

The Enduring Commons in the Evanescent Age: The impact of E-commerce on the rural commons in Zhejiang, China

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This project examines the relationship between collective land management by villagers, the construction and improvement of logistics and internet infrastructure, and the establishment and operation of e-commerce businesses in rural villages in Zhejiang, China. Zhejiang is the home province of Alibaba, China's largest e-commerce and technology company. The research aims to investigate how the development of e-commerce influences rural life, and vice versa.

The study focuses on villages that have undergone significant transformations due to their active engagement with e-commerce industries. These transformations have been facilitated by the support or negotiations with mega e-commerce platform companies and various government agencies. As a result, these villages have experienced noticeable increases in exposure, production efficiency, and overall land development.

The research documents change in the rural landscape at regional, local, and human scales. It also explores the social dynamics among villagers, including mutual learning, imitation, cooperation, and competition. The project aims to gain a deeper and more nuanced understanding of how these dynamics impact the decision-making of villagers and local village leaders. This is achieved through on-site fieldwork, GIS analysis, literature review, and comparative case studies. The specific aspects of decision-making that are explored include the establishment of new industries, land use transformation, and the construction of infrastructure and communal service facilities. Additionally, the project investigates the current state and future impact of these new development projects. The goal is to promote equitable and sustainable development of urban-rural commons for the villagers who are experiencing these changes.

NATIONAL COMMONS AND RURAL COMMONS

The concept of commons has been continuously expanded and extended to suit different occasions.¹ Garret Hardin defines commons as shared finite natural resources.² Ostrom introduces the term "common-pool resource" to describe "a natural or man-made system that is sufficiently large as to make it costly (but not impossible) to exclude potential beneficiaries from obtaining benefits from its use."³ Since then, scholars from various fields have referred to commons in relation to different types of resources, whether tangible or intangible. As concluded by Rose, commons is a limited sharing regime with open access to resources,⁴ which highlights the two fundamental characteristics that constitute commons.

In the socialist political system of China, the land and environmental resources are considered shared resources owned by the state, representing the People, and benefiting the public. Additionally, China's adoption of a socialist market economy means that any major economic development project, whether initiated by the government or private sectors, is seen as a part of a national endeavor. The ultimate objective is to achieve shared national development and prosperity. Thus, China theoretically can be seen as a commons at the national scale.

Rural areas in China operate under a system of collective land ownership, where villagers within the same village share ownership of the land and benefit from its environmental resources. This is different from urban areas, where the state owns the land. Since 1987, city governments have been authorized to sell the land use rights of state-owned land to private sectors for various nonagricultural purposes, which has promoted real estate development in cities.⁵ However, according to the constitution and the Land Administration Law (initially passed in 1986 and amended in 1998), development for urban purposes on collectively-owned rural land is prohibited unless the ownership is converted from rural to urban.⁶ Consequently, collectively-owned rural land is primarily used for agricultural activities, with only a small portion allocated for residential and township-village enterprises.⁷

The different ways of dividing land ownership and land use rights in urban and rural areas, along with the social welfare system known as hukou, which categorizes Chinese citizens as urban or

rural based on their birthplace, contribute to a significant dichotomy between urban and rural areas in China. In his 1947 book *From the Soil: The Foundations of Chinese Society*, Chinese anthropologist and sociologist Xiaotong Fei observed that Chinese peasants live in clustered villages, with the village serving as the fundamental unit of the rural community. Villages can vary in size from a few households to several thousand households.⁸ Limited mobility of the population between villages hinders the formation of larger communities that encompass multiple villages. Within the village, trust is established through a deep understanding of the rules of conduct, to the extent that reliability becomes inherent.⁹

Due to ongoing policies, urban areas have experienced development through a combination of government intervention and market forces, while also adapting to global influences. In contrast, rural areas, with fewer immigrants and limited external market impacts, have largely remained in accordance with Fei's observations. The residents of these villages have been guided by local customs, influenced by familial and clan relationships,¹⁰ and share common values. As a result, Chinese villages with a longstanding tradition of cooperation and resource sharing have further solidified their characteristics as rural communities due to the impacts of the policies.

In the age of the internet, e-commerce has provided rural populations with the opportunity to participate in online economic industries. This has greatly improved transaction efficiency and expanded the influence of villages. E-commerce has connected previously isolated villages with people and markets from all over, resulting in significant transformations in their internal economic structure, industry, environment, and social dynamics. How has the autonomous development of the e-commerce industry by villagers affected the rural commons? Additionally, following the emergence and initial success of e-commerce villages, the promotion and expansion of rural e-commerce have become part of a national project. How have these national interventions affected the development of e-commerce in rural commons as well?

THE EMERGENCE OF RURAL E-COMMERCE IN THE ECONOMIC, POLITICAL, AND TERRITORIAL CONTEXT

The growth of online shopping in rural areas, particularly in Zhejiang, has become a widespread and significant phenomenon. This is because of the combined efforts of various groups, including rural residents engaged in e-commerce, e-commerce platforms, and governments at all levels. To understand their relationships and impacts on each other, it is important to consider their actions within the specific economic, political, and territorial context of that time.

Given the large scale, typicality, and innovative nature of Alibaba, this article examines its effect on the e-commerce industry to explore the role played by e-commerce platforms. However, it also acknowledges that other major Chinese internet companies,

such as JD.com, Tencent, TikTok, and others, have varying degrees of influence on the digitalization of rural areas and the development of e-commerce.

Alibaba, the largest private e-commerce platform company in China, was founded in Hangzhou, the capital city of Zhejiang Province, in 1999. During the 2000s, many small and specialized manufacturing enterprises in Zhejiang looked to expand and find new trade opportunities with the help of policy incentives. Recognizing this potential, Alibaba extended its online trade channels, allowing transactions to go beyond regional boundaries and even across borders. This expansion created more business-to-business opportunities for these enterprises.¹¹

In April 2003, Alibaba launched Taobao (which means "to search for treasures" in literal translation), an online shopping platform that enabled customer-to-customer transactions. This move allowed Alibaba to further establish itself in the e-commerce market and gain wider recognition.

