Research Paper

Economic, Physical and Social Landscape Reshaped by Musical Instrument Industry: Evidence from a Saxophone Village in China

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Abstract

Since China's reform and opening-up in 1978, rural industrialization has transformed the economic structure, environment, and social life in many villages. "Musical Instrument Villages", such as Sidangkouzhong Village in Tianjin, specializing in saxophone production, exemplify this shift. Despite research on other industrialized villages, studies on Musical Instrument Villages are limited. This paper analyzes how internal and external factors have driven the growth of Sidangkouzhong's musical instrument industry and its impacts on the village's economic, physical and social landscape. Key drivers include technological innovation, policy reforms, and local talent leadership. However, the village's industrial upgrading has been hindered by talent shortages and disordered competition. The local protectionism have led to social gap between locals and outsiders, preventing the formation of a cohesive village culture and resulting in new spatial divisions. These issues highlight the need to adjust development strategies, with a focus on enhancing talent attraction to drive the village's progress.

Keywords

Industrialization of Rural China, Musical Instrument Villages, Social Gap, Spatial Differentiation, Sidangkouzhong Village

1. Introduction

Since 1949, the process of rural industrialization in China has steadily progressed, becoming a key driver of the country's economic development. In particular, following the introduction of reform and opening-up policies in 1978, changes in land tenure, labor force and production management have fueled the rapid expansion of township enterprises, further accelerating the rural industrialization. By 2021, the total industrial GDP of rural industries in China exceeded 11 trillion yuan (National Bureau of Statistics of China), accounting for approximately 30%(National Bureau of Statistics of China) of the national industrial output, highlighting its crucial role as one of the major engines of China's economic growth.

Despite accounting for 36%(National Bureau of Statistics of China) of the population, rural areas have not fully realize their potential as a key hinterland for the "dual circulation" strategy. Rapid urbanization and industrialization in the 21st century have posed significant challenges to rural China, including resource reallocation, structural adjustments, and functional transformation(Gong, Yang and Yang, 2021).

Intensified urban-rural competition has exacerbated the divide, leading to industrial decline and a hollowing-out crisis. In 2017, the Chinese government introduced the Rural Revitalization Strategy to promote urban-rural equity and revitalize rural areas. This highlights the need to refocus attention on vast rural areas and seek opportunities for the revival of rural industries.

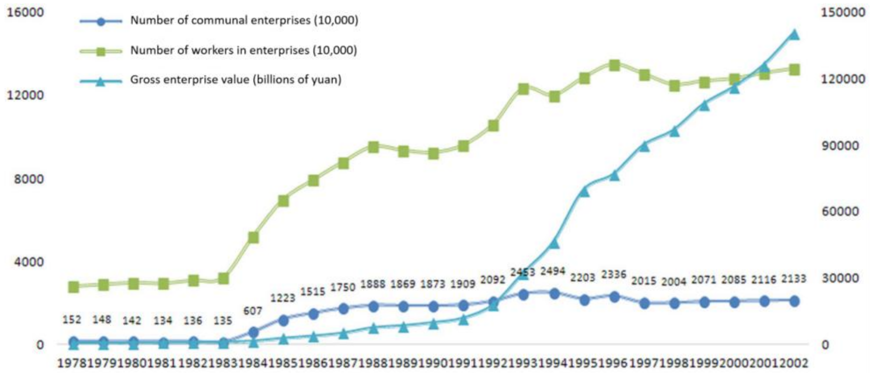

Figure 1. Development trend of China's township enterprises, 1978-2002. Source: Ministry of Agriculture of China, Statistics on Township and Village Enterprises in China: 1978-2002.

Among rural industries, the musical instrument manufacturing sector stands out for its cultural and artistic value. Its growth has fostered clusters of small and medium-sized enterprises, primarily located in villages and towns such as Lankao County in Henan and Caigongzhuang Town in Tianjin, and these enterprises have established strong positions in domestic and global markets(Ma and Wang, 2012). In 2019, Tangwu Town accounted for about 36% of China's electric guitar production(Zhang, 2022), while Sidangkouzhong Village in Caigongzhuang produced over 50% of global saxophone output(Tianjin Radio, 2021). Despite this substantial market share, the industry and its villages receive limited attention. A lack of academic insight into their challenges hampers planners' ability to provide effective long-term strategies for these regions.

