MULTISPECIES ENTANGLEMENT AND RURAL TRANSFORMATION: FUNGI AND PIGS IN A TIBETAN VILLAGE

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PhD

The Hong Kong Polytechnic University

2025

The Hong Kong Polytechnic University
Department of Applied Social Sciences

Multispecies Entanglement and Rural Transformation: Fungi and Pigs in a Tibetan Village

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A thesis submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

December 2024

CERTIFICATE OF ORIGINALITY

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Abstract

Rural transformation in China offers a lens through which broader changes in contemporary China can be observed. Over the past four decades, rural China has undergone rapid transformation driven by marketisation, urbanization and the government's rural policies. Rural areas have responded differently to societal processes based on the diversity of their local conditions. Research on Tibetan transformation has primarily focused on the impacts of modernization, marketization, and state intervention, particularly regarding Tibetan marginalization and shifts in livelihoods and lifestyles. In peripheral villages situated between Tibetan and Han regions, the use of wild resources has supported local livelihoods, potentially highlighting the significant role of more-than-human entities in rural transformation.

This study examines rural transformation through the lens of multispecies entanglement in a Tibetan village in Sichuan, China, over the past decade. It is based on immersive participant observation, in-depth interviews and long-term fieldwork. Specifically, this research investigates four species—caterpillar fungus, pigs, mushrooms, and wild boars—shape then villagers' livelihoods, mobility patterns and social relations. Caterpillar fungus, as the primary source of cash income for villagers, has continually reshaped social relations—transforming competitive dynamics into collaborative labor, as harvesting land is increasingly allocated on an individualized basis. Intertwined with processes of marketisation, it has contributed to wealth accumulation, thereby sustaining local livelihoods, enabling rural-to-urban migration, and influencing the desires of younger generations. Moreover, the new breed of pigs, which has replaced the local Tibetan pigs, has loosened the relationship between humans and the land, stimulating population mobility and freeing both time and labor for urbanization. Additionally, the commercialization of mushrooms, intertwined with ecological policies and environmental changes, has reinforced the physical boundaries of the village forest while expanding villagers' mushroom-gathering territories

beyond the village. This expansion has fostered regional mobility and further integrated villagers into the market economy. Wild boars, which have thrived due to wildlife protection and environmental policies, have destroyed crops and caused significant hardship for villagers. This has led many to abandon their land, and undermined trust in the local government. These nonhuman species have made villagers' livelihoods more dependent on urban needs and have integrated rural communities into urban life.

Through rich ethnography, this study demonstrates the pivotal role of more-than-human actors in the transformation of the Tibetan village. It highlights how nonhuman entities are entangled with structural forces, collectively shaping livelihood strategies, land use patterns, social relations, migration, state intervention, and environmental conflicts throughout the process of rural transformation. This study highlights the complexity of rural transformation, involving not only people, state agencies, and market forces, but also the participation of more-than-human entities. It calls for a rethinking of rurality—one that recognizes the indispensable role of nonhuman actors and understands rurality as emerging through their entanglement with political, economic, and social relations.

Acknowledgement

On an evening in late autumn 2008, in a small alley in Yulin District, Chengdu, Sichuan, the ginkgo trees on both sides of the road were golden. It was already dark, and the streetlights on both sides were lit. Dr. Zhang Xuemei, the head of the NGO where I was volunteering at the time, and I walked under the orange lights and golden ginkgo trees. She shared her life experiences with me, from graduating from a junior college, working various jobs, running a small restaurant, to starting her master's studies at 30 and earning her PhD at 36. At that time, she had just graduated with a PhD in sociology and was preparing to work at a research institute. She showed me the diverse possibilities in life.

In 2009, I went to Sunshine Village to serve as a volunteer teacher. I usually followed the villagers in their daily activities, such as planting potatoes, dancing *Guozhuang*, and chanting sutras at funerals. I thoroughly enjoyed that state of being and felt proud to live there like a local. Dr. Chen Yun, an anthropologist and a member of the summer visiting group, came to Sunshine Village and saw my state. She said, "You are so suited for anthropology!" Thus, the seed of anthropology and academia was planted in my heart. I am very grateful to them for planting the seeds in me and for their companionship and support over the past fifteen years.

In 2020, this seed finally began to sprout. I am very grateful to the Department of Applied Social Sciences at The Hong Kong Polytechnic University for giving me the opportunity to enter the doctoral program. I appreciate my supervisor, Dr. Zhan Yang, for introducing me to anthropology, guiding me through every application, presentation, paper, and submission, helping me understand academia and nourishing the seed to grow. I also appreciate my co-supervisor, Prof. Ku Hok Bun, for his care and support in both my studies and life over the past four years, especially during difficult moments. I thank every teacher, staff member, and peer I have encountered

over these four years for their support. I am grateful to my external examiners, Professors Emily T. Yeh and Mun Young Cho, for their insightful suggestions that helped improve my dissertation.