Since then, Alibaba has continuously expanded its business model, offering online trading platforms, Internet finance, intelligent logistics networks, and mobile Internet services, among others. Over time, Alibaba has transformed from a simple online trading platform into a comprehensive e-commerce service system. Throughout this journey, Alibaba has attracted various participants to join its ecosystem, creating a flourishing e-commerce community where Alibaba holds a prominent position.

Alibaba's rural expansion began with the Thousand Counties and Ten Thousand Villages Plan in 2014. The plan proposed to invest 10 billion *yuan* in three to five years to establish 1,000 county-level operation centers and 100,000 village-level service stations and to oversee the plan's implementation through a series of top-down strategic plans. In the same year, Alibaba started the first pilot of Rural Taobao in Zhejiang Province, building both online and physical platforms specifically for rural e-commerce with the goals of changing villagers to consumers and suppliers.

Under the influence of internet companies, China began to support e-commerce on a national level through policies. In 2016, the national government implemented the "Internet+" policy, which systematically planned the development of information infrastructure, the enhancement of the information industry ecosystem, the adoption of new models of online economic standards, and the establishment of public service information platforms. The following year, the central government introduced the nationwide Rural Revitalization Strategy (2017) following the Beautiful Villages Initiative policy (2013), explicitly proposing the implementation of the digital rural development strategy¹² as part of the rural revitalization strategy.

Since 2017, incentivized by the national strategy for rural revitalization, the Alibaba Public Welfare Foundation has established the Poverty Alleviation Fund. In 2021, it was upgraded to the

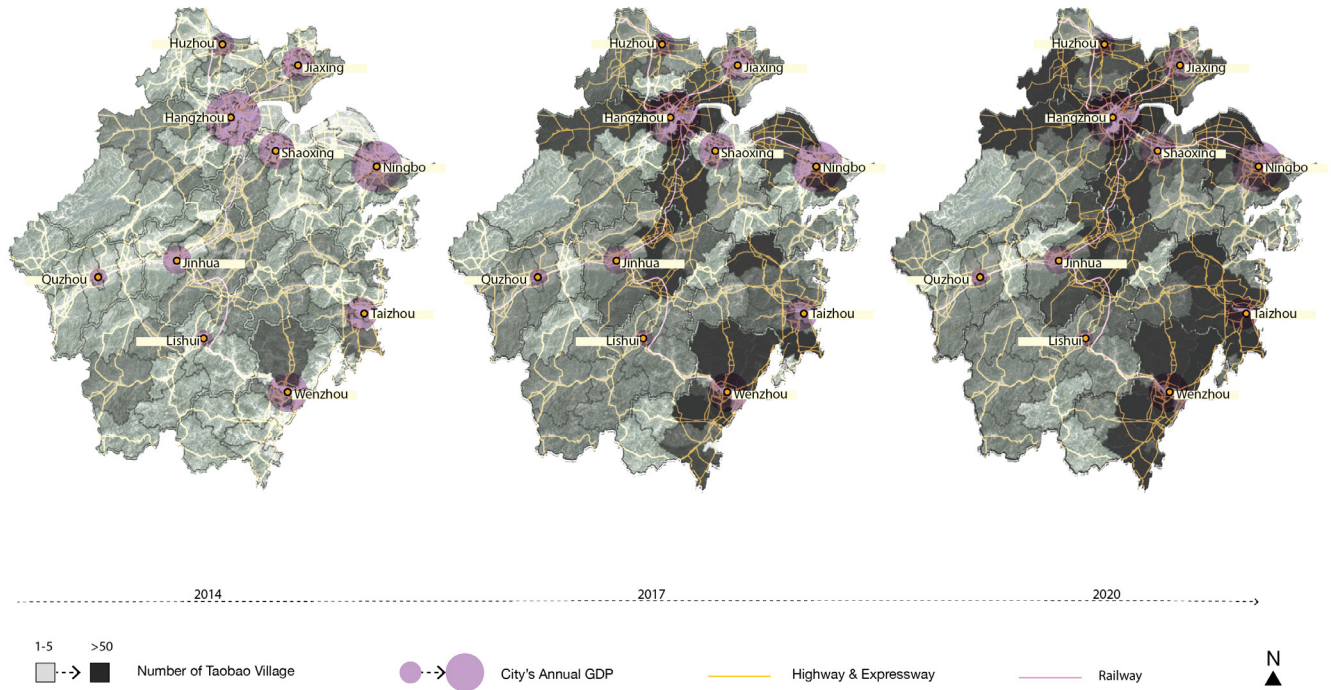


Figure 1. The spatial relationship between Taobao Villages and cities in Zhejiang. Image created by the author, data from AliResearch.

“Rural Revitalization Fund” to carry out the “Hot Land Program,” which aims to boost rural revitalization through various means such as industry, human resource, and technology revitalization. These projects include actively promoting online sales of agricultural products in impoverished counties and villages, providing primary education and vocational training, transferring the company’s technology to improve farming techniques, and implementing public welfare insurance programs in villages.¹³ Most of these initiatives are not directly aligned with Alibaba’s rural e-commerce strategy, but rather aim to support the government’s efforts in implementing their policies.

