Habitat International 83 (2019) 111–124

Contents lists available at ScienceDirect

Habitat International

journal homepage: www.elsevier.com/locate/habitatint

What makes better village development in traditional agricultural areas of China? Evidence from long-term observation of typical villages

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ARTICLE INFO

Keywords:
Mechanism
Village development
Rural elites
Rural networks
The bearing model
China

ABSTRACT

Although China is experiencing rapid urbanization process, village is still the basic socio-economic unit in rural China and could be seen as the cell of the rural system. A profound understanding of the nature of village development has important theoretical and practical values. This study aims to explore what makes better village development in traditional agricultural areas of China based on long-term observation and comparison of typical villages. The main findings suggest that rural elites are crucial actors in the transformational development of relatively successful villages. The success of these villages is based on the integration and coordination of internal and external driving forces, the participation, negotiation and cooperation among key actors, and the formation and development of rural networks with these key actors. These actors, interactions and processes could be theorized as a conceptual model for rural development: the bearing model. This study could help better understand the political ecology of rural development during the transition from urban bias to rural priority.

1. Introduction

Villages are basic economic and social units of rural China and even in many other countries, which support massive production and living behaviours of rural residents (Bebbington et al., 2006; Bernard et al., 2008; Howell, 1998; Tu et al., 2018). Even if China's urbanization level could reach 60% or even higher in the coming period, there will still be nearly 500–600 million people living in the vast rural areas, providing agricultural-related products and services for 1.4–1.5 billion people (Li, Liu, Long, & Guo, 2013a). China has rich diversity of villages with many attractive qualities and essential resources for the future growth of the whole country (Dumreicher, 2006). In recent decades, villages have been the main battlefield in which the problems of agriculture, farmers and rural regions are being resolved. Since 1978, there has been long-term and successful development of China's rural areas. However, growth and development at the village level have generally been much slower than in urban areas (Li, Liu, & Long, 2012). Despite this, there have also been massive successful villages appearing better development (Che, 2008; Fang, 2009; Tu et al., 2018; Wang and Zhao, 2009; Yuan, 2004; Zhu, 2007). Hence, rural regions in China may be seen with winners, losers, and in-betweens.

This mosaic of rural regions directly raises a series of questions especially about the driving forces and mechanism behind this pattern. Specifically: 1) What factors contribute to the massive imbalance in village development? 2) What can be gleaned from the experiences of relatively successful villages? 3) What policies or strategies should be implemented to assist the less-developed villages? 4) How do relatively well-developed rural areas affect adjoining rural areas? 5) How can the inclusive and sustainable development of rural areas be accomplished? By carrying out systematic study of the developmental mechanisms at the village level, we could obtain better answers to the above questions. In depth exploring the characteristics and mechanism of village transformation development, may contribute to better understanding of the key factors and their relationships and the basic rules of village development, and gaining important implications for innovating institutional arrangement and policy guidance to promote sustainable village development.

Rural development, whilst characterized by distinctive features and processes, cannot be seen in isolation from the wider regional context in which it occurs. It is an embedded and dynamic feature of regionally differentiated development (van der Ploeg & Marsden, 2008). And thus, village development studies should primarily rely on a specific regional

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https://doi.org/10.1016/j.habitatint.2018.11.006
Received 4 October 2018; Received in revised form 7 November 2018; Accepted 12 November 2018
Available online 07 December 2018

background. The North China region is a typical traditional Chinese rural region, being burdened with the responsibility of national grain supply security and restricted in development in the long-term due to the urban-rural binary structure, limited resources and environmental capacity and relative lack of non-agricultural industry development resulting in a relatively undeveloped rural area (Li, Long, & Liu, 2015, 2014 and; Liu & Wang, 2018). The comprehensive study of village development in the North China Plain has strong reference value for the most agricultural areas of rural China.

In this paper, we take the North China Plain as basic backdrop, at first, select counties of different developmental types to carry out a preliminary regional survey about the model of rural development, and then in each county we chose several villages that are capable of representing the actual development characteristics of the particular region for further investigation, aiming to clarify the status and processes of village development, identify factors affecting village development, and through comprehensive comparison, categorise and summarise the shared characteristics and general mechanism of the relatively successful villages. This study may contribute to increasing our understanding of why some villages have been successful in transition or experienced better development when compared with their surrounding villages.

2. Recent theoretical and empirical concerns of village development

2.1. Theories and approaches of regional rural development

In recent decades, researchers have conducted extensive research exploring the theories of and approaches to rural development (Haider et al., 2018; Lakshmanan, 1982; Olfert & Partridge, 2010; van der Ploeg, Ye, & Schneider, 2012). Following World War II, rural development has undergone a mostly exogenous, endogenous and comprehensive three stage transition (Terluin, 2003). Exogenous rural development theory emphasises the effects of exogenous factors on rural development where rural development is transplanted into particular region and externally determined. The benefits of exogenous development tend to be exported out from the region to other areas, and local values tend to be disregarded (Slee, 1994). Until the 1970s, the exogenous development approach tended to be the dominant model for explaining rural development. However, by the late 1970s these policies had fallen into disrepute as they did not result in sustainable development of rural regions (Ilbery & Bowler, 1998; Lowe, Murdoch, & Ward, 1995).

In contrast to the exogenous model, endogenous rural development theory suggests that rural development is mainly self-driven and relies more on the orderly utilization of local resources (Lowe et al., 1995; Ray, 1998), and the benefits of development tend to be retained in the local economy and local values are respected (Slee, 1994). This endogenous approach is closely related to the local milieu models like the endogenous growth and industrial district models, in which the institutional context of economic activities plays a key role (Terluin, 2003). When making rural policies, rural diversification, bottom-up approach, support for local business, encouragement of local initiatives and local enterprises, and provision of suitable training were highly recognized.

Additionally, more and more evidences increasingly implied that regionalized rural development is grounded in and driven by, a complex set of internally and externally generated interrelationships and interactions that shape the relative attractiveness and competitiveness of rural spaces economically, socially, culturally, and environmentally (Marsden, 2010). As a result, comprehensive rural development theory, which combines exogenous and endogenous theory and emphasises the interactional effects of internal and external forces in controlling the regional development process, is receiving much recognition (Li, 2005; Terluin, 2003). In the changing global context, actors in rural development tend to be involved in both local networks and external networks, but the size, direction and intensity of networks may vary among regions, and thus leading to the creation of different rural development landscapes (Lowe et al., 1995; Marsden, 2010; Murdoch, 2000). This phenomenon could be described as the “unfolding rural web”, whereby both the density and the quality of interactions, internally and externally, affect the pathways and velocity of rural development trajectories in different rural spaces (van der Ploeg & Marsden, 2008).

In terms of major paradigm shifts of understanding rural development in western rural geography since 1950s, productivism, post-productivism, and multi-functional rural have been widely discussed (Wilson, 2001). And the paradigm shift of modern and post-modern approach of rural also caused much attention and debates (Murdoch & Pratt, 1993; Philo, 1992, 1993). Ellis and Biggs (2001) provides a brief overview of the major switches in rural development thinking that have occurred from 1950s to 2000s. Dominant and sequential themes in rural development could be concluded as modernisation and dual economy (during 1950s and early 1970s), rising yields on efficient small farms (from late 1960s–2000s), process, participation and empowerment (from early 1980s–2000s), and sustainable livelihoods approach (from late 1980s–2000s).

Typically, Lakshmanan (1982) presents a systems model early that views rural development as the outcome of interactions among various rural system components—the pattern of asset distribution, organizations and institutions and incentive structure in the region and the external relations to the outside world. Marsden (2010) traces the emergence of the regional eco-economy with reference to a new conceptual model called the rural web and identified six key domains of rural development—endogeneity, novelty production, sustainability, social capital, new institutional arrangements and the governance of markets. Olfert and Partridge (2010) suggest that the most promising opportunities for rural development lie in improving integration with urban economies in order to access agglomeration economies, enhance rural amenities, and increase entrepreneurial capacity.

For China, as a developing country with a large population, the institutional arrangement of rural development is not yet well-enough. The unprecedented rapid and unbalanced industrialization and urbanization has brought about different degrees of multidimensional impacts on the rural areas. In addition, the dual structure of urban and rural areas with Chinese characteristics has further aggravated the disparities of impacts. And thus, led to diversified rural development approaches. China's rural development road is particularly unique. Comparative and comprehensive studies are needed to address these issues. Fortunately, the presentation of the theories of, approach to, and paradigm shifts of rural development as exemplified by the studies reviewed above provide multidimensional perspectives and important theoretical basis for understanding the development of China's rural areas and villages in the process of rapid industrialization and urbanization. These studies may also provide support for the ability of comprehensive rural development theories to explain recent rural development patterns in China.