I would like to extend my heartfelt gratitude to all the villagers of Sunshine Village for welcoming me over the past decade and enabling me to pursue my research and aspirations. I am deeply thankful to my mother, Li Huixin, my grandmother, Cui Huimin, and my aunt, Wu Zheng, for their unwavering support in my pursuit of my dreams. I also wish to express my appreciation to all the friends, employers, and landlords I have encountered for their assistance in helping me achieve my goals. Thanks to my friend Tian Hui, who has helped alleviate my stress and anxiety over the past four years. Additionally, I am grateful to Peng Chau Island for providing a peaceful and natural dwelling for my thesis writing.

Let this doctoral dissertation be a farewell to my youth.

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Chapter 1 Introduction

Upstream on the blue-colored Yak River, winding roads snake through mountain forests, occasionally revealing the red and white hues of typical Gyalrong Tibetan houses. Crossing a small bridge over the rushing river, one ascends the mountain slope, surrounded by forest-covered peaks. Following a path beside a valley stream, traditional Tibetan houses built of logs and stone are scattered across the verdant mountains. This is Sunshine Village,[1] a Tibetan village nestled among the valleys with a view of the snow-capped mountains.

In 2009, I served as a volunteer teacher in Sunshine Village, forging deep emotional connections with the villagers such that it felt like a second hometown. Returning in 2022 to conduct fieldwork, I was intrigued by the changes I observed in the village.

During my initial stay in 2009, I began to observe aspects of village life that set Sunshine Village apart from typical rural settlements in China—which are often characterized by "village hollowing." It was in the spring of that year, two months after my arrival, that I first suspected this divergence might be related to the village's access to a valuable natural resource. One afternoon, I was unexpectedly struck by the sight of numerous young strangers congregating on the school grounds to play basketball. These individuals, predominantly in their late teens and early twenties, had returned from temporary migrant work to participate in the annual caterpillar fungus harvest, which constitutes the primary source of cash income for local families.

This scene stood in stark contrast to prevailing narratives about rural China at the time, which focused on issues such as depopulation and the widespread phenomenon of left-behind elderly and children. As Yeh and Lama (2013) observed, over the past

[1] All names have been replaced by pseudonyms, including the name of the village.

two decades, the spring season has brought a flow of labor from villages to mountain tops for approximately two months, temporarily reversing typical patterns of rural-to-urban migration. This phenomenon reflects a broader reversal, as labor migrates from urban areas back to rural regions for seasonal work.

In 2022, although caterpillar fungus remained the main source of income for villagers, its proportion of household income had declined, and only a few young people were returning to their hometown to gather it. Notably, the youngest collectors in 2022 were the same cohort who had been the youngest participants in 2009, having matured from teenagers aged approximately 16–17 to adults in their late twenties.

Despite the registered population remaining stable over the past thirteen years, it has become increasingly difficult to find individuals under the age of thirty in the village. Many pig pens now stand empty, and the pigs that once roamed the stone roads have disappeared. The emergence of new mushrooms, which can be sold for cash and have become an additional source of livelihood, has stimulated villagers' activities following the caterpillar fungus season.[2] Each night, wild boars threaten crops, prompting villagers to drive them away with various noises, sending cacophony through the otherwise quiet valley.

Tourism development in the village was already underway by 2009, as evidenced by the operation of a roadside hostel, the owner of which at the time was regarded as the wealthiest household in the village. By 2022, the scale of their hostel operation had expanded threefold, including the construction of a new five-story guesthouse. A Cantonese investor also built a hotel—opened in 2018—at the village's highest point, adjacent to which another guesthouse now operates. However, tourism services employ only a limited number of villagers, primarily as temporary labor during peak seasons, with women comprising most of this workforce. A growing number of

[2] Caterpillar fungus gathering season is in the spring, from the end of April to the middle of June, aligning with the fungus's growth period. More details can be found in Chapter 4.

villagers aged 30 to 50 now seek employment outside of the village—women predominantly in restaurant and hotel service roles, and men mainly in construction work during the post-harvest season.

Meanwhile, the Danba county seat, located 42 kilometers from the village, had grown by a factor of three to four during my absence. Based on my memories from over a decade ago, I could take a bus from Chengdu to the county seat and walk a few steps to the edge of town to share a car to the village. In 2019, however, I walked for more than half an hour and still had not reached the car-sharing station at the edge of town. Alongside the teenagers from the village who attend middle and high schools there, an increasing number of elderly villagers are now renting apartments in the county seat or township to accompany their grandchildren in their studies—further deepening the village's ties to urban life.