Through the collaborative efforts of Alibaba and various levels of government, the advancement of e-commerce in rural areas has brought about significant transformations in the physical landscape, economic structures, and way of life for villagers. This has resulted in the emergence of what is now commonly referred to as **Taobao Village**. Initially coined to describe villages where e-commerce activities have become concentrated and serve as the primary driver of economic growth, Alibaba officially adopted this term in 2009. According to their definition, a Taobao Village is any administrative village that meets at least one of the following criteria: annual e-commerce sales exceeding 10 million *yuan*, the presence of over 100 active online shops, or a minimum of 10% of households engaged in online businesses.¹⁴ Alibaba’s annual reports indicate a remarkable surge in the number of Taobao Villages, jumping from 20 in 2013¹⁵ to an impressive 7780 by 2022.¹⁶

In his 2020 book *New Urbanization from Below: The Development and Governance of Taobao Villages in China*, Zhendong Luo explores two types of the emergence of Taobao Villages. The first type is built on a strong local industrial foundation, combining traditional industries with the internet. The second type, known as *wu zhong sheng you* (creating something out of nothing), refers to clusters formed under the promotion of the “Internet Plus” policy without a strong basis in any industries.¹⁷ Additionally, Luo categorizes the development models of Taobao Villages into three types: spontaneous growth, government-driven, and government + service provider models.¹⁸

Through my field investigation, I discovered that there are multiple types of emerging and development models of Taobao Villages coexisting within close proximity. Furthermore, the actions of the government and service providers can directly or indirectly influence the measures taken by neighboring villages, resulting in a more complex development process. For the case studies, I utilize Luo’s models of emergence and development to provide background information on the initial development trajectory of the e-commerce villages I visited. Subsequently, I offer a detailed description of the intricate short-term and long-term impacts within the village caused by internal and external factors, as well as the dynamic relationship between the village and its surrounding areas.

As the study area, Zhejiang Province is located in the Yangtze River Delta region on the southeast coast of China. It owns jurisdiction over 11 prefecture-level administrative regions based on 11 cities. Among the 23 provinces in China, Zhejiang is the third smallest in terms of land area. According to the *China Statistical*

Yearbook 2022 published by the National Bureau of Statistics of China, Zhejiang ranked 8th in population (6.457 million) and 3rd in GDP per capita (113,032 *yuan*) in China in 2021.¹⁹

The reasons for selecting Zhejiang are mainly twofold. First, Zhejiang has the highest number of Taobao Villages, which is nearly twice as many as the second-place province (Guangdong). Furthermore, Zhejiang continues to experience an annual increase in the number of Taobao Villages by over 25%.²⁰ (Figure 1) Given that Alibaba is in Zhejiang, its territorial impact on rural e-commerce development should be studied in a more nuanced way.

Second, despite covering only 1.06% of the national territory, Zhejiang ranks fourth in the number of traditional villages. The state has enlisted 6819 villages, and Zhejiang contributes 636 of them.²¹ Moreover, rural development varies significantly within the province, with highly developed and undeveloped villages coexisting in this relatively small region. This diversity can be seen as a microcosm of the country's rural development.²²

INTO THE VILLAGES: INWARD AND OUTWARD LINKAGES

A growing number of researchers have started studying these villages to investigate the factors that contribute to their changes and the structures that support their modernization. However, most studies have mainly focused on economic data,²³ policy regulations,²⁴ and interviews with government officials and Alibaba.²⁵ These studies lack specific and detailed observations, as well as a comprehensive understanding of the changing spatial characteristics of the built environment and the daily lives of villagers on the ground. Moreover, it is challenging to find precise observational data or research carried out at the village level on online academic and data platforms in China. Additionally, news reports on village development often have biases and political motivations. Therefore, conducting fieldwork is crucial to comprehending the various manifestations of this rapid transformation in different locations and uncovering the specific drivers and their roles in the process.

This time, the fieldwork served as an initial effort for conducting a thorough and long-term study. It involved visiting 25 villages, 10 government-supported e-commerce industrial parks located outside the residential areas of the villages, as well as other noteworthy ongoing rural development projects initiated by local villagers that extended beyond the scope of e-commerce and were not originally included in my travel plan, but I was invited to visit by the villagers.

The chosen villages can be categorized into the following types:

1. Taobao villages, which are widely acknowledged as successful examples. These villages have received significant media coverage and have been regarded as exemplary cases by the Alibaba Research Institute.

2. Taobao villages located within a 15-minute drive from the first type of villages.

3. Taobao villages that have been added or removed from the annual Taobao village list within a 15-minute range of the demonstration village.

During the fieldwork, I read and documented the general overview of the village and its current public affairs. This includes topics such as land acquisition for infrastructure construction, compensation for cultivated land, collective economic financial transactions, and party-building activities. This allowed me to quickly grasp an understanding of the village. I gathered this information from public notice boards both inside and outside the village committee buildings. Additionally, I captured observations on the utilization of e-commerce-related industries in the village through photography and graphic annotations. Furthermore, I analyzed and compared narratives of the village's development as reported in the media, descriptions by leaders, and accounts from locals. This provided insights into the development patterns of different types of villages from various perspectives.

The purposes of these site selection and investigation methods are twofold. Firstly, to gain a deeper understanding of the specific intervention measures implemented by the government and the subsequent impact on the development of successful Taobao villages. Secondly, to explore the actual influence of these "demonstration" villages on the development strategies and trajectories of neighboring villages, as well as the factors contributing to varying degrees or nature of the impact.

1) THE PIONEERING E-COMMERCE VILLAGES IN THE SPONTANEOUS GROWTH MODEL AND THEIR RELATIONSHIP WITH THE GOVERNMENT.

[Beishan Village]

The e-commerce boom in Beishan Village, Jinyun County, is a prime example of "creating something out of nothing," according to Zhendong Luo. With a population of 2,389 people, the village had no presence in secondary or tertiary industries before 2006. In that year, a villager named Lyu saw the potential of outdoor sports as a sunrise industry due to his personal interest. He and his brother set up two online stores for outdoor sports products in their homes. Initially, they made a small investment, outsourced production, and managed store operations and package delivery themselves. Within a few months, their online stores experienced a significant increase in daily orders, prompting the local courier company to send personnel to their home for package pickups.

Following their initial success, the e-commerce development in Beishan Village followed the self-growth model discussed by Zhendong Luo: after the grassroots entrepreneurial attempts

succeeded, the positive impact on their wealth led to imitation and diffusion. Then, with the emergence of similar online businesses, they realized the need for transformation and upgrading. This eventually led to active government intervention.²⁶ The villagers started from scratch to learn from Lyu how to operate online stores, with a primary focus also on outdoor sports products. As their business expanded, Lyu established his own outdoor sports brand in 2008 and formed the Beishan Village E-commerce Association, with Lyu as the leader. To minimize competition from other similar industries, they dynamically differentiated the main products of different online stores.