This paper takes Sidangkouzhong Village, a renowned Saxophone Industry Village in China, as a case study. Using statistical yearbooks from Tianjin and Jinghai District, government data, semi-structured interviews, field photographs, and Google satellite imagery, it investigates how internal and external factors have driven the village's musical instrument industry. The study further explores how this industry has reshaped the village's economic, physical, and social landscape, and identifies the unique challenges in its rural industrialization process. The research aims to offer insights for the sustainable development of other specialized industrial villages, especially those in musical instrument production.

2. Theoretical Background

2.1. Rural industrialization in China

Since 1949, China's rural industrialization has progressed through four phases: initial rise, rapid rise, concession to cities, and gradual revival(Li and Yang, 2021). Initially, planned economy policies established a foundation for rural industry but resulted in structural rigidity and market disconnection, leading to slow development. A breakthrough occurred in 1978 with the reform and opening-up policy, which facilitated large-scale land use, released surplus labor, and led to government support for township enterprises, spurring rapid industrial growth. China's accession to the WTO in 2001 further expanded international markets for rural industries, including the musical instrument industry. However, after 2000, industrial growth accelerated urbanization, concentrating industries in urban areas and driving labor migration tocities, thereby constraining rural development and leading to the collapse of many township enterprises. With rising urban land prices and environmental degradation, the Chinese government re-evaluated the importance of rural areas and launched the Rural Revitalization Strategy in 2017, marking a new phase of rural industrial rejuvenation.

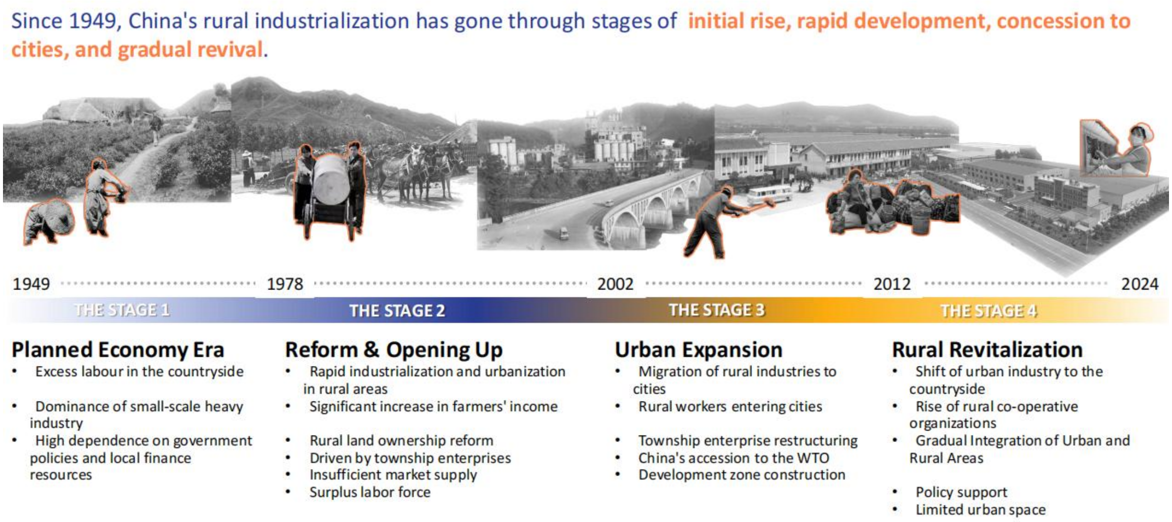

Figure 2. Visualisation of the industrialisation process in rural China. Source: Author's own drawing.