Over the past decade, the village has undergone significant transformation, characterized by a delayed onset of rural hollowing, as well as intensifying connections between villagers and urban areas. This raises important questions: What factors have contributed to this decade-long delay? In what ways is the village's transformation distinctive? A key aspect of this uniqueness lies in the villagers' livelihoods, which are intertwined with the natural environment. Activities such as harvesting caterpillar fungus and mushrooms, raising pigs, and coping with wild boars have linked the pace and nature of change in the village to fluctuations in the populations and these species' behaviors.

This thesis explores the more-than-human dimensions of transformation in this Tibetan village over the past decade. Through ethnographic research, I examine how nonhuman actors actively participate in rural change, shaping both the trajectory and character of local development. I also investigate the evolving relationships between humans and nonhumans, shifts in social relations, changes in land use, and the effects of urbanization, marketization, and political processes—all through the analytical lens

of more-than-human studies. This approach highlights the complex interplay between ecological and social factors in shaping the village's transformation. In the context of rural transformation, nonhuman entities not only participate, but also continually and dynamically reshape human-land relations, land distribution, social relations, labor collaboration, migration, state intervention, and environmental conflicts.

To situate these local dynamics within a broader context, it is necessary to first consider how rural transformation has been conceptualized and debated in contemporary China.

1.1 Rural Transformation in Contemporary China

Rural transformation in China is a complex and multifaceted process that has attracted significant scholarly attention. At its core, understanding this transformation requires grappling with three fundamental questions: What constitutes the rural in the Chinese context? How is the rural imagined and represented in policy and political discourse? And how is the rural actively constructed and reconstructed through state intervention, market forces, and local agency? Addressing these questions is essential for understanding the dynamics of rural change and the realities of rural life in contemporary China.

1.1.1 Rural China in transformation

Rural China provides a critical lens through which to observe broader socio-economic changes in contemporary China. As Gao (1999) highlights in *Gao Village: A Portrait of Rural Life in Modern China*, understanding rural life is essential for comprehending China's development trajectory. Rural support was crucial to the success of the 1949 Communist victory, and the establishment of the People's Commune—the largest social engineering project in Chinese history—took place in rural areas. Contemporary factors such as the high proportion of the population residing in rural areas (over 70% in 1949), the dismantling of the commune system, the rise of township enterprises, and the efficient use of limited arable land have

continued to shape China's development (Gao, 1999).

In the wake of the Reform and Opening Up, many scholars have examined contemporary China through the lens of rural transformation, particularly during the 1990s and 2000s. Researchers have discussed the transition from a planned to a market economy (Li, 2009), responses to modernity, industrialization and globalization (Chan et al., 2009), and the shift from collectivism to individualism (Yan, 2003). The expansion of large cities in the 2000s, driven by internal demand and the growth of the service sector (Yeh et al., 2006) and increasing globalization (Gu et al., 2015) has led to the urbanization of some rural areas into urban areas. Simultaneously, waves of rural-to-urban migration have resulted in the emergence of hollowed-out villages. Researchers have examined the social changes involved in the conversion of rural areas into urban ones (Garcia, 2011; Jankowiak, 2004; Kipnis, 2016), rural migrant workers' mobility (Pun, 2005; H. Yan, 2003a; Zhan, 2018), and land transition (Yang & Loopmans, 2023).

Urbanization and industrialization have been key drivers of economic development, prompting a reorientation of the labor force from rural to urban areas and from agriculture to industry (Chan, 1992; Uchida et al., 2007). Zhang and Wu (2024) found that from 2001 to 2021, China's agricultural labor force declined by over 50 percent—a loss of more than 200 million smallholders, likely the largest such decline in human history. Both agricultural land and labor in rural China have declined since 2000, and especially between 2010 and 2020, coinciding with the State Council's approval of the "National Plan on New Urbanization (2014–2020)." By 2022, after more than two decades of economic development and urbanization, less than 40% of the population remained in rural areas (Council, 2014; Qiu, 2023).

