, the property-dividend mechanism is given to the president of the stock company. The Hengding Company, the park developer, has strengthened land output and environmental protection control by obtaining land-use rights, effectively attracting electroplating companies to settle in. Electroplating enterprises have effectively reduced their production costs due to the optimal environmental protection and industrial facilities in the park. Moreover, the stable land-use rights have also increased the investment confidence of the settled enterprises. The upgrading and transition of the industrial park have concentrated on solving the environmental protection problems of the enterprises so that there need be no concerns regarding their development. Multiple levels of government play important roles in negotiation and communication in the transition of industrial parks. They are not only participants in the game of multiple subjects but also active guides and promoters. The successful transition of the industrial park has also become a business card for the local government to publicize, inspiring other regions to learn from and imitate it. The effective participation of "multiple subjects" changed the rural industrial land organization system and mode of operation and promoted the effective implementation of spatial ownership governance and organizational governance.

Hengding Industrial Park's land transition process through the comprehensive management of space showed different characteristics in its various stages. Before the comprehensive management of the space was carried out, the land structure of the plot was broken, the ownership relationship was mixed, and the organizational system was chaotic, and other morphological characteristics had become important obstacles to rural development. Through the implementation of spatial governance measures combining "top-down" and "bottom-up" approaches, the use of the land has been significantly changed, especially the changes in land property rights, structural characteristics, and organizational models, which have brought an improvement in the efficiency of land-use inputs and outputs (Figure 8). Correspondingly, the face of rural development has also been significantly improved. The improvement of village ecological environment quality and the reconstruction of the social network are advancing in parallel, and the rural governance system and the level of rural industrial development have reached new levels. The benign interac-

tion between land-use transition and rural development can be realized through spatial governance.

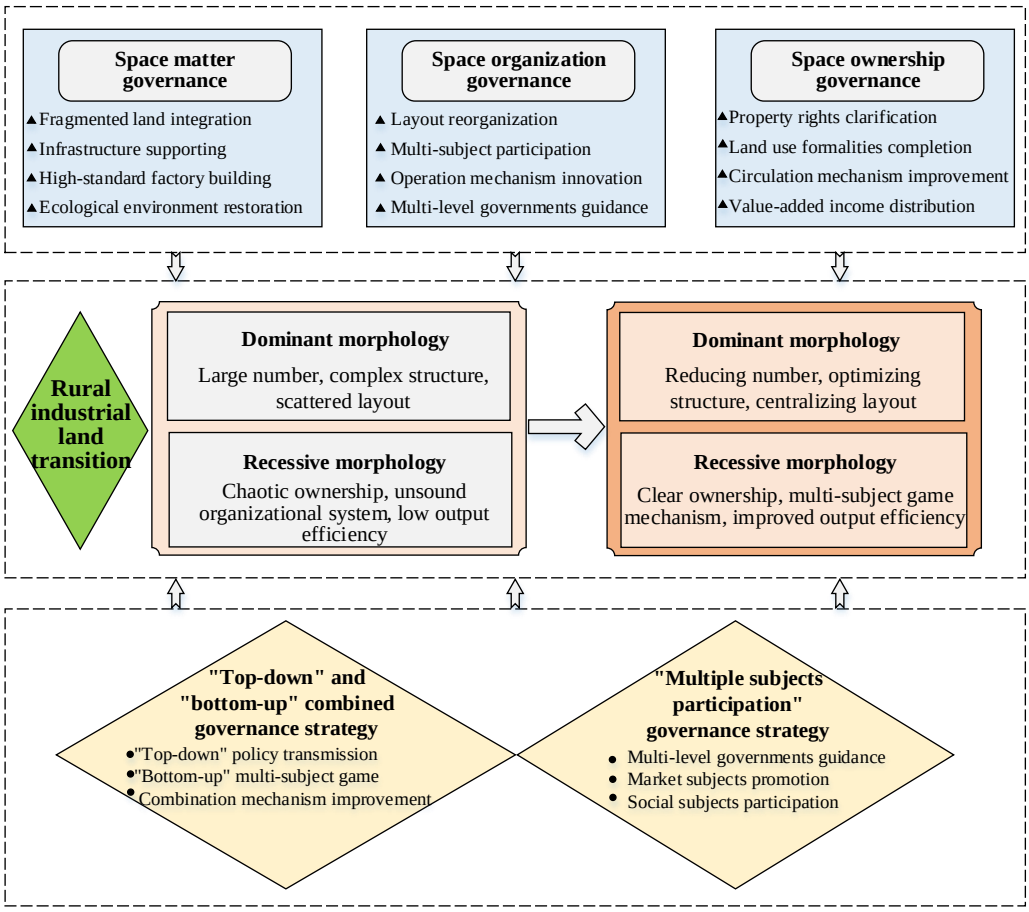

Figure 8. The transition mechanism of Hengding Industrial Park under spatial governance.