Under this environment of mutual learning, imitation, and cooperation, Beishan Village, as a successful Taobao Village, caught the attention of Alibaba and the higher-level government. Alibaba listed Beishan Village as one of the initial 14 Taobao Villages nationwide, and it was the only village in Lishui City to receive this recognition. This designation made Beishan Village a government-endorsed rural e-commerce demonstration village. The listing not only attracted more attention from external sources but also resulted in visits from domestic and foreign news media, university research teams, and entrepreneurs who came to conduct research. Furthermore, Beishan Village received increased support from the government. The town-level government established an e-commerce association in 2012 to provide comprehensive training and establish systems. In 2014, the county issued the “Opinions on Supporting the Development of E-commerce,” increasing annual support funds to 8 million *yuan* and establishing the “Taobao University” to facilitate e-commerce consulting, training, and entrepreneurship support.²⁷ In 2016, the support funds were further increased to 20 million *yuan* per year, providing credit funds exceeding 10 million *yuan* for e-commerce in Beishan Village and planning a 30-acre e-commerce park in the village.²⁸

After 2008, as the brand owned by Lyu continued to grow, the e-commerce industry in Beishan Village shifted its focus to selling products from Lyu’s brand. As a result, 90% of the villagers became distributors. The brand adopted a business model of “own brand + outsourced production + online distribution,” which allowed villagers to obtain goods without a deposit and operate online stores at reasonable costs.

Today, the e-commerce park in Beishan Village has been transformed into an industrial park for this brand. The park entrance features a service hall and exhibition hall of the brand, with the ground floor serving as a warehouse and cargo area, and the upper floor housing the factory and office area. At the entrance of the residential area in the village, promotional boards and slogans related to e-commerce and Taobao are still prominently displayed. However, the signs of the villagers’ own outdoor storefronts that were previously hung at their houses’ facades have been taken down. Venturing deeper into the village, there are no longer any signs of e-commerce. (Figure 2)



Figure 2. Beishan Village:
01 Beishan E-commerce Park, loading scenes;
02 Inside the village;
03 E-commerce promotional slogans on the wall;
04 E-commerce brand display wall at the entrance of the village.
Images taken by the author.

The e-commerce practitioners in Beishan Village eventually came together to form a unique e-commerce commons, sharing a single brand as a shared resource. The government’s support further sped up the process of consolidating into a single brand here. However, there is still a significant amount of contingency and uncertainty within this commons. According to Ostrom, three levels of rules collectively impact actions and outcomes in how common pool resources are used: constitutional-choice rules, collective-choice rules, and operational-choice rules (Ostrom, 52). Lyu, as the initiator, operator, monitor, and the bridge between other villagers involved in distribution and the other part of the brand operations, plays a crucial role in determining the constitutional-choice rules - who is eligible to be included. He also holds a significant influence in the collective-choice rules, shaping how operational-choice rules are collectively formulated. Therefore, even though the villagers actively participate in making operational-choice rules and engaging in operations, their agencies are still limited, and the commons is not stable.

[Bainiu Village]

Bai’niu Village in Lin’an District is also among the initial Taobao villages to gain recognition. The village has a total population of 1,564, with 436 individuals involved in e-commerce. As of 2018, the primary focus of Bai’niu Village’s e-commerce is selling local specialty agricultural product, namely walnuts. It all started

when villager Pan ventured into the online marketplace in 2007, aiming to sell the surplus walnuts online, and it turned out to be a triumph. Consequently, the village is witnessing a growing trend of blending conventional industries with the power of the internet.

Its early development followed a natural growth model. The initial success inspired more individuals to sell their own walnuts online. Thanks to the well-developed infrastructure of Lin'an and its proximity to the provincial capital city, Hangzhou, as well as convenient logistics, villagers in Bai'niu Village faced no difficulties in packaging and shipping their products in the beginning. Lin'an walnuts have long gained a reputation as a local specialty, leading to the establishment of numerous food processing factories specializing in walnuts in various towns. Some of these factories are owned by local villagers or individuals familiar with the industry.

Every September, households in the village gather walnuts from their own land in the mountains. These walnuts are then sent to food processing factories for further processing and stored at home for packaging and sale. Given the high economic benefits of walnuts, the e-commerce turnover of Bai'niu Village continues to increase rapidly, attracting more young people to return to the village to start their own businesses.

In 2014, Bai'niu Village achieved a significant milestone in its online sales, generating over 200 million *yuan* in revenue.²⁹ This accomplishment led to the village being recognized as "China's Number One Taobao Village" by Alibaba. In the same year, the E-commerce Association of Bai'niu Village was established, with young individuals returning to their hometowns to take up key roles and drive innovation.

Supported by the town government, the E-commerce Building was constructed across the road from the village committee, with funding from the committee itself. This spacious building comprises multiple floors. The ground floor serves as a versatile space, functioning as an exhibition hall, reception area, logistics service point, and visitor service center. Moving up, the second floor houses the office of the Bai'niu E-commerce Association. The third floor is dedicated to small livestreaming rooms, while the 4th to 6th floors is utilized as office spaces for e-commerce. (Figure 3)

In January 2015, Deputy Prime Minister Yang Wang and Alibaba founder Jack Ma visited this place to explore the progress of rural e-commerce. As a result, Bai'niu Village was chosen as a model village for the e-commerce promotion of agricultural products. Each year, over 50,000 individuals visit the e-commerce building and witness the growth of the village. The e-commerce association's primary responsibilities and revenue are derived from these activities.



Figure 3. Inside Bai'niu Village E-Commerce Building:
 01 In the lobby, a member of the e-commerce association is explaining Bai'niu Village's e-commerce development to the visiting group;
 02 On the third floor, livestreaming rooms;
 03 Village's future planning scheme displayed in the exhibition hall;
 Images taken by the author.

Since 2014, Bai'niu Village has entered a new phase of development as a demonstration village influenced by government policies. From the town-level government to provincial government all consider Bai'niu Village a priority for implementing the national rural development strategy. The government continues to invest in digital development and the cultural tourism industry. The village committee acquired a significant area of land through land circulation and collaborated with private operation and planning teams to restructure the village. In 2022, cultural museums, rural bars, camping sites, and other amenities

were established. A significant portion of the development is currently underway.