Throughout this process, policy has been a critical factor. While early urban-rural dualism policies hindered rural progress, advancements in rural industry have closely followed precise policy adjustments. The Chinese government's top-down industrialization approach distinguishes its rural industrialization from that of Western countries(Xie et al., 2022). Moreover, township enterprises, which acted as the pioneers of rural industrial growth, warrant particular attention. Scholars from economics, sociology, and urban planning, including Fei Xiaotong, have identified "four models" of rural industrialization in China: South Jiangsu, Jinjiang, Wenzhou, and Pearl River Delta Models. Due to differences in location, policy, capital, and market conditions, these models exhibit notable variations in enterprise systems, industrial categories, production methods, and spatial organization(Zhu and Chen, 2020; Zhu and Chen, 2023; Ye, Zhang and Wu, 2014; Zhang and Gu, 2002; Fan, 2015; Zhang, 2018; Fei, 2013). However, existing literature primarily emphasizes the driving forces and development models of rural industrialization, with less emphasis on how this process has reshaped rural structures. This results in unclear insights from the examination of village transformations, particularly regarding the negative impacts that certain development models have had on the economic, social, and physical landscape of villages—issues that must be addressed in future village revitalization planning.

2.2. Specialized Village and Musical Instrument Village

Specialized villages are rural areas dominated by a single industry, involving most villagers in related production activities(Li, Luo and Fan, 2009). These villages effectively promote rural industrialization and regional economic development(Xiao et al., 2024). Research on various types of specialized villages in China, including agricultural processing, traditional handicrafts, and manufacturing, has gained attention. For instance, Cao,. He and Huang (2023) explored the agricultural processing industry's role in rural revitalization. Zhang and He (2021) examined the evolution of traditional handicraft villages amid social changes, and Xu and Yang (2016) analyzed the development of industrial chains and spatial integration in tea-processing villages.

However, research on specialized industrial villages, such as Musical Instrument Villages, is limited despite their high product value, potential for cultural industry chain development, and blend of handicrafts and mechanization. Musical instrument villages, centered on the production and sale of instruments, exemplify rural industrialization. Geographically, representative musical instrument villages/towns in China (Figure 1) are concentrated in the Yangtze River Delta, Beijing-Tianjin-Hebei region, and Xinjiang Uygur Autonomous Region. The types of instruments produced align with regional characteristics: Xinjiang focus on ethnic minority instruments, the Yangtze River Delta on traditional Chinese instruments, and Beijing-Tianjin-Hebei on Western instruments. Driving factors for these villages can be categorized into three types: ethnic culture, resource dependency, and policy-market dynamics (Table 1). For instance, Xinjiang villages preserve local instrument-making techniques, and Xuchang Village in Henan benefits from high-quality paulownia wood for instrument production. Other villages, like Dongheng and Daliuhe, have grown due to government planning and market demand. Current studies primarily address the evolution and upgrading of the musical instrument industry and the cultural heritage of instrument-making(Hu and Shang, 2023; Han,2021; Zhang, 2020; Li and Wei, 2019; Aikede, 2023), but the multidimensional impacts of this industry on rural economic, physical, and social landscape remain underexplored.

Figure 3. Spatial Layout Diagram of Representative Instrument Villages and Towns. Source: Author's own drawing.

Table 1. Information of Representative Instrument Villages and Towns. Source: Author's own drawing.

Driving Forces	Village	Location	Representative Instruments	Instrument Types
Ethnic Cultural Type	Wukusake Village	Xinjiang Uyghur Autonomous Region	Dutar	Musical Instruments of China's Ethnic Minorities
	Jiayi Village		Dutar	
	Bageqi Village		Dutar	
Resource-Dependent Type	Xuchang Village	Henan Province	Gu Zheng, Pipa	Traditional Chinese Musical Instruments
	Tonglingqiao Village	Zhejiang Province	Dizi	
Policy and Market-driven Type	Chezhan Village	Shanghai City	Guqin, Erhu	Traditional Chinese Musical Instruments
	Yuequan Village	Shandong Province	Erhu	
	Tangle Town	Shandong Province	Guitar	Western Musical Instruments
	Huangqiao Town	Jiangsu Province	Violin	
	Zhouwo Village	Hebei Shandong Province	Orchestral Instruments	
	Donggaozhen Village	Beijing City	Violin	
	Daliuhe Village	Hebei Shandong Province	Orchestral Instruments	
	Qianmotou Village	Hebei Shandong Province	Clarinet	
	Sidangkouzhong Village	Tianjin City	Saxophone	
	Dongheng Village	Zhejiang Province	Piano	