5. Discussion

5.1. The Experience and Enlightenment of Rural Revitalization in the Transition of Industrial Land in Semi-Urbanized Areas

This article first offers a theoretical analysis of the transition of rural industrial land from a spatial governance perspective and then attempts to analyze the process of transition and the existing problems concerning rural industrial land in Shunde District. It analyzes the internal mechanism of the comprehensive treatment of space represented by the "Transformation of the Three Olds" policy in combination with case studies of typical areas to promote the transition of rural industrial land. The study found that, as the frontier area of China's urbanization, rural development in semi-urbanized areas—represented by the development of rural industrial land in Shunde District—is constantly demanding breakthroughs in the face of challenges. Through spatial governance, we can change the morphology of rural land use, optimize the structure and functional system of rural space use, and fully explore the value characteristics and realization methods of rural space, which has brought sufficient funds for rural development [6]. The semi-urbanization of rural areas is a notable feature of the process of development of rural space in the Pearl River Delta. It is closely related to the urbanization and industrialization process of the area and is also closely linked to the rural governance system represented by clan governance [1]. Summarizing the revitalization experience represented by rural industrialization in semi-urbanized areas is of practical significance for inspiring other regions to carry out rural revitalization [31].

Formal management by the government and non-confrontational policy breakthroughs at the bottom appear historically to be necessary for unconventional development and breakthroughs in rural areas [32]. The historical process of the development of rural industrial land in the Pearl River Delta is accompanied by the emergence of a large amount of illegal land. In the context of a specific historical development, the government's ineffective control—or even negligence in control or acquiescence in the social and economic environment—no longer exists [33]. The policy improvements and remedial measures represented by the "Transformation of the Three Olds" have alleviated the current "strong conflict" or contradiction between government control and grassroots development to a certain extent. At present, China is striving to build a spatial governance system represented by a "single picture" of all aspects of land and space management while strengthening the transmission of "top-down" use control and strengthening the control and restraint of the underlying space [34]. Therefore, in trying to tackle "non-compliant" development, reducing the development space gradually, absorbing the reasonable development demands of the bottom in the process of high-quality urban and rural development, honoring the spatial rights of rural development, and connecting "bottom-up" innovation and "top-down" management have important guiding significance for the development of rural revitalization in other areas [8].

The development path of rural areas in semi-urbanized areas fully demonstrates that enhancing and manifesting the value of rural space is an important means of achieving rural revitalization [35]. The industrial land that was developed from a large amount of agricultural land in semi-urbanized areas served as the basic space for rural leapfrog development in the Delta area. Unlike the Yangtze River Delta, in which rural industrial land is gradually becoming concentrated in towns and parks, there is still a large amount of rural industrial land distributed within the villages in this area. The core differences are related to the management and control methods and implementation efforts of different regions, as well as the ability and operational methods of rural industrial land. The strong gaming and bargaining capabilities of the village community represented by the clans in the Pearl River Delta region are important driving factors in ensuring that rural industry continues to bring local benefits. Rural industrial land has become an important source of income and game capital for farmers, and it also enhances the value of rural space to a certain extent [36]. The spatial governance process represented by the "Transformation of the Three Olds" brings about the process of transition of industrial land and is also an important manifestation of the evolution of the rural spatial structure system, value characteristics, and functional effects. In the process of rural revitalization, learning from semi-urbanized areas, promoting the manifestation of rural space value, and innovating the realization of rural space value provide an important material basis for ensuring the rural revitalization strategy.

5.2. A Discussion of the Path of Spatial Governance Leading to Rural Revitalization

The key to the governance of rural space is coordinating multiple strategies through multiple channels to implement and encourage multiple entities to participate in governance to ensure the achievement of tangible results. The governance of rural material space is the "fulcrum", and the spatial organization and ownership governance are the "levers". Rural spatial reconstruction, organizational reconstruction, and ownership remodeling can be realized through spatial governance. Coordinated, comprehensive governance of the three is the guarantee for realizing the improvement of rural space in terms of its ability to add value, organizational perfection, and efficiency. In the current national governance system, there is still a need for further improvement of the governance system for rural space. In the process of improving the system and its mechanisms, opening up a path for multiple subjects to participate in the governance of rural space and building a spatial organization model that serves rural revitalization will help consolidate the foundation for rural development [4].