In addition to the support for the implementation of “beautiful villages” policies, one of the main reasons why Bai’niu Village has transitioned from focusing solely on e-commerce development to embracing diversified development is because it has encountered obstacles along the way. The production and market for walnuts are limited, and even if the company can expand its operations, the village faces challenges in sustaining continuous growth. Furthermore, the live-streaming sales model, which has gained popularity in China, is unfamiliar and presents difficulties for villagers involved in the agricultural product business. When combined with fierce competition and a saturated market, small-scale e-commerce has experienced a significant decline in recent years.

In the process of marketing agricultural products in Bai’niu Village, the level of cooperation among villagers has decreased after the initial stage of imitating each other. Each household now harvests their own walnuts, manages their own online stores, utilizes their personal connections to find people to process food, and then packages and ships the products from their own homes. Since most families have enough labor force to handle most of the processes and it is challenging to find unique ways to differentiate themselves, competition is more likely to occur.

At the same time, Bainiu Village’s renowned reputation as a cultural symbol has unexpectedly become a new shared resource. Due to the influx of daily visitors, including government officials from various levels, Bainiu Village has received support from all levels of government, resulting in public service facilities that surpass the average rural standards in terms of scale and maintenance. Given these favorable conditions, the local government should consider how to effectively utilize these public facilities and newly created public spaces, ensuring that more villagers can benefit from e-commerce buildings, reconstructed ancient roads, museums, experience halls, and other structures.

For instance, the third floor of the e-commerce building has been transformed into over a dozen live broadcasting rooms, which are available for free use by villagers. This serves as a positive example. However, the fourth to sixth floors, originally designated for e-commerce offices, remain mostly unused. Additionally, the newly built and planned cultural and tourism projects have limited direct connection with the villagers.

In summary, Bainiu Village has the potential to enhance cooperation among villagers and bring collective and individual benefits through the village’s reputation. However, such large-scale planning and implementation should not be solely top-down in a closely connected social environment and village structure. The development process should involve villagers in planning the land they lease and provide opportunities for them to



Figure 4. “Four and a Half Floors” buildings and the streetscape. Images taken by the author.

continuously create value for the village’s reputation as a public resource. This will enable them to become advocates for the new business forms of the transformed village.

2) THE RISE AND FALL OF GOVERNMENT-DRIVEN E-COMMERCE VILLAGES

[Nishanglong Village]

Located in Wuyi County, Nishanglong Village currently has a population of 1,131 people. It is made up of three natural villages. Originally situated in a remote mountainous area, at the junction of three counties, the village belonged to a relatively underdeveloped region in Zhejiang. Limited access to transportation and public services hindered the village’s development. In 2002, the Wuyi County government approved the village committee’s request to relocate and merge the three villages. The new location was near the industrial area of Tongqin Town. The village committee oversaw the construction project and planned and built new buildings along the road. More than 90% of the villagers opted to move to the new village due to lower relocation fees.

The initial planning and construction of the village did not specifically focus on e-commerce, and the village leaders did not implement any strategies for e-commerce development. However, the geographical conditions of the chosen location and the architectural style of the buildings created favorable conditions for the growth of e-commerce. The buildings in this area are commonly referred to as “four and a half” architecture in Yiwu City.³⁰ These small buildings are arranged in rows, with the ground floor serving as storefronts. According to Luo, this type of building includes basements and provides integrated functions for production, warehousing, support services, and living. Although each building may seem ordinary on its own, they become unique and well-suited for various innovations and entrepreneurial activities.³¹ (Figure 4)

Initially, individuals from outside rented the ground floor of these buildings for e-commerce, and later the local villagers followed suit. Wuyi County, located next to Yiwu City, has relatively well-developed industries, trade, and logistics. The Taobao Village in this area has flourished after the government laid a solid foundation for its establishment.

Currently, the e-commerce business in Nishanglong Village is primarily conducted by individuals from outside the village, while local villagers supplement their income by renting out part of their homes. From a commons perspective, it may appear that the growth and decline of e-commerce in the village has not resulted in any new resources that are shared by everyone. However, with the widespread adoption of e-commerce, the new village location and the availability of versatile living spaces have continued to bring value to the residents. This can serve as a source of inspiration for the design of e-commerce villages with similar spatial requirements.

[Jianchuan Village]

Jianchuan Village is situated in Jinyun County, a 30-minute drive from Beishan Village. Currently, the village has a population of 4,833. Jianchuan Village follows a government-driven approach to e-commerce development, taking inspiration from previous experiences of other villages. To promote e-commerce, the local government established a centralized space in the village. Since 2015, the county government, town government, and village committees have collaborated to improve the main road in Jianchuan Village. Vacant buildings along the road were refurbished into ground floor storefronts and upper floor residences, creating an e-commerce street specializing in stationery.

To attract villagers and nearby merchants already involved in online retail or small-scale commodity businesses, the village committee negotiated with logistics companies to reduce shipping fees by 50%. This incentive encouraged them to settle in the village, leading to the rapid growth of e-commerce. By 2017, e-commerce had created nearly 500 jobs in the surrounding areas.³² As of 2020, Jianchuan Village boasts over 400 online stores and employs over a thousand people.³³ Notably, the current village officials themselves own shops on e-commerce platforms and actively participate in live-streaming sales of stationery and local agricultural products.

However, as some e-commerce businesses expanded, the storefronts on the e-commerce street could no longer meet their needs. Some of them relocated to industrial areas in nearby towns, while others established direct partnerships with factories in other provinces for deliveries. The success of these e-commerce enterprises, who were early adopters in the village, significantly influenced the street, guiding other villagers in opening stores, improving sales, and implementing real-time monitoring. With the departure of these influential figures, the e-commerce presence on this street diminished. Today,



Figure 5. Repurposed E-commerce Street in Jianchuan Village
Images taken by the author.

a small portion of the storefronts on the e-commerce street have been converted back into residential spaces for villagers, while the majority have transformed into various types of shops, including grocery stores, appliance repair shops, barber shops, restaurants, and the village service center. (Figure 5) Although Jianchuan Village still retains the online business turnover data as a Taobao Village, the once vibrant e-commerce phenomenon has faded in the physical space, giving way to a modern main street in the village and accelerating the village's urbanization process.