2.2. Basic concepts and recent studies of village development in rural China

The village is the main battlefield for solving issues related to farmers, agriculture and rural areas, building new countryside and revitalizing depressed rural areas. Village development in China may be defined as a positive result of agricultural development, economic growth, social progress, environmental improvement and cultural inheritance (Li et al., 2012). While according to the definition and objects of Rural Revitalization Strategy (Liu, 2018), village development in China could be also defined as a positive result of thriving businesses, pleasant living environment, social etiquette and civility, and effective governance and prosperity. Village transformation development means the process of the dynamic optimization and innovation of the system

mechanism, operation mode and development strategies of village development by main actors of village development, and thus realize the transformation of the approach of development, in most cases, changing from the old development model to the new development model which meets current and strategical requirements. In addition, village development mechanism means the process, mode, law and nature of the interactions between the internal and external factors which impact the development and evolution of village system.

In China, the socio-economic transition of village has attracted much attention in the fields of geography, sociology and political science (Deng, 2010; Di, 2009; Qu & Long, 2018; Tu et al., 2018). Researchers have also studied the effects of the institutional environment and technological advances on the different types of village economies from a theoretical perspective (Qiao, 2008); conducted theoretical and empirical analysis on the appearance of special rural villages and on evolutionary mechanisms (Li, Luo, & Fan, 2009; Liu & Li, 2009; Qiao, Lee, & Ye, 2016; Tu et al., 2018); explored socio-economic transformation of villages in the Yangtze river delta (Che, 2008; Fang, 2009; Wang and Zhao, 2009; Yuan, 2004; Zhu, 2007); conducted quantitative research on the variations in development at the village level (Rozelle & Boisvert, 1995; Sato, 2010). In addition, standard and large-scale village surveys revealed the phenomena and mechanism of hollowing villages in rural China (Liu, Liu, & Zhai, 2009; Long et al., 2009, 2012). However, the bulk of research on China's villages has focused on developed areas where development has been driven by industrialization and urbanization. Less research has been focused on village development in remote rural areas that lack mineral and tourism resources, and non-agricultural industries (Li et al., 2012).

Despite the aforementioned progress, our understanding of village development remains inadequate. There is a need for a comprehensive study of the evolution, common principles, and inner mechanism of relatively successful villages in the traditional agricultural area since the start of China's rural development reform. A theoretical understanding of the dynamics at play will also contribute to the formulation of rural development policy in the future. Therefore, this study will explore what makes better village development in traditional agricultural areas of China based on long term observation of typical villages.

3. Methodology

3.1. Study area

The North China Plain includes the whole of Shandong province, the majority of Beijing, Tianjin, Hebei province and Henan province, and the northern part of Anhui province and Jiangsu province. This region together includes a total of nearly 500 counties and districts, with a total area exceeding $40 \times 10^4\,km^2$. It has a total population of more than 300 million, which almost equals to the population of the USA. However, there are significant differences in the level of rural development within this region (Li, Liu, & Long, 2011; Long et al., 2018). Rurality index is an effective and comprehensive index reflecting rural conditions (Cloke, 1977 and 1978). Recent research shows that the rurality index of most rural areas in North China Plain during 2000 and 2010 belongs to the high value area, with rurality index significantly higher than that of the other typical agricultural areas like the Northeast China Plain, the Chengdu Plain in the Sichuan Basin, and the plains along the middle and lower reaches of the Yangtze River (Li et al., 2015). In addition, rural settlements in the North China Plain tend to be more concentrated than those in mountainous areas, and thus the characteristics of community are more obvious (Li, Liu, Long, & Wang, 2013b; Wang, Liu, & Chen, 2010). These characteristics make the North China Plain an ideal region for this study. In consideration of differences in level and mode of rural development, Dancheng county in Henan province, Yucheng city in Shandong province and Shunyi district in Beijing were selected as case studies (Fig. 1).

Dancheng is located on the southern edge of the North China Plain. Dancheng has been identified as a state level impoverished county, and village development here is relatively lagging. The county consists of villages whose economy is based on traditional agriculture and which are not prosperous. Based on primary surveys in four townships and eleven villages, Chicun and Wangcun were selected as the typical villages for their experience of serious depopulation. They carried out effective hollowed village reconstruction strategies and transformed as a result. Their experiences in village revitalization through residential land consolidation and allocation may provide important references for numerous hollowed villages (Li, Liu, Long, & Cui, 2014).

Yucheng is located in the traditional agricultural region in the north-west of Shandong province. Yucheng has been subject to rapid agricultural industrialization and development in recent years and is at a medium level of rural development, from the agroindustry point of view (Chen, Liu, & Xu, 2010; Liu, Ren, Long, & Gao, 2014). Based on the preliminary survey followed by a careful review of nine local villages, Xiacun and Xingcun were selected as typical villages that experienced relatively successful and sustainable agricultural industrialization and rural urbanization through residential land consolidation compared to most villages in the traditional agricultural regions.

Shunyi district, a suburb close to the core of the Beijing city, is driven mainly by industry and commerce. In the more rural part of Shunyi, most villages practiced multi-functional agriculture which provided various agriculture-related services to urban dwellers. We investigated three towns and seven villages in Shunyi district and selected Beicun as the village most representative of villages in the suburbs of big cities. Beicun is a specialized agricultural village working under the shareholding system. The multi-functional agriculture in this village shows great sustainability (Li et al., 2013a).

With regard to Dancheng, Yucheng, and Shunyi, there is a gradual increase in the level of industrialization and development from south to north, from areas that are far from cities to the suburbs close to cities. The income of rural people and the level of rural development also increases accordingly (Li et al., 2011). These patterns were representative of the North China Plain.

Further, we selected and compared average villages with each of the relatively successful villages, to better understand the characteristics and mechanism of village development.

3.2. Data sources

The data includes information relating to historical and current village development, as well as the thoughts and aspirations of actors such as local level officials, entrepreneurs, rural elites, and rural households. These information and materials should be mainly obtained relying on solid field investigation and long-term observation. On-site surveys were conducted in Dancheng county between May and June of 2010; in Yucheng city between February and March of 2009 and in December of 2010; in Shunyi district on two separate occasions in December 2010. Annual field site visits have been made to each case study village since 2014 to better understand the more recent dynamics of village development and check the main findings of previous investigations.

3.3. Methods

The method of comparative case study was used in this study. Firstly, we interviewed local officials from the departments of land management, agriculture, industry and construction, and government officials at county level and town level, to gain an overall understanding of the development of villages within that county or district and collect detailed information on key villages. Secondly, we visited case study village officials, entrepreneurs and typical rural households (for instance basic rural households, party members, retired teachers