Rural spatial governance should tap the potential for spatial development, consolidate the material foundation for rural revitalization, and cultivate the rural endogenous development momentum, internal organizational strength, and resilience of the system [37]. Rural spatial governance aims to reduce the irrational use of space such as homesteads, agricultural land, collective operating land, rural industrial land, public service land, and ecological land through optimizing the trend of land-use transition so that the adjustment of land-use structures and optimization of functions are realized. The governance of rural spatial organization mobilizes farmers' enthusiasm for participating in rural revitalization by rebuilding the rural spatial relationship network and reorganizing the spatial organizational and operational system [38]. Rural spatial organization strengthens the leadership of talent, the linkage of organizations, and the interaction between urban and rural areas, which is conducive to promoting industrial development, cultivation of personnel, organizational revitalization, cultural inheritance, and the implementation of rural revitalization goals [39]. By clarifying the relationship of space property rights, the governance of rural space ownership clarifies the economic interests of multiple subjects to establish the distribution mechanism of rural development rights, defines the boundary of public and private space, and builds a rural space ownership system with clear rights and responsibilities [40]. Through ownership governance, rural spatial governance improves the rural space value system, expands the ways in which space value can be realized, and enhances the efficiency of distribution of the value of space.

The benign process of interaction between land-use transition and rural development based on spatial governance will help promote the realization of rural revitalization goals. This study found that the benign coupling state of land-use patterns and rural development status promotes rural development, whereas the reverse inhibits rural progress. In the process of urban–rural transition and development, coordinating the relationship between urbanization and rural revitalization will be an important part of ensuring the sustainable development of rural areas and the social stability of the transition. Rural spatial governance aims to tackle the problems that arise in the development and utilization of rural space, starting with a variety of governance methods, strengthening the comprehensive governance of rural space, promoting the optimization of the coupling state of rural land-use transition and rural development, and ensuring the implementation of rural revitalization goals.

At present, there is insufficient analysis of typical cases of industrial land at the microscale. The existing research on rural industrial land lacks an analysis of spatio-temporal and characteristics and transition laws. Furthermore, it pays less attention to the role of multiple subjects in the transition of rural industrial land. This article starts with the theory of land use transition oriented by rural space governance, combined with the transition process of rural industrial land in Shunde District, deeply analyzes the internal mechanism of the transition of rural industrial land oriented, and discusses the enlightenment of the transition and development of rural industry in semi-urban areas. The paper analyzes the governance mechanism of the combination of "top-down" and "bottom-up", while enriching the theoretical connotation of rural spatial governance.

6. Conclusions

Starting with the construction of an analytical framework for understanding rural land-use transition based on rural spatial governance, in combination with case studies of the process of rural industrial land transition in Shunde District and Hengding Industrial Park, this article deeply analyzed the internal mechanism of rural industrial land transition from the perspective of rural spatial governance and discussed the promise that the transition and development of rural industries in semi-urbanized regions can bring to rural revitalization in other regions.

The conclusions are as follows:

(1) In the process of "bottom-up" urbanization and industrialization, problems such as the fragmentation of rural space, difficulties in the renewal of rural industrial land,

disorder of ownership, and an incomplete mechanism for the differentiation and game of multiple subjects, are the problems of rural areas in Shunde District. These typical characteristics mean that there are many challenges in the transition of rural industrial land in this area.

(2) Since the 1990s, measures such as the "land shareholding system" and the "Transformation of the Three Olds" have significantly changed the dominant and recessive morphology of rural industrial land in Shunde District. The changes in the dominant morphology are reflected in the quantity and structure, and the changes in the recessive morphology are reflected in the property relations, organizational system, and input–output efficiency.

(3) The analytical framework based on the "matter-ownership-organization" comprehensive management of rural space is an important starting point for analyzing the process of transition of rural industrial land and exploring its transition path. The combination of "top-down" and "bottom-up" rural spatial governance strategies and the effective participation of multiple subjects are important means of promoting the transition of rural industrial land.