3) RELATIONSHIP ACROSS VILLAGES: EXAMINING THE IMPACT OF E-COMMERCE DEMONSTRATION VILLAGES

The previous section provided an overview of the relationship between four villages and government measures. This section primarily focuses on Bai'niu Village and the surrounding villages. (Figure 6) Firstly, it examines whether Bai'niu Village, as a typical demonstration village with substantial government investment, effectively fulfills its role and how it does so. Secondly, despite the similar start-up costs for other villages in the Lin'an District, known for its mountain walnuts, there are notable differences in their development paths. The section discusses the reasons behind these differences. Analyzing the development patterns of Bai'niu Village and the surrounding villages can serve as a preliminary analysis model for studying more complex industrial + trade e-commerce villages.

Located within a fifteen-minute drive to the west and east of Bai'niu Village are Shangying Village and Houying Village

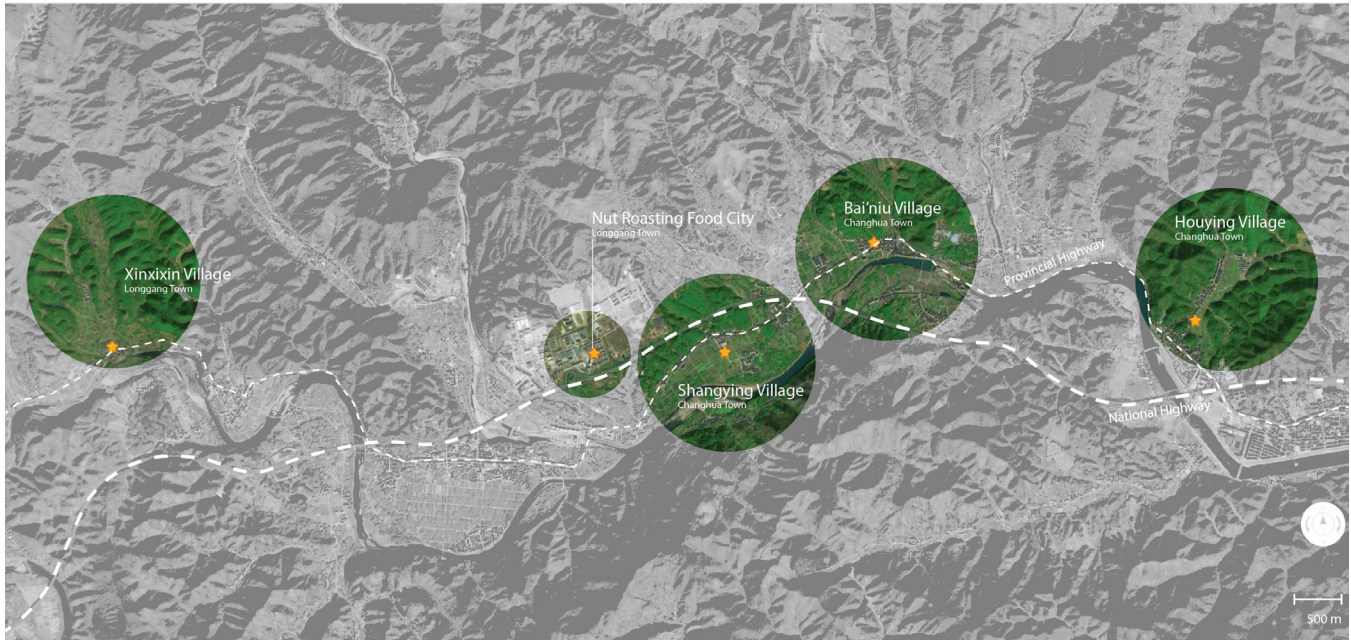


Figure 6. Locations of Bai'niu Village, the nearby e-commerce villages, and Nut Roasting Food City. Drawing created by the author.

respectively. Both villages belong to the same town as Bai'niu Village and are listed as Taobao Villages in 2022.

Shangying Village recently became a part of the Taobao Village list. However, it lacks e-commerce facilities in the village like express delivery points, freight vehicles, dedicated e-commerce buildings, or service centers. According to village officials, Shangying Village had a similar start to Bai'niu Village, with many villagers starting online walnut stores when e-commerce first emerged. Initially, it was profitable, but competition from large-scale brands has made it difficult to sustain profitability. Currently, less than 5 households in the village are involved in e-commerce, mainly focusing on selling locally produced mountain walnuts.

Houying Village has been on the Taobao Village list for years, but it faces a similar situation to Shangying Village. Although there used to be an e-commerce association in the village, fewer than 10 households are still involved in e-commerce.

Both villages, following Bai'niu Village, have also re-planned their village layout and are either preparing for or developing cultural tourism projects. Houying Village has been relatively successful in this aspect. They have created a scenic area called "Antelope Valley" with villagers' homestays (available for booking on platforms like Airbnb) on one side of the main street, and various attractions on the other side. Currently, around 35 households in Houying Village are involved in the homestay industry, operating at different scales. The business is particularly popular during holidays and birthdays. Additionally, they have formed a homestay association in the town, with village members as the core,

allowing them to refer customers to each other. For example, if a certain homestay is fully booked, they will redirect guests to other available homestays.

It is evident that under similar natural and geographical conditions, Bai'niu Village, Shangying Village, and Houying Village generally follow the same strategies in terms of overall direction. However, due to the government's prioritization of Bai'niu Village's development, the e-commerce progress of Shangying Village and Houying Village aligns with the trends in the e-commerce industry. When faced with obstacles, they lack the resources to overcome them, resulting in changes in their development approaches.