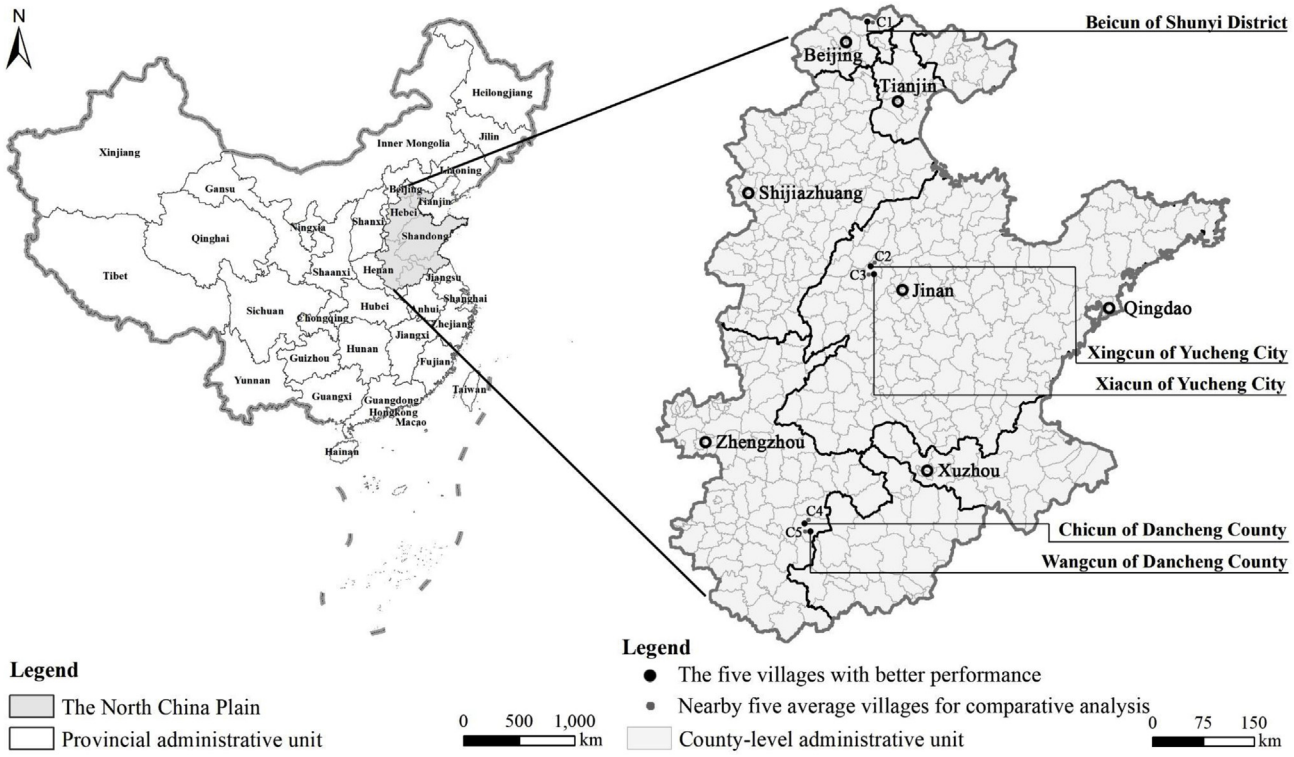

Fig. 1. Location of the case study villages.

and officials) to gain an overall understanding of the current status, influencing factors, problems and future priorities of village development. Thirdly, a survey questionnaire was administered to a random sample drawn from 10% of all rural households in the study area. The survey included questions on the current status, decisive factors, problems, and future priorities of village development. Fourthly, a database containing information on household size, ages, education, occupation, employment, and income of each household member was created for each household in each village. And fifthly, annual return visit was also conducted to ensure the accuracy of the information provided by local people and the reliability of our analytical results.

4. Results and analysis

4.1. Dynamic processes of village development

In general, a common development characteristic summarized from each case study village was the full use of land, labour, and other resources to boost agriculture production and bring about community cohesion leading to greater development. Through comprehensive land consolidation, Chicun and Wangcun were able to improve housing conditions and provide solid foundations for modern agricultural and scale management. Xiacun and Xingcun experienced a preliminary transformation from traditional agriculture to specialized and large-scale agriculture and became specialists in vegetable planting and livestock breeding. Beicun had undergone a transformation and an upgrade to multi-functional agriculture providing agro-products, leisure tourism, and fruit picking services for urban residents. The information on basic conditions, development stages, and recent transformational development processes in each relatively successful village is shown in Table 1.

Overall, the development process in the case study villages seems to follow three stages: Firstly, the early stage between 1978 and 1990 was epitomized by traditional agriculture and a slow village development rate. The main driving forces behind village development at this stage were institutional innovation relating to a household contract responsibility system and the application of chemical fertilizers and new agricultural varieties. However, this was restricted by such factors as the restrictive pricing of agricultural products due to the urban-rural binary structure and the rapid increase in the population of the villages. Fortunately, during this stage, problems of feeding and clothing of village residents were effectively resolved.

Secondly, in the 1990s, village development entered a preliminary stage due to the influence of intensive agriculture, structural adjustments, off-farm works and out-migration. In the new round of reforms and opening-up of the agricultural market, agricultural institutional adjustments and incentives and technical advances operated comprehensively to lift village agricultural production capacity further, while off-farm work became a new and important source of income. It is worth pointing out that during this process, the depopulation and hollowing in Chicun, Wangcun, Xiacun, and Xingcun were severe. However, the income of rural households increased considerably, and this laid the socio-economic foundation for transformational development of these villages.

And thirdly, since 2000, the continuing improvements in market economy systems and supporting policies for agricultural and rural development have resulted in village development entering a new stage. The case study villages adopted a combination of factors such as local resources endowments, market demand, and policy guidance to foster a transformation strategy of industrial economic development and rural settlements construction with the help of rural elites. During this stage, the comprehensive development of the local community also received more attention from outside. These differences in the strategies, trajectories, and mechanisms of development between the relatively successful village and their surrounding villages increased the development discrepancies.

These developmental stages generally conform to the macroscopic policy background of rural land institutional innovation (e.g., the establishment of the household contract responsibility system), the reform and opening-up policies in the 1980s, the market-oriented reforms in the 1990s, and the transformation of agricultural and rural development policy since the 2000s (Li et al., 2013b).

Table 1
Development stages and transitional characteristics of the five case study villages.

Village	Basic situation	Developmental stage	Main characteristics of recent transformational development
Chicun	In 2009, the population of this village was about 1200 residents. The village economy was dominated by agricultural production and migrant work. The income per capita was about 4000 RMB¥. After two years of preparation and planning, village residents rebuilt their hollowed villages and revived their community in 2007. The new settlement occupies 8.67 ha, and newly increased farmland amounts to 23 ha.	1) From 1978 to 1991, traditional agriculture resulted in slow village development. 2) From 1992 to 2004, the intensive agriculture and out-migration for off-farm work resulted in preliminary village development. 3) Since 2005, "hollowed village reconstruction & community regeneration" drove village transformational development.	The village committees, with organizational help from the village secretary, conducted detailed investigations, discussions, and consultations and worked out a preliminary plan for "hollowed village reconstruction & community regeneration." Following several rounds of democratic meetings and public participation, the final revision of the reconstruction plan was made. Over a period of three years, the comprehensive goal of improving housing conditions and visual appeal, community environment, and increasing the area of cultivated land was achieved.
Wangcun	In 2009, the population of this village was 1800 residents, and net per capita income of residents was about 5000 RMB¥. Villagers began to make full use of derelict low-lying land in 1998, and after 10 years of effort, they successfully constructed a village fair and moved their houses to the fair. 40 ha of original residential land have been reclaimed for farmland.	1) From 1978 to 1991, traditional agriculture resulted in slow village development. 2) From 1992 to 1997, the intensive agriculture and out-migration for off-farm work resulted in preliminary village development. 3) Since 1998, the creation and development of rural fair accelerated the regeneration of hollow village.	The village secretary suggested that the best use of the derelict low-lying land would be to establish a rural fair. This suggestion was accepted democratically at a village meeting. The village committee established a planning group and after extensive study, in-depth investigation, and several rounds of revision, they worked out a planning scheme, obtained the approval of the village residents and passed the vote. Village fair construction was begun in 2000, and has developed rapidly since then. Villagers satisfied with the innovative management systems of the village committee.
Xiacun	Located 6 km south of Yucheng city, with good transport connections. In 2009 the village population was 487, with 44 ha under cultivation, while residents occupied 18 ha. After land consolidation and the establishment of a trading market, it established itself as village specializing in vegetable planting with a net per capita income of villagers of 9000 RMB¥ in 2010.	1) From 1978 to 1994, traditional agriculture resulted in slow village development. 2) From 1995 to 1999, reorganization of the agricultural structure and migrant labor resulted in preliminary village development. 3) Since 2000, Xiacun has specialized in vegetable farming and become a vegetable trading center.	Since 2000, this village has established a new stage in its land consolidation. The new village committee mandated the creation of an economy of scale and an improved irrigation system. Efforts were made towards greenhouse cultivation and a shareholding system which led to the creation of a new vegetable marketplace in 2006. This type of land use did away with problems of fragmented agricultural land and led to a major increase in vegetable production capacity and substantial economic benefits.
Xingcun	Located to the northwest of Yucheng, it has good transportation. In 2009, the village population was 278, with 70 ha farmland under cultivation; residents occupied 30 ha. After efforts spanning more than 10 years, Xingcun established itself as a specialized agricultural village for livestock (cows and pigs) as well as vegetable planting. Xingcun has a net per capita income of more than 8500 RMB¥ in 2010.	1) Between 1978 and 1995, traditional agriculture resulted in slow village development. 2) From 1996 to present, a highly efficient cultivation and livestock industry and diverse, non-agricultural economic activities have driven the transformational development of the village.	The village secretary and wealthy entrepreneurs guided village residents away from undiversified agricultural activities towards a productive framework that concentrated on livestock, poultry, and vegetable based on a cooperative platform. This allowed for a linkup between small agricultural producers and the larger market. The ongoing development of village industry and community construction were based on a community-based study that provided solutions for technical problems.
Beicun	Located in the suburb of Beijing, Beicun has good transportation and environmental conditions. After 20 years of development, this village is a multifunctional, agriculturally specialized village with seedling and plant nurseries, livestock breeding and agricultural product processing facilities, and agricultural travel and tourism offerings. In 2009, the total village population was 1600, of whom over 1000 were immigrants, with a net per capita income of around 20000 RMB¥.	1) Between 1978 and 1991, traditional agriculture resulted in slow village development. 2) Between 1992 and 1999, innovations in a system of shareholdings allowed for the development of an efficient livestock industry which drove the preliminary village development. 3) From 2000 to the present, modern multi-functional agricultural industrialization has driven a transformational development of Beicun.	Since the early 1990s, innovations, including the introduction of a system of shareholdings and a shareholding cooperative system, allowed village residents to become investors in, and beneficiaries of, village development. This effectively resolved problems of cash shortages and lack of incentives. The development strategy was dynamically suited to market needs and local development needs. This resulted in the successful creation of a modern, ecologically sustainable village with a compound "economy-society-environment" based system, allowing for the transformation of the traditional agricultural village to an industrialized village with shareholding system.