3. The evolution of the musical instrument industry in Sidangkouzhong Village

3.1. 1960-1979: Limited natural conditions promote the budding of industry

The agricultural development conditions in Sidangkouzhong Village are extremely poor due to its location in a retreating coastal zone characterized by low topography, which has led to significant land salinization and frequent flooding, resulting in persistent economic stagnation. In the 1970s, the village acquired the technology for producing "chain links"(Liu, 2019), thereby improving the villagers' livelihoods and laying the ideological foundation for handicraft development. In 1974, village leader Dong Fengshan seized the opportunity to send some villagers to Tianjin Wind Instrument Factory to learn the technology for producing instrument components(Liu, 2019). This technology enabled the establishment of the village's first instrument components factory, "Yonghong Key Factory", supplying components to Tianjin Wind Instrument Factory and generating the first industrial wealth for the village.

3.2. 1980-1999: Reform and opening up led to the rise of the musical instrument industry

After the reform and opening-up, national support for township enterprises created unprecedented opportunities for rural industries. However, the rise of private and foreign enterprises captured significant market share, leading to a decline in orders for the Tianjin Wind Instrument Factory, which could no longer rely on a planned economy for implementing a 'unified purchase and sales' system. Confident in the promising musical instrument industry's prospects and guided by local talent, the villagers of Sidangkouzhong seized the chance to learn complete instrument-making techniques, achieving a technological breakthrough and gaining the ability to independently manufacture instruments.

By the end of the 20th century, Tianjin was the largest port in northern China. The mere 20 km distance between Sidangkouzhong Village and Tianjin Port enabled the village to easily export goods overseas. As early as the 1970s, the village recorded exports of handicrafts, and further connections with foreign enterprises helped secure technology and investment, enabling the rapid establishment of the first Sino-foreign joint venture instrument factory in the 1980s(Liu, 2019). By the 1990s, both of the village's major instrument enterprises were Sino-foreign joint ventures, highlighting the significance of foreign capital.

Most musical instrument factories established after 1980 were collectively owned. However, in the 1990s, the government relaxed market access restrictions for private and foreign enterprises, allowing farmers to start their own businesses while reducing direct government intervention in pricing mechanisms. This significantly boosted the growth of the private economy, and Sidangkouzhong quickly followed suit. Although the transition from public to private ownership resulted in enterprises predominantly owned by local talent and their relatives, this did not impede the robust development of the musical instrument industry.

3.3. 2000-2007: The musical instrument industry is growing explosively

The accession of China to the WTO in 2000 provided unprecedented development opportunities for Sidangkouzhong Village, enabling it to explore overseas markets. The foundation established through previous foreign investments, combined with low pricing and high quality, became the village’s strengths, leading to a surge in export orders that further specialized its musical instrument manufacturing. Large enterprises gradually established complete production lines, while rising demand stimulated the growth of small and medium-sized enterprises, significantly increasing the number and scale of businesses in the musical instrument sector in the village.

Simultaneously, the government of Caigongzhuang Town actively promoted the intensive development of the musical instrument industry by investing in the construction of a musical instrument market in Sidangkouzhong Village. The deepening corporate restructuring enhanced the competitiveness of enterprises. During this phase, Sidangkouzhong Village began to form a preliminary industrial cluster for musical instruments, with overseas exports becoming a major source of income(Liu, 2007). However, most enterprises at this stage primarily focused on Original Equipment Manufacturer(OEM) production, lacking independent brands with core technologies, which posed potential challenges for future transformation.

3.4. 2007-Now: Enterprises are facing development bottlenecks and begin to try to transform

With the development of China's economy, the domestic market's position has gradually improved. However, Sidangkouzhong Village has primarily functioned as an OEM for foreign saxophone brands at low prices, resulting in limited consumer recognition and brand awareness in the domestic market, leading to thin profit margins for enterprises. Starting in 2007, large companies, exemplified by Ovis, began transitioning from a low-margin, high-volume business model to a focus on high-quality products. Under the leadership of these enterprises, efforts were made to achieve technological breakthroughs, gradually establishing several independent brands and attempting to enter the premium market. However, small and medium-sized enterprises, often operating as small workshops, struggled to support their industrial transformation due to a lack of funding, technology, labor, and space, and continued to primarily operate as OEMs(Tianjin Radio, 2021).