(4) Rural spatial governance is ultimately conducive to promoting the transition of rural land use and the healthy development of rural areas by promoting rural spatial reconstruction, organizational reconstruction, and ownership remodeling. The revitalization experience represented by rural industrialization in semi-urbanized areas can serve as an important example for the transition and development of other rural areas.

Author Contributions: Conceptualization, D.G. and L.Z.; methodology, L.Z. and D.G.; formal analysis, L.Z., D.G., P.S. and D.S.; investigation, L.Z. and D.S.; writing—original draft preparation, L.Z. and D.G.; writing—review and editing, D.G. and P.S.; project administration, D.G.; funding acquisition, D.G. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by "the National Natural Science Foundation of China" (grant number 41901204), "The Foundation of Humanity and Social Sciences of the Ministry of Education of China" (grant number 19YJCZH036), "China Postdoctoral Science Foundation" (grant number 2019M660109, 2021T140303), "Jiangsu Provincial Science Foundation" (grant number BK20190717), and "Jiangsu Provincial Social Science Foundation" (grant number 19GLC002).

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

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

References

1. Grainger, A. National land use morphology: Patterns and possibilities. *Geography* **1995**, *80*, 235–245.
2. Long, H.; Qu, Y. Land use transitions and land management: A mutual feedback perspective. *Land Use Policy* **2017**, *74*, 111–120. [CrossRef]
3. Mather, A. Forest theory and the reforesting of Scoltland. *Scolttish Geogr. J.* **2004**, 83–98. [CrossRef]
4. Lambin, E.F.; Meyfroidt, P. Land use transitions: Socio-ecological feedback versus socio-economic change. *Land Use Policy* **2010**, *270*, 108–118. [CrossRef]
5. Zhou, L.; Dang, X.; Haowei, M.U.; Wang, B.; Wang, S. Cities are going uphill: Slope gradient analysis of urban expansion and its driving factors in China. *Sci. Total Environ.* **2020**, *709*, 1–16.
6. Ge, D.; Zhou, G.; Qiao, W.; Yang, M. Land use transition and rural spatial governance: Mechanism, framework and perspectives. *J. Geogr. Sci.* **2020**, *30*, 1325–1340. [CrossRef]
7. Long, H.; Zhang, Y.; Tu, S. Rural vitalization in China: A perspective of land consolidation. *J. Geogr. Sci.* **2019**, *29*, 517–530. [CrossRef]
8. Ge, D.; Wang, Z.; Tu, S.; Long, H.; Yang, H.; Sun, D.; Qiao, W. Coupling analysis of greenhouse-led farmland transition and rural transformation development in China's traditional farming area: A case of Qingzhou City. *Land Use Policy* **2019**, *86*, 113–125. [CrossRef]
9. Cong, Y.; Wei, L. Review of land issues since 2003. *City Plan. Rev.* **2008**, *9*, 57–62.