4.2. Key factors influencing village development

A comprehensive analysis of the interaction of various factors present at different village developmental stages indicated that main factors affecting village development could be identified as endogenous factors and exogenous factors: Endogenous factors included natural and environmental resources, geographical location, economic foundations, human resources, social resources and random endogenous factors. Exogenous factors included institutional arrangements, specialist technology, local and overseas markets, macroscopic economic environment, government policy, and random exogenous factors. In general, an economically feasible geographic location, excellent economic history, natural and environmental resources, village social capital, and plentiful human resources were the main endogenous factors affecting village development. In general, a stable macroeconomic environment, healthy institutional arrangements, an expanding local and overseas market demand, advanced specialist technology, and appropriately timed and effective policies were the main exogenous factors supporting village development. Random endogenous or exogenous factors could also stimulate, catalyse, facilitate or obstruct village development. The detailed information on how these factors influencing village development and some typical examples are shown in Table 2.

Table 2
Main factors influencing village development.

	Influencing factors	Mode of effect	Typical examples
Endogenous Influencing Factors	Natural resources and environment	Provides substantial raw material, environmental resources, and capacity for village development; non-favorable resources and environment may suppress/stimulate village development.	Land resources provide spaces for the industrial development of Xiacun, Xingcun and Beicun; low-lying and easily flooded farmland in Wangcun stimulated and accelerated the development of rural market.
	Geographical location	Affects market, transportation, and the flow of production factors—especially labour, money, technology and information.	Poor transportation restricted the development of Chicun and Wangcun, while superior accessibility accelerated the development of Xiacun and Beicun.
	Economic foundations	Provides the capital for village development, and to some extent, may affect the progress and status of village development.	Hollowed village revitalization, agricultural development and market construction closely connected to original economic foundations.
	Human resources	Helps to accelerate technical improvements, increases social capital and business capacity, so has an important influence on village development.	The development capacity of local people is crucial for village development. Rural elites' organizational and management abilities determined how well they were able to rally, motivate, and unify the actors involved.
	Social capital	Involvement on a significant social scale and reduction of trading costs are beneficial in terms of access to scarce resources and accelerating the rate at which village socio-economic activities are completed, thus having a major influence on village development.	By creating a comprehensive statutory system, Wangcun increased orderly coordination between individuals; social capital allowed Beicun to bridge the gap with major external actors.
	Endogenous random influencing factors	These may affect all aspects of village development. In particular, they may directly or indirectly influence the way in which the various influential factors take effect.	Unexpected loss of soil fertility in 70 ha of land in Wangcun acted as a stimulus for entrepreneurs to carry out strategic analysis which resulted in the transformational development of the village.
Exogenous influencing factors	Institutional arrangements	Comprehensive institutional arrangements generally encouraged village development, while incomplete institutional arrangements generally restricted village development.	An urban-rural binary structure generally restricted village development. Incomplete rural land institutions were a major causal factor in village hollowing. Beicun was able to overcome cash difficulties by introducing a shareholding system.
	Specialist technology	The capacity for technical innovation in villages in terms of agricultural and industrial development is limited. However, the successful introduction of suitable technology is generally sufficient to stimulate the development of village industries.	The introduction of innovative imitation of planting, cultivation and processing technology stimulated development in Xiacun, Xingcun, and Beicun.
	Local and overseas markets	Product and markets are major factors affecting village production, consumption, and development.	Development in Beicun benefited partly from close observation and active adherence to, and adoption of, guidance from product markets. Generally, an incomplete factor market restricted rural village development.
	Macro-economic environment	A stable macro-economic environment is to a large extent capable of guaranteeing the relative stability of market demand and factor supply.	An excellent and stable macroeconomic environment stimulates the development of urban economies, ensures the stability of market demand, and is beneficial to the rural economy and the development of village industry.
	Government policy	An effective supply of publicly available materials and timely financial or project support are capable of supporting village development. A lack of policy, poorly aligned or excessive policy interference generally has a negative effect.	Policies that were designed to benefit agriculture played an active role in village development, but sometimes with limited effects. The immediate effects of government support were pronounced in Chicun, Xiacun and Beicun. How the "residential land consolidation" will affect future development of Xiacun and Xingcun is as yet unclear
	Exogenous random influencing factors	Similar to endogenous influences, exogenous random influencing factors may also have effect on other factors and thus have effect on village development	The preferences and support of officials have an impact on the development of villages. For lack of comprehensive government support mechanisms, the replacement of key officials of the county government led the support of government to Wangcun decreased.

Some general points are as follows: Firstly, the endogenous and exogenous factors are characterized by significant differences in their effects and interacts in a nonlinear and complex manner. It is these differences in effect and their interactions that result in the differences of village development. Secondly, it is difficult to accurately assess the extent of the influence of these factors on village development, as the numerous factors at play are to some extent interchangeable. And thirdly, the development of villages with better performance can be seen as comprehensive development process involving both endogenous and exogenous factors but with endogenous factors as the main driving forces.

4.3. Common features of village development

4.3.1. Emphasis on public participation

Public participation here refers to the empowering of the actors at a basic level (Li, 2001). Twelve dimensions of public participation are listed in Table 3. These 12 dimensions were presented to a greater or lesser extent during the transformation of the case study villages and may have played a strong role in village development. Typical examples per village are provided below: 1) Villagers in Chicun were involved in all aspects of the reconstruction of the hollowed village during planning, decision making, and implementation. 2) Villagers in Wangcun were also fully involved in the creation of their marketplace. 3) Villagers in Xiacun were widely involved in land reorganization and the development of vegetable industry. 4) Villagers in Xingcun were highly involved in community study and cooperation over the development of their agricultural sector. And 5) Villagers of Beicun were widely involved in and actively worked within the shareholding system and shareholding cooperative system.

Once public participation became a consistent activity, the results became self-perpetuating, thus ensuring that major matters in village transformational development were addressed effectively. Field investigation also revealed that there were extensive differences in the totality and extent of involvement of villagers. Therefore, more attention should be paid to motivate most stakeholders in the village

Table 3
Local participation during the courses of village transformation development.