After 2003, with the rise of e-commerce, such as Taobao, the market landscape in China was significantly transformed. In 2006, assembly worker Liu Tao became the first to operate a Taobao store, achieving sales of over one million yuan in 2007(Yin, 2024). His success encouraged an increasing number of enterprises to establish online stores, marking the initial emergence of e-commerce sales for musical instruments within the village. However, due to conservative limitations and a lack of professional operators, the e-commerce performance in Sidangkouzhong Village has been modest, with offline sales and overseas exports remaining the primary sources of revenue(Liu, 2007).

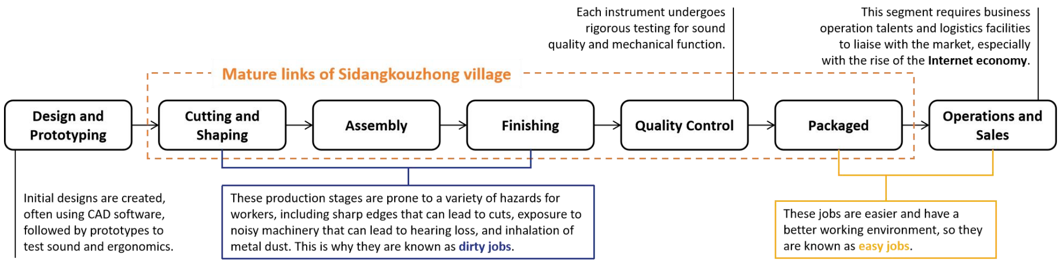

Figure 4. Industrial processes in saxophone manufacturing. Source: Author's own drawing.

4.Changes in Villages Resulting from Industrial Development

4.1. Industrial transformation struggles and a lack of talent are mutually constraining

After 30 years of continuous prosperity driven by OEM production, Sidangkouzhong finally faced a critical moment for industrial transformation. This transition proved to be challenging and painful, especially for the older generation with limited education. They lack insight into market trends, operational funding, and a deep understanding of instrument structure and aesthetics(Liu, 2007). While large enterprises, dissatisfied with the thin profits from OEM work, aspired to penetrate the high-end market, they represented only a minority. In contrast, despite the declining profits from saxophone OEM production, most small businesses remained complacent relying on OEM work for survival because of a lack of funds and technology(CCTV, 2021).

Moreover, the disorganized competition between large and small enterprises has overall slowed the pace of industrial transformation. The competition for talent is particularly fierce. A skilled technician requires extensive training; however, due to the hardships of the skilled work, the migrant workers are more willing to take up the job rather than the locals. However, entrenched local protectionism within large enterprises limits outsiders' opportunities for advancement, forcing them to drift to smaller enterprises and causing a fragmentation of talent. In addition, some outsiders may establish their own factories after accumulating technical expertise. Yet, lacking adequate residential land, they are forced to pay high rents for facilities and struggle to secure resources, equipment, and labor without a supportive local network. These factors hinder the development of the industrial cluster.

As mentioned earlier, the village began its attempts to develop an online economy early, but by 2020, online sales accounted for only 23.3% of total product sales. This is partly due to the influence of conservatism, as some business owners show a reluctance to invest in e-commerce development. Additionally, compared to more typical Taobao Villages in regions like Zhejiang and Guangdong, Sidangkouzhong lacks adequate logistics infrastructure, restricting the growth of its online economy. The village is surrounded by no centralized logistics or warehousing facilities, relying instead on a logistics company located about 10 kilometers away in Daqiuzhuang for goods transfer, significantly increasing the operational costs of e-commerce.

Another critical issue is the loss of talent. The industry has remained in a labor-intensive phase, with an inadequate corporate structure, leading to a significant shortage of higher-end positions such as instrument design and brand management. Furthermore, the village lacks cultural and recreational facilities, and its unattractive landscape and outdated infrastructure do not attract young talent. Compared to urban centers with superior education, healthcare, commercial, and transportation amenities, the village appears dull to both local and external highly educated individuals, even with a low cost of living. However, developing independent brands in the instrument industry necessitates the involvement of high-level professionals, including structural designers, tuners, and even musicians. Furthermore, the loss of skilled workers also poses a significant challenge, which will be elaborated upon below. Over time, the bottleneck in industrial transformation and the lack of talent mutually constrain each other, creating a vicious cycle.