Within the state's urbanization and development discourse, many researchers have challenged the urban-rural dichotomy (Gillen, 2016; Lacour & Puissant, 2007). Rural areas are often portrayed as backward, marginalized, and left behind, with their

human, natural, and land resources absorbed by urban development (Anagnost, 2004; Driessen, 2018; Yan, 2008). Moreover, the lack of economic opportunities in the countryside has compelled rural residents to seek poorly paid work in cities (Driessen, 2018). In response, a range of policies—including the "Three Rural Policy," "New Socialist Countryside Program", "Open up the West", "Beautiful Countryside Construction", "Rural Revitalization Strategy", "Targeted Poverty Alleviation", and various ecological initiatives—have been implemented to stimulate rural development and bridge these gaps. These projects are designed to advance both economic production and environmental protection, thereby fostering rural transformation in diverse aspects such as productive practices, cultural meanings, social relations, physical landscapes, and the experiences of rural populations (Chen et al., 2017).

The official party-state narrative views rural regions as sources of surplus value and as important areas for maintaining environmental quality (Schneider, 2017). Related policies include designating zones for commercial production and conservation, constructing transportation and energy networks, increasing agricultural productivity, reforming forest ownership, reorganizing rural settlements, and restructuring areas dedicated to major economic sectors like tourism and mining (Chen et al., 2017). The shift in agricultural production from grain dominance to high-value crops, livestock, and fish; the transformation of smallholders into commodity producers or employers of wage labor; the development of tourism; and the implementation of environmental management have all been undertaken to realize urbanist visions of the rural idyll and to support urbanization (Chen et al., 2017; Jing et al., 2024; Yang et al., 2021; Zhang & Wu, 2024).

Recent scholarship presents varied narratives about the future of rural life in China. Within the discursive urban-rural binary, the rural is constructed in dominant narratives as backward or in need of modernization and intervention (Driessen, 2018). Driessen (2018) introduced the concept of the "rural void" to describe a broader spatial and social emptiness—entire rural landscapes that have lost their people,

purpose, and political attention. She argues that many settlements in China's mountainous regions will likely be deserted in the near future, as both the government and local residents increasingly classify these villages as nonviable or "void" (Driessen, 2018). However, in contrast to this narrative of decline, Wang (2020) highlights the transformative potential of technological innovation in rural areas. In *Blockchain Chicken Farm*, Wang demonstrates that rather than erasing rural life, the digital technologies reshape it, giving rise to new forms of rural existence and identity. She emphasizes that the rural is neither static nor destined for extinction; instead, it is continually reconstructed in response to broader societal changes.

These transformations are complex and multifaceted, particularly within the unequal state discourse embedded in rural-urban and urbanization policies. As Ilbery (2014) argues, rural areas have experienced varying degrees of impact from these trends, and their responses to societal change differ according to each locality's unique conditions. The ongoing definition and understanding of rural transformation in China therefore require further exploration.

1.1.2 Socioeconomic transformation in Tibetan regions

Since the mid-1990s, the economies of Tibetan regions in Western China have experienced rapid growth (Fischer, 2011). Scholars argue that landscapes in the Sino-Tibetan borderlands have been reshaped by state-led development projects, ecological conservation initiatives, and tourism (Yeh & Coggins, 2014). These changes have accentuated the power of the state, the marginalization of Tibetans, and the transformation of traditional livelihoods and lifestyles (Nyima, 2011; Sulek, 2010; Yeh, 2019).

Academic analyses of these transformations often challenge the dominant state development discourse (Fischer, 2011; Yeh, 2019). The state has implemented various development projects, investing in infrastructure, urbanization, and environmental conservation, including the provision of subsidies and the promotion of resettlement.

However, researchers have criticized these projects for reinforcing state control (Cencetti, 2011; Yeh, 2019). Fischer (2011) argues that rapid economic growth in Tibetan areas is largely driven by state subsidies focused on urban sectors, leading to a disconnect from local productive activities and a shift of Tibetan labor from farming and herding into services. Further, Yeh (2019) contends that these interventions are part of a broader project to "tame" both the Tibetan landscape and its people, integrating them into the Chinese nation-state and its modernist vision. State development policies, such as the "Open up the West" initiative, have also been criticized for intensifying the exploitation of resources in the West to meet the demands of urban populations in the East, under the guise of sustainability (Makley, 2018).

Moreover, Tibetans have been marginalized both in the discourse and in the process of development. Most migrants who have left their homes for coastal cities are from central China, rather than western regions (Ye et al., 2013). Tibetans also face greater challenges in becoming migrant workers in coastal cities due to cultural differences and geographic distance. Furthermore, Fischer (2011) argues that development projects in urban economies of Tibetan areas are dominated by Han Chinese. Hu's (2004) quantitative survey reveals that migrants in Lhasa have gained considerable advantages from state-driven development efforts, while Tibetans continue to face challenges in education and employment. Additionally, Yeh (2019) argues that state development projects reinforce Tibetans' marginalization while fostering gratitude toward the state, thereby masking deeper power asymmetries.