Dimensions of participation	Chicun	Wangcun	Xiacun	Xingcun	Beicun
1. The decision of the beneficiary during the development and the intervention in the selection process.	✓	✓	✓	✓	✓
2. Target groups are involved in the entire process of project implementation.	✓	✓	✓	✓	✓
3. Beneficiaries make corresponding contributions to the development process.	✓	✓	✓	✓	✓
4. Target groups take the initiative and responsibility for the implementation of the project.	✓	✓	✓	✓	✓
5. Beneficiary groups have considerable commitment to project success and have the ability to implement projects.	✓	✓	○	○	✓
6. Both the target groups and the beneficiary group attach importance to local knowledge and innovation.	✓	✓	✓	✓	✓
7. Target groups ensure the utilization and control of relevant resources.	✓	✓	○	○	✓
8. Target groups are capable of capacity building.	○	✓	✓	✓	✓
9. The target groups, especially disadvantaged target groups, are able to share in the benefits of development.	✓	✓	○	✓	✓
10. Target groups have the ability for self-development.	○	○	✓	✓	✓
11. All groups participate in the redistribution of power and democracy.	✓	✓	○	○	✓
12. Establishment of a long-term participation mechanism among all groups.	✓	✓	○	○	✓

Note: "√"means a clear existence in relevant villages, "○"means not particularly obvious; The public participation dimensions in this table were generated by the authors based on the finding from the field investigations.

development process using a diverse range of strategies. Enhancing village residents' capacity for construction, and ensuring the rights of villagers to be informed, to express an opinion, to supervise, to make decisions, and to benefit from this process is not only necessary but would also demonstrate the wisdom of the key actors in the village development process.

4.3.2. Integrating endogenous and exogenous driving factors

The village system is an open system. The continuous exchange and flow of materials, energy, and information between it and the external world allows for a positive evolution of the system and a dissipative structure. The interactions among natural and environmental resources, geographical location, human resources, social capital and economic foundations facilitate the capacity of the village to grow and develop. This capacity is a key endogenous driving force in the development and evolution of the village system, and the extent of this driving force is the decisive factor in village development. Meanwhile, the evolution and development of the village system is also driven by exogenous driving forces, such as market demand, policy guidance, institutional arrangements and specialist technology. The dynamic and variant interactions between endogenous and exogenous factors drive the overall development of the village. Therefore, it is important to analyse the interactions among and between endogenous and exogenous factors and the extent to which they are at variance or integrated to better understand the complexity of village development.

The enhancement and integration of endogenous and exogenous driving factors are the focus of the relatively successful villages. Some examples are as follows: 1) "Hollowed village consolidation—new community construction" in Chicun galvanized villagers to reorganize the village internally, in conjunction with exogenous project support and financial support provided by the local government. 2) During the process of establishing a vegetable market in Xiacun, one set of local actors evaluated the village's intrinsic vegetable growing foundations and capacity for development, while another set of local actors predicted the trends in the development of the market gardening sector and vegetable wholesale markets. This coordination was combined with the introduction of advanced cultivation techniques and support obtained from local government, such as infrastructure construction and the provision of credit.

Thus, during the village development process, emphasis needs to be placed on: 1) Ascertaining the willingness of villagers to support internal development. 2) Accessing human capital and social capital resources (exogenous factors). 3) Utilizing natural and environmental resources and economic foundations of the village. And 4) evaluating the demand of external markets and related policies, and using available technical assistance and financing (exogenous factors) thereby integrating the endogenous and exogenous driving factors behind village development.

4.3.3. Village elites are key actors in integrating endogenous and exogenous driving forces

The analysis of the data on the five case study villages indicates that village development is driven by the integration of endogenous and exogenous driving forces. Village elites with social and economic resources play an important role in this integration. They use their influence and power to publicize and mobilize resources to raise village residents' awareness of the need for development. They are also able to assess external market and environmental conditions, integrate external supports, and coordinate these endogenous and exogenous driving forces. In particular, they are able to use their entrepreneurial talents and social capital and adopt practical innovations to procure a timely supply of scarce elements for village development. The typical contributions of rural elites in the development of the five relatively successful villages are shown in Table 4.

The integrative role played by rural elites can be analysed from the perspective of social network theory (Burt, 1995; Granovetter, 1973).

Table 4
Typical contributions of rural elites in village development.
Source: the authors completed this table based on interviews with local actors.

Village	Intra village system	Outside of village system
Chicun	Advocate for the idea of land consolidation; provide motivation; promote democratic decision-making; organize local planning; coordinate project advancement.	Apply for government project support.
Wangcun	Advocate for the idea of constructing village market; promote democratic decision-making; organize local planning; drive capacity building and cultural construction.	Apply for government project support; organize market research.
Xiacun	Mobilize and organize land readjustment and market building; actively carry out technical demonstrations and promote scientific planting.	Actively apply for government project support; strengthen technology import.
Xingcun	Motivate villagers to carry out large-scale breeding of livestock and poultry; actively promote the establishment and development of cooperatives.	Actively apply for government project support and technology imports.
Beicun	Organize the formulation of major decisions on village development such as shareholding system transformation, industrial development strategy.	Establish cooperative relations with relevant research institutes and universities.

Abundant human capital and external connections are necessary prerequisites for the integration of external power. Rural elites often have the education and professional skills to detect and understand changes in market demand, capture valuable market information, and evaluate government policies. They could also use their personal and social networks to make crucial connections with external actors who control key resources for village development. The development of the five case study villages was driven in large part by the insight, sense of mission, willingness and ability to overcome unfavourable conditions, and entrepreneurial spirit of their rural elites. Therefore, efforts should be made to train rural elite individuals in leadership, management, and technical skills, and to support and reward their pioneering spirit and dedication so that they could drive village development more effectively.

4.3.4. Try to seize the high value-added parts of the value chain

For the most part, village industries consist of agriculture-related industries and their value chains. In general, the structural characteristics of the agricultural industry value chain are seedling development and large-scale production at the front of the industrial chain; and processing, circulation, and brand marketing at the back end of the industrial chain. Brand marketing is a high value-added link, while small-scale production and conventional breeding are low value-added links (Fig. 2). In the case study villages, seizing the high value-added part of the value chain becomes a strategic objective. Typical examples are as follows: 1) Xiacun occupies the lower value-added link of vegetable production which relies on the lower cost of land and labour resources to achieve scale production, and where development is at a relatively low level. Fortunately, Xiacun leaders are aware of this and have constructed a cold storage unit and established their own vegetable brand. These activities demonstrate Xiacun's desire to upgrade its products' value chain. 2) Xingcun also occupies the lower value-added link of vegetable cultivation, and livestock and poultry rearing. Even though the trading costs have been partly reduced by the introduction of cooperative operations, the level of development in the village still needs improvement. To solve these problems, a pig slaughtering and processing industry has been established to encourage and stimulate the transformation and upgrade of this sector. And 3) through continuous practice and innovation, Beicun followed market demand and brought into the high value-added link of the chain that includes breeding, processing, circulation, and the village industrial system. Beicun leaders understood the cohesion of capital and labour factors, and villagers gained considerable returns as a result.

In general, high value-added products require greater input in terms of capital, technology, and management. These are the inevitable inputs that must be addressed in the transformation of village industry. The experience of Beicun can be adopted by other villages as follows: 1) Innovate an effective management system—implement the shareholding system and enterprise management to enhance the availability of capital; And 2) promote technical cooperation with external universities and institutes to improve the technology for production.

4.3.5. Land consolidation as an important approach for rural restructuring

Land consolidation is a spatial problem-solving land management tool used to eliminate certain types of land fragmentation, enhance land productivity, and improve rural production and living conditions. It does so by assembling plots, rejuvenating failing or aging rural settlements, and abandoned industrial and mining land, and by constructing new roads, irrigation facilities and other auxiliary services (Coelho, Portela, & Pinto, 1996; Long, 2014; Wang, Zhang, & Kee-Cheok, 2014). Land consolidation played a vital role in transformation and development of the case study villages. For example: 1) Wangcun and Chicun village have improved their condition and visual appeal, increased the area and production capacity of cultivated land, and revitalized the community through the consolidation and reclamation of inefficient rural residential land (Li et al., 2014). 2) Xiacun and Xingcun improved the production capacity of cultivated land through land consolidation. They decreased residential land, improved the community environment, and increased the cultivated land area through the reconstruction and rural residential land reclamation of the hollowed village parts of their village. The two villages have become a local model for their land consolidation initiatives. And 3) Beicun has reduced the number of plots and increased the average area of farmland, thus boosting the development of multi-functional agriculture through land consolidation. In the new era of village development, land consolidation would continue to play a key role.