4.2. Social Gap Caused by Policy, Assets and Favor-based Relationships

The demand for labour in the musical instrument industry has led to a constant intake of outsiders, leading to a transformation in the village's original social structure. While to some extent, these newcomers have brought economic and cultural vitality to the village and have been accepted, the in-depth interviews still reveal that a persistent "insider-outsider" social system continued to hinder the village's overall harmony.

The number of original assets one possesses influences job expectations. Also, in an interconnected society, information and social networks are crucial for securing employment. For many locals who have already benefited from the early rise of the musical instrument industry, wage levels are no longer their primary concern when choosing jobs. Additionally, due to the pre-existing bonds of trust in rural society, factory owners tend to "favor" local workers, assigning them to less physically demanding tasks such as instrument assembly and sales. Consequently, locals can earn significant wages for simple skills, which gradually leads them to give up pursuing better education and to rarely seek job opportunities outside. Over time, they become trapped in the village, with their paths to self-development obstructed. Meanwhile, their insufficient educational qualifications further hamper the advancement of the Saxophone Industry.

In contrast, migrant workers face a different reality. Often coming from poorer regions, they have a more pressing need for employment but also encounter local protectionist barriers. As a result, they are predominantly engaged in dirty jobs that have been eliminated by locals, such as processing and polishing. These high-pollution tasks severely damage their lung health, making it difficult for them to maintain long-term employment. Moreover, under the flexible "favor-based management" system, unlike locals who have more autonomy regarding work intensity, migrant workers face much stricter work schedules. With increasing mechanization and industrial restructuring, outsiders lacking protective social connections are often the first to be laid off during downsizing crises.

A more long-term constraint is the household registration system (Hukou). For migrant workers wishing to stay long-term and address their children's educational needs, obtaining a Tianjin Hukou is essential. However, they are poorly educated and do not own property to meet the criteria of the settlement policy Consequently, when their children reach school age, many outsiders are forced to return to their hometowns in search of new opportunities, effectively cutting short their hard-earned careers. Over the past decade, the village has experienced a cyclical turnover of migrant populations approximately every ten years, slowing the musical instrument industry's transformation toward a high-end industry. This underlying division perpetuates a lack of mutual understanding between the two groups, creating a fractured reality of "one village, two worlds".

4.3. Differentiation of Residential, Consumption, and Public Spaces

The significant differences in asset accumulation, social networks, and housing policies between local residents and outsiders lead to varying living conditions and consumption patterns, eventually resulting in spatial segregation.

Local residents inherit assets and land from their ancestors, allowing even the least affluent to access affordable housing through local residency. In contrast, outsiders lack local household registration, preventing them from obtaining such housing. With no deep social relationships with outsiders, those locals who control housing resources can raise rents easily, controlling the cost of living for outsiders. This creates a clear residential divide: locals primarily inhabit well-maintained, newly constructed apartment buildings in Sidangkouzhong Village, rented at one to two thousand yuan per month, while outsiders mainly rent dilapidated brick houses on the village's western side, with rents often reaching three to four thousand yuan per month.

As mentioned, locals often engage in lighter work such as packaging and sales, resulting in relatively better economic conditions and more leisure time. However, the village's limited shopping and entertainment facilities fail to meet their diverse needs, prompting them to drive to nearby towns or Tianjin for recreation. Conversely, outsiders face significant financial pressures and endure longer, exhausting working hours in demanding production roles, primarily shopping at the village's commercial center, "Zhongjie", which caters to their need for low-cost, convenient options.

A significant difference also exists in the use of public activity spaces. Outsiders, especially migrant workers from Northeast China, introduce cultural practices such as "Niuyangge" (a traditional folk dance). After a long day, they gather in the village square to socialize through this dance. However, due to differences in local customs, locals do not fully embrace these activities. They often seek entertainment in the city, viewing it as a more advanced lifestyle. Gradually, locals are drawn to urban life, while migrant workers become more entrenched in the village.