10. Long, H.; Qu, Y.; Tu, S.; Zhang, Y.; Jiang, Y. Development of land use transitions research in China. *J. Geogr. Sci.* **2020**, *30*, 1195–1214. [CrossRef]
11. 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]
12. Kong, X.; Liu, Y.; Jiang, P.; Tian, Y.; Zou, Y. A novel framework for rural homestead land transfer under collective ownership in China. *Land Use Policy* **2018**, *78*, 138–146. [CrossRef]
13. Zou, B.; Mishra, A.K.; Luo, B. Grain subsidy, off-farm labor supply and farmland leasing: Evidence from China. *China Econ. Rev.* **2020**, *62*. [CrossRef]
14. Yin, J.; Zhao, X.; Zhang, W.J.; Wang, P. Rural land use change driven by informal industrialization: Evidence from Fengzhuang Village in China. *Land* **2020**, *9*, 190. [CrossRef]
15. Jiang, G.; Ma, W. Agglomeration or dispersion? Industrial land-use pattern and its impacts in rural areas from China's township and village enterprises perspective. *J. Clean. Prod.* **2017**, 207–219. [CrossRef]
16. Yang, R.; Chen, Y.; Xu, Q. Evolution of rural industrial land use in semi-urbanized areas and its multi-dynamic mechanism: A case study of Shunde district in Foshan city. *Sci. Geogr. Sin.* **2018**, *38*, 511–521.
17. Hansen, A.J.; Brown, D.G. Land-use change in rural America: Rates, drivers, and consequences. *Ecol. Appl.* **2005**, *15*, 1849–1850. [CrossRef]
18. Zhang, C.; Kuang, W.; Wu, J.; Liu, J.; Tian, H. Industrial land expansion in rural China threatens environmental securities. *Front. Environ. Sci. Eng.* **2021**, *15*, 29. [CrossRef]
19. Liu, Z.; Huang, H.; Werners, S.E.; Yan, D. Construction area expansion in relation to economic-demographic development and land resource in the Pearl River Delta of China. *J. Geogr. Sci.* **2016**, *37*, 1394–1402. [CrossRef]
20. Guo, Y.; Yuan, Q.; Qiu, J. Hold-up problems in urban regeneration and implication for urban planning: A case study from Pearl River Delta region. *Urban Plan. Int.* **2016**, *31*, 95–101. [CrossRef]
21. Tian, L.; Luo, C. Land share-holding system and land-use in industrialization of countryside: A case study on Shunde. *City Plan. Rev.* **2012**, *36*, 25–31.
22. Tian, L.; Liang, Y.; Zhang, B. Measuring residential and industrial land use mix in the peri-urban areas of China. *Land Use Policy* **2017**, *69*, 427–438. [CrossRef]
23. 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]
24. 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]
25. Yang, R. Spatial differentiation and mechanisms of typical rural areas in the suburbs of a metropolis: A case study of Beicun Village, Baiyun District, Guangzhou. *Acta Geogr. Sin.* **2019**, *74*, 1622–1636.
26. Tian, L.; Ge, B. Land use characteristics and driving forces of Peri-urban area in the transitional economy. *Urban Plan. Forum* **2011**, *35*, 66–73.
27. Shen, D.; Lv, X.; Wang, B. The role of government in rural construction land marketization: Based on the content analysis of contracts. *China Land Sci.* **2019**, *33*, 34–41.
28. Gedefaw, A.A.; Atzberger, C.; Seher, W.; Agegnehu, S.K.; Mansberger, R. Effects of land certification for rural farm households in Ethiopia: Evidence from Gozamin District, Ethiopia. *Land* **2020**, *9*, 421. [CrossRef]
29. Sun, P.; Zhou, L.; Ge, D.; Lu, X.; Sun, D.; Lu, M.; Qiao, W. How does spatial governance drive rural development China's farming areas? *Habitat Int.* **2021**, *109*, 102320. [CrossRef]
30. Ge, D.; Long, H. Rural spatial governance and urban- rural integration development. *Acta Geogr. Sin.* **2020**, *75*, 1272–1286.
31. Tu, S.; Long, H. Rural restructuring in China: Theory, approaches and research prospect. *J. Geogr. Sci.* **2017**, *27*, 1169–1184. [CrossRef]
32. van Vliet, J.; Eitelberg, D.A.; Verburg, P.H. A global analysis of land take in cropland areas and production displacement from urbanization. *Glob. Environ. Chang.* **2017**, *43*, 107–115. [CrossRef]
33. Nguyen, H.L.; Duan, J.; Zhang, G.Q. Land politics under market socialism: The state, land policies, and rural-urban land conversion in China and Vietnam. *Land* **2018**, *7*, 51. [CrossRef]
34. Ge, D.; Long, H.; Zhang, Y.; Li, M.; Li, T. Farmland transition and its influences on grain production in China. *Land Use Policy* **2018**, *70*, 94–105. [CrossRef]
35. Long, H.; Zhang, Y. Rural planning in China: Evolving theories, approaches, and trends. *Plan. Theory Pract.* **2020**, *21*, 782–786.
36. Navarro, F.A.; Woods, M.; Cejudo, E. The LEADER initiative has been a victim of its own success. The decline of the bottom-up approach in rural development programmes. The cases of Wales and Andalusia. *Sociol. Rural.* **2016**, *56*, 270–288. [CrossRef]
37. Chen, Y.; Liu, Y.; Li, Y. Agricultural development status and industrial prosperity path under the relationship between urban and rural areas. *Geogr. Res.* **2019**, *38*, 632–642.
38. Liu, Y.; Li, Y. Revitalize the world's countryside. *Nature* **2017**, *548*, 275–277. [CrossRef]
39. Castro-Arce, K.; Vanclay, F. Transformative social innovation for sustainable rural development: An analytical framework to assist community-based initiatives. *J. Rural Stud.* **2020**, *74*, 45–54. [CrossRef]
40. Xiao, P. A research on right structure of tripartite rural land entitlement system. *China Land Sci.* **2018**, *32*, 24–29.