4.3.6. Innovation as a source of power for village development

Innovation is the key driving force for regional development. The examples of the case study villages demonstrate that the pioneering spirit of villagers is an important force for the transformation and development of the villages. Typical innovations that occurred during development in the case study villages are listed in Table 5 and briefly described below: 1) In Chicun and Wangcun, social integration was achieved by the improved public participation and democratic decision-making. 2) Xingcun and Beicun solved the transaction cost between

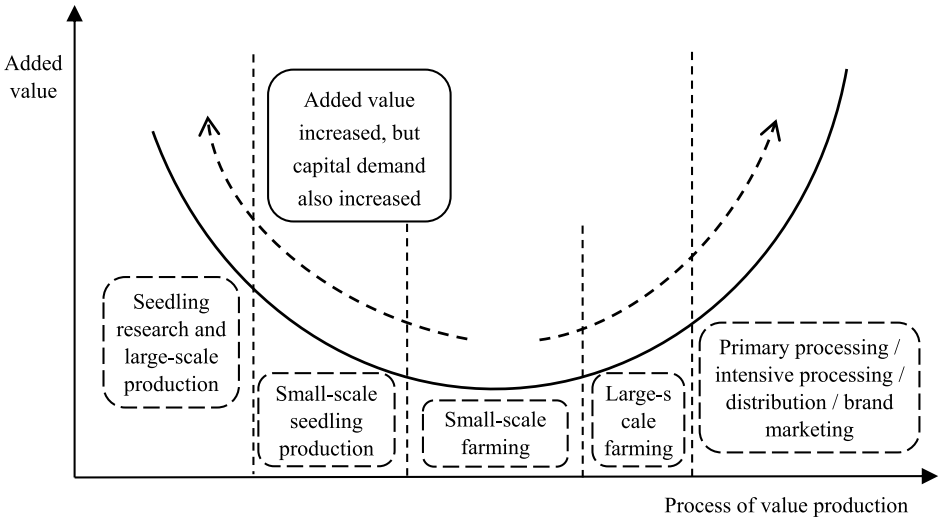

Fig. 2. Smiling curve of the value chain of planting and breeding industry in villages.
Source: the authors drew this figure based on interviews with key actors in village development.

Table 5
Significant innovation initiatives of case study villages.
Source: the authors completed this table based on interviews with local actors.

Village	Innovative initiatives
Chicun	Enhanced public participation and democratic decision-making to promote hollowed village reconstruction.
Wangcun	Promoted village market and new community construction based on public participation, democratic decision-making, and the establishment of planning teams and reward system.
Xiacun	Carried out the consolidation and contract management of cultivated land flexibly, promoted the development of the vegetable industry through the construction of vegetable trading markets and established a local brand for local products.
Xingcun	Solved the transaction costs of "small farmers" and "big market" through the construction and development of cooperatives.
Beicun	Solved the shortage of funds and ambiguous property rights in the process of industrial development through the joint-stock system; adjusted the orientation of industrial development in a timely manner; promoted close cooperation with external technical units.

small farmers and big markets through cooperatives. 3) Beicun promoted the core competitiveness of industrial and village development through the introduction of technology, research and development and imitation innovation. Beicun also solved the problems of shortage of funds and ambiguous property rights in the process of industrial development based on the shareholding system. Therefore, village development in the new era should attach significant importance to the construction of learning villages to enhance the capacity of innovation of local actors.

4.3.7. Strategy, planning and execution are important support for village development

Village development is a stepwise and dynamic process. Clarifying the characteristics and rules of each stage of village development is of practical reference value for the transformation of villages. Theoretically, the development and transformation of case study villages can be deconstructed into four stages (Fig. 3): 1) Observation and evaluation. The main actors of village development, particularly the rural elites, closely observed and evaluated the condition and status of village development, the motivation of other actors, the external market demand, and the alignment of regional policy towards village development. The development direction of the village was then based on their observations and evaluations. The human capital embodied by the main actors also played a key role. 2) Motivation and integration. The rural elites were able to stimulate and integrate the internal and external driving forces of village development and achieve a consensus among local government, village leaders and residents to form the village development strategy. Social capital such as trust and the relationships represented by village social integration and the external relationship network played a key role. 3) Overall planning. With the participation and consensus of stakeholders, specific village groups developed the plans for development. Here, both human capital and social capital played important roles. And 4) collective action was undertaken to integrate and carry out all the relevant tasks. Here, execution was a crucial factor.

From observations of Chicun and Wangcun, which undertook hollowed village reconstruction, Xiacun and Xingcun, which engaged in vegetable planting, livestock and poultry farming, and Beicun, a multifunctional village in suburb of Beijing, it seems clear that the powerful of execution of planning, and strategy drive village transformation and development from one stage to the other and led to the development of new networks and new human-environment interactions. Thus, great importance should be attached to the four stages of village development and the formation of new development networks and new human-environment interactions.

4.3.8. Village development is a dynamic process of self-organization and structural optimization

The interactions of actors can be considered a part of dissipative structures and non-linear open systems that are far from a state of equilibrium. The system is constantly exchanging elements such as matter, energy, information, and capital with the outside world. The

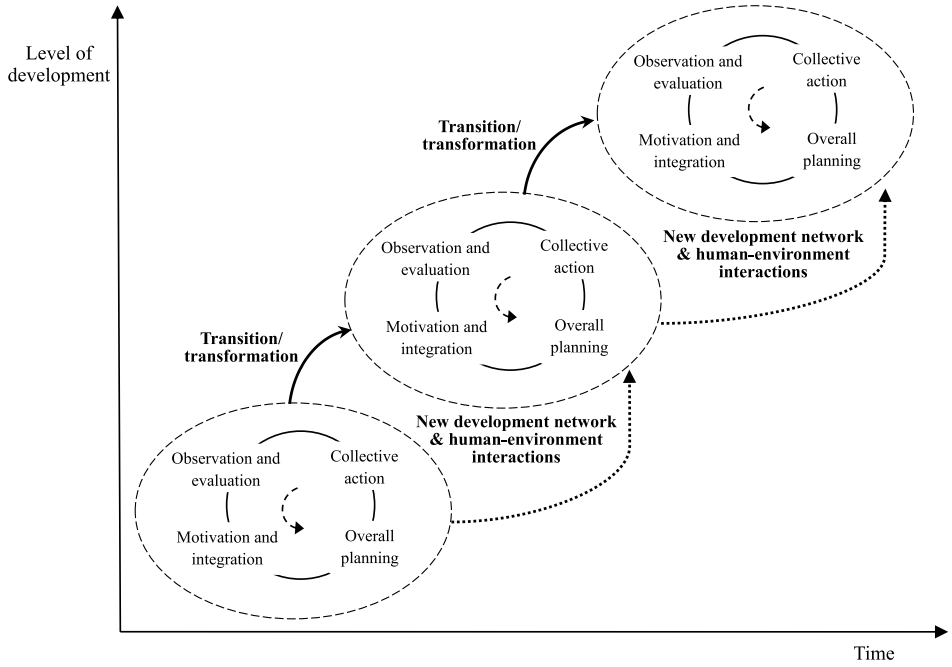

Fig. 3. Village development transition/transformation dynamic processes.

input of external elements could largely impact the operation and evolution of the village system. These external elements converge and transform into the internal structural elements of villages and develop into autonomous and endogenous driving factors within these villages. When changes in one or another of the parameters in such systems reach a certain threshold, fluctuations occur and a mutation and dynamic transition of the village system may take place, transforming it from its former chaotic, disordered state to a temporally, spatially and functionally ordered state.

Such a transformation and optimization of system structures consist of three dimensions: 1) Bio-physical structural optimization such as improved environment, increased ecological diversification, improved village landscape, and increased function of ecological systems services. 2) Techno-economic structural optimization such as the introduction of innovative technology that increases input efficiency and economic efficiency, the optimization of industrial structure, and the enhancement of industrial competitiveness. And 3) institutional-social structural optimization, such as building a new institutional system to achieve efficient management and effective incentive, the optimization of population quality structure and income structure, the promotion of social integration and the progress of social undertakings, the enhanced support of institutional and social factors for village development.

4.4. Mechanism of village development

The mechanism of relatively successful village development in China's traditional agricultural areas could be summarized as follows: Village residents are the main body of village development and rural elites are its core element. Based on their knowledge of local resources, market demand, government policy, and their experiences, rural elites can motivate most actors to formulate development strategy, carry out tasks by the division of labour, and participate in competitive markets to build a collaborative, optimized organization. The optimized, bio-physical, techno-economic, and institutional-social structures of the village increase its competitiveness and geographical functions and enhance its value which in turn accelerates industrial development, environmental improvement, and social transformation. The mechanism is typical of the transformation and development of relatively successful agricultural villages in China's traditional agricultural areas as represented by the case study villages. Thus, the keys to development are the leadership of rural elites, the participation of stakeholders, good planning, good use of resources and information, access to markets, and the support of local governments and industries (Fig. 4).