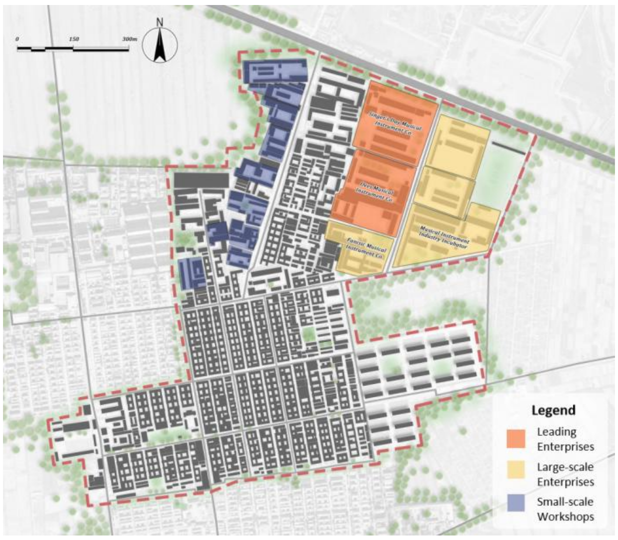

Figure 5. Spatial Distribution of Large Enterprises and Small Workshops. Source: Author's own drawing.(left figure)

Figure 6. Spatial Differentiation of Living Space. Source: Author's own drawing.(right figure)

5. Discussion

Sidangkouzhong Village exemplifies a specialized industrial community that transformed from a poor agricultural background into one of China's leading musical instrument manufacturing centers. This transformation was driven by the timely integration of external capital, technology, and policy support. The village's development highlights how shifts in national policies can stimulate industrial growth. For instance, while early collective ownership restricted productivity, later reforms in market and enterprise ownership significantly boosted entrepreneurial efforts. The introduction of external technology and capital also provided a foundation for the village's competitive industrial growth.

However, the industry experienced a slowdown after 2007. The high cost of upgrading puts most small enterprises in a cycle of path dependency. Despite larger firms' ambitions to penetrate high-end markets for long-term survival, they confronted the reality that the village's outdated infrastructure could not attract external talent. Meanwhile, local youth, enticed by easily attainable job opportunities, abandoned the pursuit of higher skills. The lack of talent ignited fierce competition between large and small firms, leading to disorganized competition that ultimately hindered collective development within the village's musical instrument industry.

At the same time, the development of the musical instrument industry has profoundly reshaped both the internal social structure and the external physical environment of the village. Despite the influx of migrant workers accelerating the industry's growth over several decades, disparities in original assets and social networks have made it more difficult for them to find jobs and achieve promotions compared to locals. Residency policies further obstruct the stable development of outsiders, contributing to the loss of skilled labor. The implicit "insider-outsider" division has become more pronounced in the physical environment. Local residents, holding a monopoly over housing resources, control rental prices and possess the wealth and leisure to frequent the city center for consumption, while outsiders are largely confined to the dull and declining village environment for shopping and recreation. Although the two groups do not completely segregate in daily life, the lack of deep interaction makes it difficult for them to form a unified sense of identity.

Unlike the "four models" mentioned earlier, Sidangkouzhong retains strong village-specific traits. The scale of resources it can access is clearly not comparable to that of developed regions like the Pearl River Delta. Nonetheless, this focus on small-scale development emphasizes the importance of talent for industrial upgrading. Coordinated urban-rural planning emphasize improving rural infrastructure while maintaining low rents to attract talent and rejuvenate village life. Sidangkouzhong's struggles underscore the need for talent retention, as upgrading the value chain depends on knowledge-based workers. Bridging gaps between local and migrant populations is also vital to fostering cultural identity and aligning planning policies with community's needs.

For Sidangkouzhong, attracting talent may represent a key breakthrough requiring long-term policy efforts. First, recruiting talent by partnering with music professionals and academic institutions is essential, alongside hiring marketing experts to boost brand innovation and promotion. Second, improving public service infrastructure is necessary to attract high-level talent, with a focus on government-led planning and coordination of public activities to enhance internal communication. With sustained policy adjustments, it is reasonable to expect that the active involvement of talent could drive progress toward a new phase of development.

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