In rural areas, resettlement projects have promoted rural-urban migration. Zhaxi (2020) demonstrates that state policies providing subsidies for housing construction have produced modern, market-oriented consumers, and increased the flow of rural Tibetans into urban areas. Makley (2013) also argues that the "Construct a New Socialist Countryside" initiative restructured most of the Rebgong Valley's former farming villages into landless urban neighborhoods. Yeh and Makley (2019) argue

that urbanization policies often limit Tibetan agency, presenting choices shaped by state agendas rather than genuine autonomy. As a result, livelihoods sustained by natural resources become more valuable to Tibetans, offering the potential for different trajectories of rural transformation.

State interventions and marketization have also altered traditional Tibetan livelihoods and lifestyles. Yeh (2019) demonstrates that the narrative of development projects as "gifts" obscures the coercive aspects of development, including displacement, loss of traditional livelihoods, and the undermining of Tibetan cultural and social autonomy. Zhaxi (2020) also emphasizes that Tibetan migration from rural to urban areas is not just about seeking jobs and economic gain, but also represents a broader social, cultural, and political journey in which Tibetans actively shape their own understanding of modern life. Yeh and Makley (2019) further notes that growing inequality among Tibetans has emerged alongside marketization, increased indebtedness, and an increasingly consumerist lifestyle. Further details are provided in Chapter 2's literature review.

Research on transformation in Tibet typically focuses on political and social changes driven by state intervention. Most studies concentrate on Tibetan pastoralist society, with less attention to the transformation of farming areas, which may represent the periphery of Tibetan regions.

1.1.3 Sunshine Village: the specific field site

Sunshine Village is located on the eastern frontier of the Tibetan Plateau, within Danba County, Garze Tibetan Autonomous Prefecture, Sichuan Province, China. Approximately sixty households are dispersed throughout the valley, situated at elevations ranging from 2,600 to 3,200 meters above sea level and encircled by dense forests. Most residents practice subsistence agriculture, cultivating crops such as corn, potatoes, radishes, rapeseed, turnips, various beans, and highland barley on terraced fields, primarily for their own consumption and that of their livestock, including cattle

and pigs.

Danba is recognized as one of the principal settlements of the Gyalrong Tibetans, and serves as the core region of Gyalrong Tibetan culture (Yi et al., 2018). The Gyalrong Tibetans inhabit the valleys of the Dadu River and the Large and Small Jinchuan Rivers, situated in the northeastern part of Kham (Luo, 2018; Wei et al., 2021). Jinba (2013) uses the idea of a dynamic convergence zone to characterize the hybrid or creolized nature of Gyalrong society, which has been shaped by strong influences from both Han/state authorities and Tibetan traditions through ongoing interactions affecting local culture, politics, and identity. This phenomenon illustrates a unique feature of center-periphery relations in border areas, where the periphery can also contain its own internal centers and margins (Jinba, 2017).

If Danba County is considered the center of Gyalrong, Sunshine Village is situated on the periphery within this convergence zone (Jinba,2017). Located between Gyalrong and Kham, the villagers of Sunshine Village also exhibit fluid identities. In 2009, villagers would identify themselves as Kham rather than Gyalrong. However, with the increasing prominence of Gyalrong narratives and administrative affiliations, by 2022, villagers were more frequently referencing their Gyalrong identity. In addition, the villagers are followers of Bon, a religious tradition that has faced persecution due to the dominance of Buddhism in Tibet. As Jinba (2017) describes, the locals' interactions with both Tibetans and the Han state reflect pronounced cultural hybridity, linguistic diversity, and fluidity of identity.