The case study villages exhibited the skills of self-organization, networking and other dynamic characteristics during the transformational development process. Based on the empirical analysis, some implications for village development could be summarized as follows: 1) Villages with open, non-equilibrium and nonlinear characteristics are more likely to develop sustainably. Therefore, village development should focus on expanding external connections, expanding potential markets, and promoting individual and group diversity. 2) A village development network grows out of the relationships and interactions among various internal and external entities leading to the formation of networks that vary in density and quality, and to villages with different development trajectories and development levels. Therefore, the key actors in village development should strengthen external relations, enhance their social capital, and occupy and consolidate the key nodes in the village development network. And 3) the process of village development is a process of continuous feedback, adjustment, and adaptation of rural networks for the actors. The process should be timely, and actors should be aware of and make use of resource endowments, the external market, and government support. The actors should also be motivated, able to make observations and evaluations, integrate incoming information, and plan well, thus to realize targeted collective action and promote the optimization, transition, and transformation of the village system.

5. Discussions

5.1. A dialectical view on the current approach of rural development

Although the socio-economic scale of villages is small, they are very complex in terms of the actors involved, the factors at play, and the diverse ramifications of their effects. The stories of case study villages revealed that rural elites and the social capital they create, through both internal and external socio-economic networks, have a major effect on village development. This development effect is mainly based on rural elites' personal abilities and entrepreneurship skills and thus means that the development effect has strong uncertainty and restricted replicability. Therefore, China's policies and strategies for agricultural and rural development should include a strengthened role for rural elites and all other development stakeholders to create a more effective and normal institutionalized system of village development that results in stable, sustainable, balanced, and healthy rural areas.

During the long-term observation, the following questions have also caught our attention: 1) Often, elite governance modes can lead to the problem of elite capture, in which the benefits of development accrue inequitably to the elite (Dasgupta & Beard, 2007; Platteau, 2004). Our survey found that the problems of elite capture did occur in some case study villages where rural elites gained additional benefits during the process of industrial development, infrastructure construction, and distribution of profits. 2) Excessive administrative interventions in village development may occur as the power of the local government usually exceeds the strength of the community. And 3) most of the case study villages with better performance gained various even additional supports from local government. This indicated that governments sometimes prefer to invest in villages with relatively better conditions. This Matthew effect, in which advantages accrue to the already advantaged, needs to be addressed and further analysed.

Therefore, it is necessary to study the growth mechanism of the village rural elites, analyse the mechanisms of social capital in village development, and systematically address how to integrate these mechanisms during the industrialization and urbanization process. This would lead to a more complete and advanced system of rural development, a better rural governance mechanism, and contribute to steady, sustained, balanced and healthy development of the rural areas (Agrawal & Gupta, 2005; Fritzen, 2007; Howell, 1998). Furthermore, there is a need to balance the relationship between the government and community, the government and markets, the guidance and intervention, and the authority and grassroots. And thus, upgrade the approach of rural development from driven by rural elites to new development mechanism and model driven by the village collectives or autonomous organizations.

5.2. Theorizing the dynamics of village development: the bearing model

Based on the empirical case studies, the main actors, networks and webs of village development could be further explained in terms of the bearing model (Fig. 5). Firstly, rural elites in relatively successful villages of rural China currently play a more important role in coordinating the various actors, starting/restarting the four links (observation and evaluation, motivation and integration, overall planning, and collective action) and forming and reshaping the networks and rural webs. It is worth mentioning that, considering the uncertainty of the growth and possible substitutability of rural elites, the relative stability of autonomous organizations, the role of rural collectives in these processes should be enhanced to pursue the sustainable rural development. Secondly, field investigation and case studies showed that relatively successful villages had developed rural networks that supported superior village development; these networks comprise village residents, village commission and local government members, natural and environmental resources, commercial enterprises, markets, cooperatives, and technological support systems. Thirdly, the dynamic

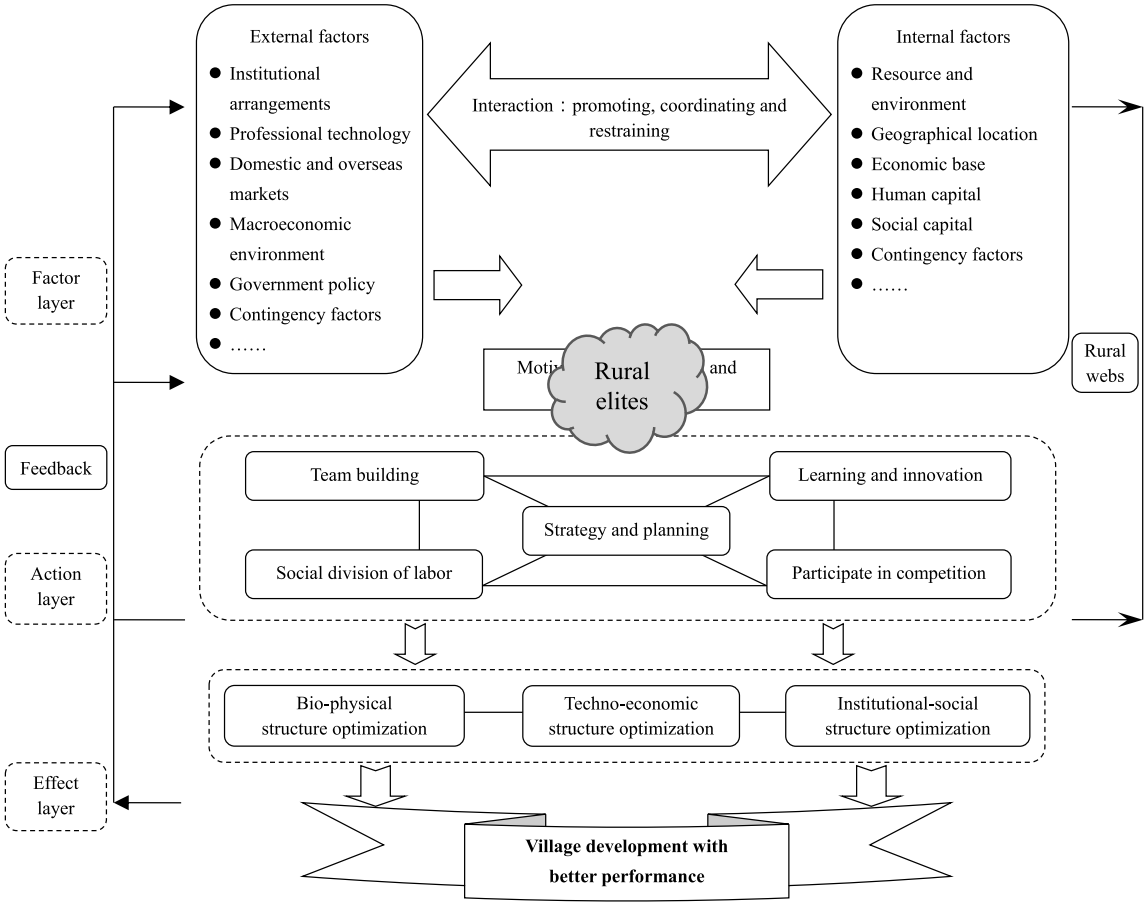

Fig. 4. The dynamics and mechanism of village transformation development.

character of the village development process may have been the result of four development steps—observation and evaluation, motivation and integration, overall planning, and collective action— undertaken by key actors, including the rural elites, which led to a well-organized village development network and finally, to transformation of the village system. Fourth, the network of key actors and resources during village development led to the creation of rural webs. Rural webs are multi-dimensional, consisting of key conceptual building