Bainiu Village's early transformation serves as a reference for neighboring villages. Furthermore, the villagers' ability to establish organizational cooperation and adapt to changes in the e-commerce landscape allows for a smoother transition facilitated by internet platforms. However, due to substantial investment and the construction of public structures, the shift towards tourism and leisure represents a larger and more permanent spatial transformation. The village committee primarily makes this significant decision. The executive abilities, vision, promotional skills, and the committee officials' capacity to operate or find suitable private operation teams will determine the prospects after the transformation and whether villagers can continue entering relevant industries and benefiting from the changes.

The existence of collaborative mechanisms among villagers, as demonstrated by the homestay association, indicates the willingness and capacity of villagers to work together given the

opportunity. However, during the land transformation process, such opportunities are scarce, leaving them to passively accept and respond to changes instead of initiating change.

Continue along the road from Shangying Village to the west for about ten minutes, and you will reach another thriving e-commerce village called Xinxin Village. It's worth noting that Xinxin Village belongs to Longgang Town, a different town than Bai'niu Village. The food processing industry in this area has a long history, predating the rise of e-commerce. Xinxin Village is known for its numerous food processing factories, and the local residents are now exploring various scales of e-commerce businesses. Interestingly, the villagers of Xinxin Village specialize in selling a diverse range of nuts sourced from different regions, including pecans and almonds, avoiding selling the local walnuts. Previously, many processing factories in the area focused on processing walnuts and sold them through online platforms. However, due to market competition and the lack of policy advantages enjoyed by Bai'niu Village, here, villagers with processing factories, as well as their relatives and friends involved in e-commerce, have shifted their focus to processing and selling other types of nuts that share similar production processes. This shift has also contributed to making nuts a specialty of the town.

The Longgang Town government has developed a specialized industrial park called Chinese Nut Roasting Food City near the town center. The purpose of this park is to bring together enterprises in the nut roasting food processing industry chain and support their growth. Currently, some food processing factories from Xinxin Village have relocated to the new park. However, there is still a significant amount of unoccupied space within the park. Part of this space is dedicated to worker dormitories and accommodations for migrant workers. In addition, convenient stores, laundromats, and small restaurants have been established within the park. Furthermore, several large food processing factories have chosen to build their own industrial parks outside but close to the food city, creating a distinct cluster.

The e-commerce development process of Xinxin Village did not follow the successful model of Bai'niu Village. However, it reflects the village as a collective, considering Bai'niu Village as another collective that has already established a stable presence in the walnut e-commerce market. To promote their own group's development, they took a collective step back, magnifying their advantages and exploring new industries.

Although there is still plenty of available space, the Chinese Nut Roasting Food City in the town is expanding. However, I don't believe that the majority of food factories in Xinxin Village will move there and disappear from the village. What happened with the e-commerce street in Jianchuan Village will not happen here.

On one hand, these factories are physically close to the park, so they won't lose any resources. On the other hand, these factories are situated along the village road and don't require any

infrastructure upgrades. They are also located on the outskirts of the residential area, providing ample space for expansion.

Furthermore, many processing factories have been operating on their original sites for decades and have undergone continuous renovations and rebuilds without having to relocate. This shows how deeply integrated they are into the lives of the villagers. This might also explain why the town's cluster development has not met the expected success.

DISCUSSION: ENABLING THE PROCESS OF COMMONING FOR AN EQUITABLE AND SUSTAINABLE RURAL FUTURE

The development of e-commerce by villagers reflects the strong collective identity that persists in rural areas. One village shares one type of product, and villagers learn from each other, jointly formulating strategies and rules to achieve mutual profit. However, it is noticeable from these cases that such cooperation is typically built on the efforts of a few capable and enthusiastic pioneers in the village, who play a key role in the overall development of e-commerce in the village. This also indirectly reflects the increasing differentiation among people in rural areas, as their experiences vary. The openness to new things and the way of thinking about problems has become more diverse, and not all villagers in rural areas have the same customs and values anymore. However, at the same time, the bonds between people in rural areas remain tightly connected, so even with differences, villagers are willing to try new things under the leadership of capable individuals.

The approach of relying on a small group of capable individuals to drive the development of the entire village from a commons perspective is not stable. In cases where capable individuals are not available, local leaders should step in and temporarily fill the gap or support villagers in collaboratively devising ways to identify and nurture a new set of responsible individuals. This approach will help ensure the long-term sustainability and preservation of the village's collective economic industry.

Due to the current system, the government holds more power than capable individuals and villagers in constructing and changing the physical environment of the village. However, the government needs to recognize that in closely connected village communities, all major decisions must align with local conditions to truly be effective. As the initial enthusiasm for e-commerce entrepreneurship in the entire village diminishes, different villages are left with varying legacies. Among all the Taobao villages I visited, except for Bai'niu Village, locations with e-commerce service centers, e-commerce buildings, and e-commerce associations have all been abandoned or repurposed by surrounding villagers for storing goods. The once prominent e-commerce slogans displayed in the village are now fading in color and serving as reminders of a brief history.

Some villages have transformed their land into large flower fields, camping sites, or large parks in an attempt to attract tourists. However, they have also become victims of homogenized competition, resulting in poor returns and large empty areas that require continuous investment for maintenance.

However, certain buildings, like the “four and a half” buildings in Yiwu, and the various ways in which spacious sidewalks are utilized, bring vitality to seemingly monotonous spaces due to their flexibility and responsiveness to local demands.

Therefore, the planning for rural areas’ development not only needs the active involvement of villagers but also requires the government and planning and design teams to make decisions with a focus on common interests. When designing and organizing, they should take into account the shared resources that the transformation of these spaces will bring, how villagers can sustain and contribute to them, how to access them, and how to ensure equal benefits for all.

At the same time, it is important for us to continue exploring the expansion of village commons in order to foster cooperation and create larger-scale commons across different villages. According to Stavros Stavrides in *The City as Commons*, the concept of “commoning” can only be sustained if it continuously expands to include new participants.³⁴ The decline of e-commerce villages can be largely attributed to the competition resulting from homogenization, particularly the competition between different villages. Villages that have certain privileges should actively seek cooperation with neighboring villages when facing challenges, instead of solely relying on resources from higher-level governments. This approach may gradually lead to more diverse and innovative development.