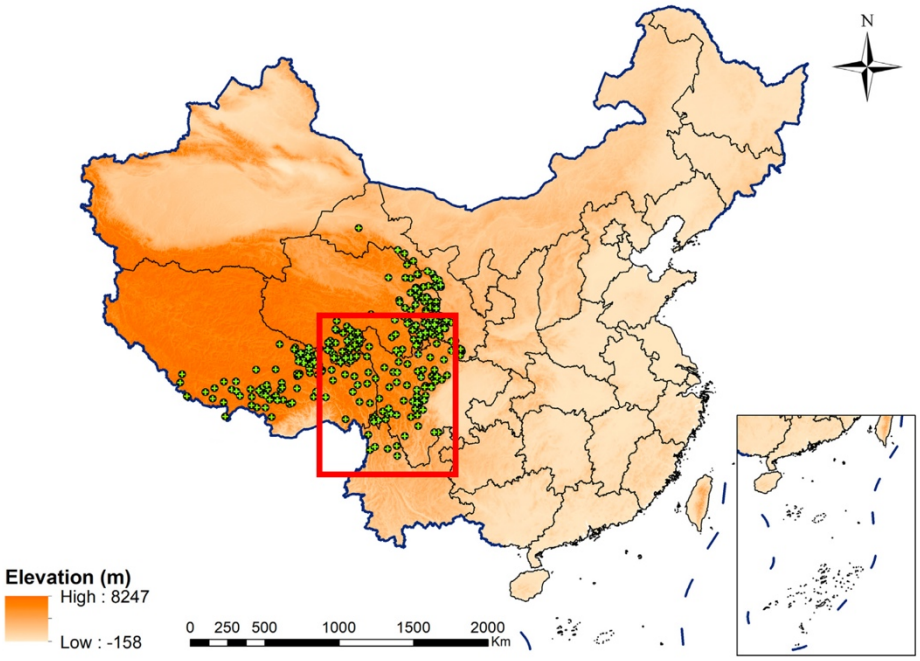

*Figure 1: Field site on a map of China (the red box) and geographic locations of caterpillar fungus occurrences in China (*modified from *Wei et al., 2021)*

Figure 2: Map of Sunshine Village[3]

[3] Drawn with reference to the *Map of the People's Republic of China*: https://www.gov.cn/guoqing/2017-07/28/content_5043915.htm; *Sichuan administrative division map: https://www.sc.gov.cn/10462/wza2012/scgk/szqk.shtml*; Burnett's (2014) book *Rgyalrong Conservation and Change: Social Change on the Margins of Tibet;* Li's (2017) book *Jiawu he Gyarong Shehui Jiegou;* Jinba's (2013) book *In the Land of the Eastern Queendom: The Politics of Gender and Ethnicity on the Sino-Tibetan Border* and Jinba's (2017) article "Seeing like borders: convergence zone as a post-Zomian model."

The very name “Gyalrong” signifies an agricultural region (Tsering, 2022). In contrast to the expansive pastoral areas typical of much of Tibet and the large-scale mechanized agriculture found elsewhere in rural China, livelihood resources in Sunshine Village are limited. Residents primarily cultivate subsistence terraced fields and maintain only small pastures in the surrounding high mountains. Their choices and actions are also limited by the lack of diverse material, social, and symbolic resources (Jinba, 2017).

Nevertheless, caterpillar fungus, along with other wild herbs and non-timber forest products (NTFPs), constitutes an important and common resource for Sunshine villagers. Due to income generated from these wild resources, Sunshine Village was considered affluent within Danba County in 2007 (Qiu, 2009). Caterpillar fungus is typically analyzed in terms of commodification and marketization, as well as its impact on the social relations of rural Tibet (Liang, 2011; Sulek, 2010; Yeh & Lama, 2013). Thus, wild resources, with their essential role in rural transformation, are a factor that has been overlooked within the concept of the convergence zone.

Similar to the Tibetan pastoral areas, Sunshine Village is also far from industrial and urban areas. In Sunshine Village, most young people’s contact with urban areas occurs through education. In 2009, some additionally accessed urban employment by enlisting in the military. Education policies are also intertwined with urbanization (Yeh & Makley, 2019), as many villagers attend boarding schools far from their home communities. Yeh and Makley (2019) mentioned that this spatial separation is seen as a way to instill national values and Mandarin fluency, but it also disrupts traditional cultural transmission. These transformations affect how Tibetans perceive themselves and their place in society. More and more young people in Sunshine Village are now choosing to settle in urban areas after they complete their formal education.

As previously mentioned, the diminishing population of young people remaining

in the village has led to the closure of community preschools. As a result, a new phenomenon has emerged: elderly villagers are increasingly accompanying their grandchildren to the county seat or township for schooling. This trend has strengthened the connections between urban areas and the village's elderly population. According to Bum (2018), Tibetan pastoralists participate in urban resettlement initiatives largely because the state has neglected rural pastoralist livelihoods and removed alternative educational options in rural areas. Nonhuman entities also might participate in this migration, which will be explored in the Chapter 5.

The villagers expressed envy toward Tibetans in pastoral areas, who had received new houses and more generous grassland subsidies as part of ecological resettlement policies. As Jinba (2013, 2017) notes, the *Suopowa*[4] sometimes not only participate in their own marginalization, but also strategically emphasize this marginality in anticipation of potential rewards and compensation. Sunshine villagers articulated similar perspectives. In the context of the recently concluded Grain for Green subsidies and the crop damage caused by wild boars, villagers argued that those who bear the costs of environmental protection should continue to receive state compensation. Thus, the frequent wild boar incursions have become additional justification for villagers seeking compensation from the state, including the possibility of resettlement. Further details on this issue will be provided in Chapter 7.