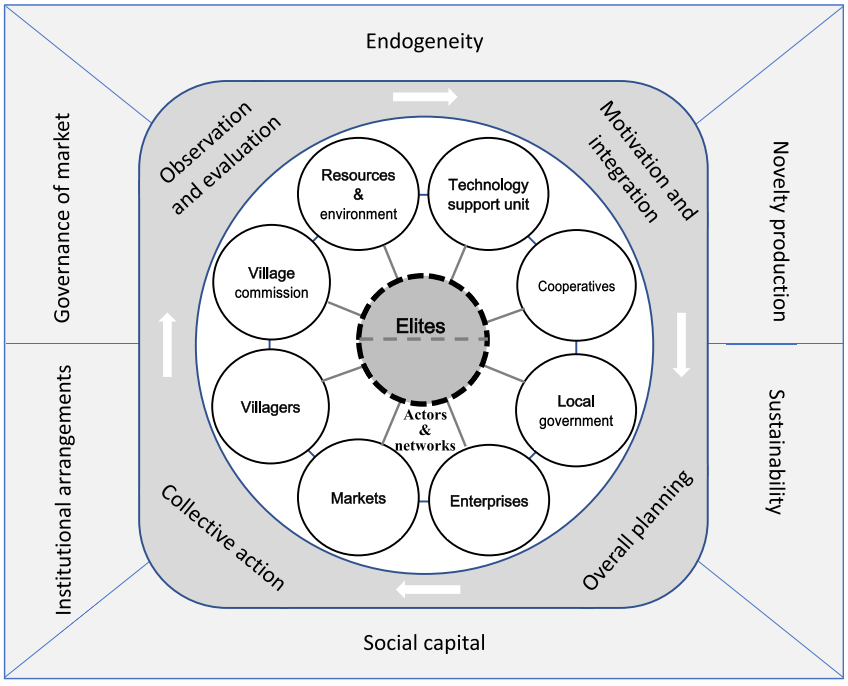

Fig. 5. Main actors, networks and webs of village development: the bearing model.

blocks—endogeneity, novelty production, sustainability, social capital, institutional arrangements, and the governance of markets (van der Ploeg & Marsden, 2008). Specifically: endogeneity refers to the degree to which a regional economy is grounded on regionally available (and regionally controlled) resources; novelty production refers to the capacity within the region, to continuously improve processes of production, products, and patterns of cooperation; sustainability refers to the existence of the social and ecological conditions necessary to support human life at a certain level of well-being through future generations; social capital refers to the ability to get things done collectively; institutional arrangements can, from a generic perspective, be understood as structures and mechanisms of social configuration and cooperation; and market governance refers to the institutional capacity to control and strengthen markets and to construct new ones.

Overall, the actors and elements involved in village development form various networks based on their diversified interactions, with each productive link forming part of the network; the network supports the stakeholders involved in village development and the flow of materials, finance, energy, technology, and information. The sustainable development of a village system can be regarded as the process of constantly improving, expanding, and strengthening of the village webs. The success of village transformation often depends on whether the stakeholders can access and explore scarce resources efficiently. From the perspective of networks and rural webs, the success of village development largely depends on whether it can build and strengthen the key nodes and action relationships. In other words, this depends on whether it can occupy the structural holes or bridge the gaps between key actors (Burt, 1995; Granovetter, 1973).

5.3. Comprehensive village development for rural revitalization

In the process of rapid industrialization and urbanization, many villages face increasingly severe problems of “rural disease” such as aging, depopulation and environmental degradation (Liu and Li, 2017; Liu, 2018; Cao et al., 2018). It is important to change this situation through systematic, comprehensive, and innovative policies, plans and, collective actions. The report of the 19th National Congress of Communist Party of China in October 2017 made the decision to implement the strategy of rural revitalization and the new “Document No. 1 2018” also focuses on rural revitalization. Rural revitalization, as per Document No.1 2018 includes goals such as thriving businesses, pleasant living environment, social etiquette and civility, and effective governance and prosperity and is now a major strategy to promote China's agricultural and rural development. Related documents listed many tasks and projects to promote rural revitalization, but little attention has been paid to the innovation of working mechanism which may enable the policies and projects to be better implemented. Specifically, the development process identified in the village case studies provides valuable information for rural revitalization for inclusion in Document No.1 2018. For example, rural revitalization could adopt a dynamic and participatory networking process.

Some additional implications and recommendations for rural revitalizations are as follows: Firstly, the former top-down, one-size-fits-all development mode should be replaced by a mixed, top-down/bottom-up mode so that development policy and its strategies can be combined with the real and critical local needs to achieve place-based development. More attention should also be paid to marginalized villages and rural households with a lower ability for development. Secondly, as rural revitalization is a multi-subject coordination process, the government should focus on making better public policies, improve infrastructure, and ensure an effective supply of public services. The government should also strive to establish and improve the public participation mechanism, training of rural villagers, elites, and entrepreneurs, fully stimulate the vitality of local elites and entrepreneurs, and enhance their willingness and ability to promote the development of rural areas and ordinary villagers. Thirdly, both rural development and rural revitalization are dynamic processes. It is necessary for stakeholders to observe and evaluate conditions, remain motivated, meet obstacles positively and collectively, and integrate overall planning and collective action. And fourthly, the evaluation and supervision mechanisms of the major policies in the process of rural revitalization should be innovatively implemented so as to promote better development. Specifically, new participatory supervision mechanisms of village-level public affairs should be established to reduce and even eradicate elite capture.

6. Conclusions

Based on long-term observation of relatively successful villages in three typical county regions of the North China Plain, this paper explored the mechanism and nature of village development. The common features of village development could be concluded as: Grassroots participation is the core concept and basic principle that should be adhered to during village development. Internal and external motivation of all participants should be integrated to meet village development goals. Rural elites play a significant role in motivating and integrating the needs of internal and external participants. Village industrial development should appropriate the high value-added chain. Innovation is an important engine for driving village development. Strategy, planning, and executive force are also vital supports for village development. Overall, village development is a dynamic process of self-organization and network formation.

In terms of the general mechanism of village development, village development depends on complex economic, social, and political processes in which the various groups of actors attempt to achieve outcomes in accordance with their aims. Local villagers are the main body of village development, and rural elites are the core element. Rural elites rally and integrate the internal and external motivation of other actors in the development arena based on their knowledge of local resources, market demand, government policy orientation, and the development readiness of all other actors in the field. The other actors jointly build the collaborative organization, adopt innovative ideas, formulate development strategies, carry out tasks using the division of labour approach, and participate in market competition so as to accelerate the optimization of the bio-physical structure, techno-economic structure, and institutional-social structure of the village towards accomplishing transitional development of the village. Rural development emerges from interaction among the effects produced by global forces and local responses.

The concept model of the development mechanism of relatively successful villages could be summarized as the bearing model: the dynamic character of village development can be regarded as the timely activation of four development stages—observation and evaluation, motivation and integration, overall planning, and collective action—by key actors, including the rural elites, to realize the self-organization and the networking of village development. This suggests that rural development should pay attention to the integration and coordination of internal and external driving forces, the participation, negotiation and cooperation among key actors, and the formation and evolution of actor networks in the rural development process.

This paper gives a comprehensive depiction of the process, characteristics, and mechanism of village development in the North China Plain, based on long-term observation of typical villages. Village development is a complex systematic process. When compared to western studies (Binns & Nel, 2003; Dasgupta & Beard, 2007; Marsden, 2010), public participation, social capital, and collective action are crucial for village development. While in China, supports from local government, rural elites, and social capital especially *guanxi* also play important roles. The main findings of this study may help us better understand the political ecology of rural development in China during the transition period from urban bias to rural priority development. And important implications for promoting Rural Revitalization Strategy could be also

addressed. Nevertheless, there are also some limitations in this study: Firstly, the findings of this paper, based on the empirical study of five relatively successful villages and their surrounding average villages in three typical counties of the North China Plain, may be limited by possible bias in sample selection. Therefore, the finding and conclusions will require verification and refinement in future such studies. Secondly, the influencing factors and the mechanisms of village development proposed in this study are qualitative rather than quantitative and measurable. The simulation of village development based on the mechanism should be an important way to make the theoretical achievements more scientific. In future studies, the data from large-scale survey data may be analysed using statistical tools, such as econometric model or structural equation modelling based on the mechanism of village development provided by this study. And thirdly, stakeholders'/actors' participation in, motivation for, and innovative mindset for village development were less than optimal and should be improved in future studies. Thus, future study for China's rural development could include exploring strategies for capacity building, accumulation of social capital for rural communities, empowerment of local actors, and moderating the potential for elite capture.

Acknowledgement

This work was supported by the National Natural Science Foundation of China (Grant Nos. 41571166 and 41731286) and Global Rural Plan-China Rural Vitalization Research Project. The insightful and constructive comments and suggestions from the three anonymous reviewers are greatly appreciated.

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