ENDNOTES

1. Carol M. Rose, "Thinking about the Commons," *International Journal of the Commons* 14, no. 1 (October 2, 2020): 558, <https://doi.org/10.5334/ijc.987>.
2. Garrett Hardin, "The Tragedy of the Commons," *Science, New Series* 162, no. 3859 (1968): 1243.
3. Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action*, Canto Classics (Cambridge, United Kingdom: Cambridge University Press, 2015), 30.
4. Rose, "Thinking about the Commons," 557.
5. Chengri Ding, "Consequences of Land Policy in China: Deciphering Several Emerging Urban Forms," *Smart Urban Growth for China*, January 1, 2009, 111.
6. *Ibid.*, 113.
7. *Ibid.*, 111.
8. X. Fei, *From the Soil: The Foundations of Chinese Society* (University of California Press, 1992), 41.
9. *Ibid.*, 43.
10. 罗震东. 新自下而上城镇化: 中国淘宝村的发展与治理, 第1版 (Nanjing: 东南大学出版社, 2020), 79.
11. Xielin Liu, Taishan Gao, and Xi Wang, "Zhejiang Province: Role of Entrepreneurship and Industry Cluster," in *Regional Innovation Index of China: 2017*, by Xielin Liu, Taishan Gao, and Xi Wang (Singapore: Springer Singapore, 2018), 152, https://doi.org/10.1007/978-981-13-1205-2_9.
12. 新华社. "《授权发布》中共中央 国务院关于实施乡村振兴战略的意见." (2018-02-04)[2023-10-11]. http://www.xinhuanet.com/politics/2018-02/04/c_1122366449.htm
13. 新华社. "阿里巴巴发布'热土计划'2022." (2022-07-25)[2023-10-11]. <https://www.xinhuanet.com/tech/20220725/3ac7efa30a0a4af58bc6d5ffc4ecd48e/c.html>
14. Lulu Fan, "Taobao Villages: The Emergence of a New Pattern of Rural Ecommerce in China and its Social Implications," Jakarta : Friedrich-Ebert-Stiftung, Indonesia Office, 2019. <https://indonesia.fes.de/en-taobao-villages-the-emergence-of-a-new-pattern-of-rural-ecommerce-in-china-and-its-social-implications>.
15. 汪凡, 汪明峰. "基于格网的淘宝村集聚特征及影响因素分析." *地理科学*, 40(2), (2020): 230.
16. Aliresearch, "2022 Taobao Village List," (2023). <http://www.aliresearch.com/ch/a6zqq>.
17. 罗震东. 新自下而上城镇化, 66.
18. *Ibid.*, 116.
19. National Bureau of Statistics of China, *China Statistical Yearbook 2022*. [2023-10-11]: section 2-5, 3-9. <http://www.stats.gov.cn/sj/ndsj/2022/indexeh.htm>
20. Chengming Zuo, "2021年淘宝村名单出炉 全国淘宝村数量已突破7000," *AliResearch*, (2021-10-12)[2023-10-11]. <http://www.aliresearch.com/ch/information/informationdetails?articleCode=256317657652006912&type=%E6%96%B0%E9%97%BB>
21. Xu-Guang Zhu, Tao Li, and Ting-Ting Feng, "On the Synergy in the Sustainable Development of Cultural Landscape in Traditional Villages under the Measure of Balanced Development Index: Case Study of the Zhejiang Province," *Sustainability* 14, no. 18 (September 10, 2022): 11371, <https://doi.org/10.3390/su141811367>.
22. Weiming Tong and Kevin Lo, "Back to the Countryside: Rural Development and the Spatial Patterns of Population Migration in Zhejiang, China," *Agriculture* 11, no. 8 (August 18, 2021): 789, <https://doi.org/10.3390/agriculture11080788>.
23. Yanliu Lin, "E-Urbanism: E-Commerce, Migration, and the Transformation of Taobao Villages in Urban China," *Cities* 91 (August 2019): 202–12, <https://doi.org/10.1016/j.cities.2018.11.020>.
24. Li Zi, "Top-Down Strengthening: Alibaba Rural Strategy," in *Online Urbanization: Online Services in China's Rural Transformation*, ed. Li Zi, *Advances in 21st Century Human Settlements* (Singapore: Springer, 2019), 137–78, https://doi.org/10.1007/978-981-13-3603-4_5.
25. Yenni Tim, Shan L Pan, and Lili Cui, "Alibaba's Digital Enablement Strategies in Rural China," n.d., 15.
26. 罗震东. 新自下而上城镇化, 116–17.
27. "从'田间地头'到'电子商务', 缙云北山村'淘'出了致富经." 新加坡新闻, October 10, 2018. <https://www.xinjiapo.news/news/313513>.
28. "一个偏远山村北山村搭上电商快车 变身信息时代弄潮儿." *浙江在线*, November 13, 2016. <http://cs.zjol.com.cn/system/2017/11/15/021622561.shtml>.
29. 新华社. "小小淘宝村'大大民生事'——浙江淘宝村调查与启示." [www.gov.cn](http://www.gov.cn/xinwen/2015-10/27/content_5001552.htm), October 25, 2015, https://www.gov.cn/xinwen/2015-10/27/content_5001552.htm.
30. 罗震东. 新自下而上城镇化, 148.
31. *Ibid.*, 148-149.
32. 蓝敬, "美丽经济让丽水龙川搭上'亿元快车.'" *People.cn*, October 12, 2020. <http://zj.people.com.cn/n2/2020/1012/c186930-34344018.html>.
33. 胡丁于, "浙江省人大代表施颂勤: 乡村提升实力要'四个好,'" *中国新闻网*, January 28, 2021, <http://www.zj.chinanews.com.cn/jzkzj/2021-01-28/detail-ihahyhu5747625.shtml>.
34. Stavros Stavrides, *Common Space: The City as Commons*, In *Common* (London: Zed Books, 2016), 221.