Compared to both Tibetan and Han regions, the residents of Sunshine Village occupy a more peripheral position in terms of living space, political discourse, and livelihood opportunities. However, unlike other marginalized villages, Sunshine Village possesses unpredicted natural resources that contribute to local livelihoods. Therefore, the role of nonhuman entities, such as these natural resources, should not be overlooked in analyses of rural transformation. This research will focus on how

[4] Suopo is a township located in Danba County. The term *Suopowa* refers to the residents of Suopo.

nonhuman entities contribute to rural transformation and interact with state forces in marginalized convergence zones characterized by limited resources.

1.2 Multispecies Entanglements and Rural Transformation

Kirksey and Helmreich (2010) argue that multispecies ethnography "centers on how the livelihoods of diverse organisms are both shaped by, and actively shape, political, economic, and cultural forces" (p. 545). This approach emphasizes the entangled relationships through which various living agents co-create each other's existence (Van Dooren et al., 2016).

For this research, I adopt multispecies ethnography to explore the roles of more-than-human species in rural transformation. As previously discussed, livelihoods in Sunshine Village are intertwined with nonhuman entities, which are integral to the transformation process, and should not be overlooked. Thus, multispecies ethnography provides a valuable framework for examining the interconnected livelihoods of multiple organisms (Kirksey and Helmreich, 2010). Further enriching this perspective, Anna Tsing's (2012, 2015) concept of the "unruly edge"—which refers to peripheral areas beyond centers of industrial development, marked by dynamic entanglements where human and nonhuman actors continuously and unpredictably shape one another's lives—serves as a key theoretical inspiration for this research. Situated in a marginal region, Sunshine Village similarly exhibits profound multispecies entanglements involving both human and nonhuman actors.

On the Tibetan Plateau, many researchers have focused on nonhuman entities. Tsing (2015) and Hathaway (2022) focus on matsutake mushrooms in global trade to rethink capitalism. Zhou (2023) examines human-dog relationships and ethics, showing how commodification transforms these dogs' value. For ecological and wild animal conservation, researchers have sought local knowledge and cosmology to achieve coexistence and subsistence, and to address climate change (Chen et al., 2016; Gao & Clark, 2024; Gao et al., 2023). Most of these studies start from a species

to respond to marketization and commodification, capitalism and globalization, development policies, environmental protection, and climate change, and the relationship between humans and animals, particularly in Tibet's pastoral areas. Yet few ethnographic studies have holistically documented the changes in a village from a more-than-human perspective.

Why is a multispecies perspective particularly suited for exploring village transformation? In Tibetan areas, animistic beliefs and reverence for mountain deities form a cosmological foundation that shapes local understandings of human-nonhuman relationships. As highlighted by anthropologists including Ingold (2021) and Kohn (2013), such cosmologies inform multispecies perspectives by emphasizing indigenous knowledge and worldviews. In Sunshine Village, relationships between humans and nonhuman entities are shaped by a worldview that emphasizes coexistence and care for all sentient beings (Yeh, 2014). Furthermore, the multispecies perspective has been used to rethink rurality; for example, Donna Haraway's concepts of "contact zones" and "becoming with" have been applied to agrarian worlds as formative spaces of interaction (Haraway, 2008; Galvin, 2018). Additionally, Smits and Martín (2019) reconceptualize the "village" as a multispecies assemblage, produced through diverse and dynamic relationships.

In this study, I examine how nonhuman entities are entangled with broader structural forces, including ecological policy, market dynamics, and rural-urban migration. Although the multispecies perspective acknowledges that nonhuman entities both shape, and are shaped by, political, economic, and cultural forces, it has often been critiqued for overlooking issues of power. However, Anna Tsing's research demonstrates that ecological assemblages themselves can reveal the workings of political economy (Tsing, 2015). Yeh and Lama (2013) also argue that recognizing the agency of nonhuman actors and the materiality of nature can enrich analyses of power and political economy. Yeh (2017) advocates for a political ecology that, while maintaining a focus on justice and power relations, also embraces multiple ontologies

to enhance the field's capacity to explicate and address environmental conflicts and transformations. Therefore, nonhuman actors provide a crucial lens for observing and understanding the processes of rural transformation.

1.3 Organization of the Dissertation

This research explores changes in rural areas between 2009 and 2022 by examining nonhuman species in Sunshine Village. It highlights that nonhuman entities are entangled within structural forces such as urbanization, marketization, and state intervention, collectively shaping livelihood strategies, land use patterns, and social relations throughout the process of rural transformation. This underscores that the complexity of rural transformation is influenced not only by humans and policy, but also by more-than-human entities.

Chapter 2 will review the literature on rural transformation in China, as well as scholarship on the multispecies perspective. Existing literature on rural transformation in China has primarily examined this topic through the lenses of citizenship and geography, political economy, political ecology, and socio-cultural studies. However, these anthropocentric approaches often overlook the roles of nonhuman species in shaping rural life. To address this gap, I have adopted a multispecies perspective in this research—engaging with debates and rethinking rurality—to analyze how this approach can be applied to the study of rural transformation.

Chapter 3 will describe the methodology and research field site. Sunshine Village will be detailed, including its history, customs, language, human-land relations, natural resources, and livelihood changes. To collect my data, I employed ethnographic methodology, living and working alongside villagers in their daily lives. Based on immersive participant observation and flexible conversations in everyday life, I wrote fieldnotes every evening. Additionally, I had documented the village in 2009 through my diary and numerous photos.

Chapters 4 to 7 will examine village changes between 2009 and 2022 through the lens of caterpillar fungus, pigs, mushrooms, and wild boars. These four species are intertwined with the villagers' everyday lives and livelihoods.

Chapter 4 examines caterpillar fungus, the villagers' primary source of cash income, and how it shapes the trajectory of rural–urban migration dynamics. By the time of my fieldwork, caterpillar fungus had emerged as a key driver of local livelihood and wealth accumulation, facilitating urban engagement among the younger generation. Moreover, the distribution of land used for harvesting caterpillar fungus illustrates the process of individualization, while the caterpillar fungus encourages villagers to develop cooperatives in response to urbanization.

Chapter 5 examines pigs' role in reshaping human–land relationships and patterns of human mobility. Freely roaming pigs were absent from the village landscape in 2022. This phenomenon had been due to a shift from local Tibetan pigs to hybrid breeds. Pigs previously had played a crucial role in connecting humans to the land, but the new pig breeds had loosened this relationship, stimulating population mobility and freeing time and labor for villagers to engage in urbanization.

Chapter 6 examines the commodification of wild mushrooms, a process that began less than a decade prior to my return to the field in 2022. This shift has become increasingly intertwined with ecological policies, drawing local populations deeper into market-oriented practices. Their commercialization has reinforced the physical boundaries of village forests, a development rooted in the legacy of the Grain for Green policy. As mushroom availability within village territories has diminished, villagers have extended their foraging activities beyond traditional boundaries. As a result, the reconfiguration of spatial boundaries—both within and beyond the village—has played a role in transforming social relations and mobility.

Chapter 7 focuses on wild boars, which have thrived due to wildlife protection

and environmental policy. Wild boars have destroyed crops and caused significant hardship for villagers, reflecting the conflict between wild animals, villagers, and ecological policies. Moreover, the wild boars have led many to abandon their land, and have undermined trust in local government.

In conclusion, these species have made rural livelihoods increasingly dependent on urban demand, thereby further integrating rural communities into urban life. This dynamic illustrates the process of rural transformation—or what may be termed rural "void"—through a multispecies lens. Nonhuman entities such as wildlife, livestock, and plant species are embedded in market dynamics, urbanization, and environmental governance, collectively reshaping the rural landscape. This research contributes to the study of rural transformation from a multispecies perspective, as well as to the rethinking of rurality and urbanization. Furthermore, the second part presents the future of Sunshine Village as envisioned by its residents, highlighting their perspectives on land, nonhuman life, and tourism development.

Chapter 2 Literature Review

This chapter is organized into two main sections: rural transformation in China, and multispecies perspectives in rural studies. Existing literature has examined rural change in China through a variety of disciplinary lenses, including citizenship and geography, political economy, political ecology, and socio-cultural studies. These perspectives have illuminated issues such as urban–rural inequality, migration, state-led urbanization, the commodification of land and labor, environmental governance, and transformations in cultural norms and family structures. However, these predominantly anthropocentric approaches often underplay the role of nonhuman species in shaping rural life. To address this gap, the present research employs a multispecies perspective, which considers how more-than-human entities participate in rural transformation. While multispecies approaches have often been critiqued for overlooking structural power dynamics within rural contexts, this study further explores how nonhuman actors are entangled in processes of urbanization, marketization, and state intervention.

2.1 Rural Transformation in China

Rural areas are commonly defined in functional terms, emphasizing land use, settlement patterns, and lifestyle characteristics (Cloke, 2006; Woods, 2010). Rural studies often rest on the assumption that rural and urban areas are fundamentally distinct in their functions, an idea that continues to shape academic and policy discourse (Cloke, 2006). Berdegué et al. (2013) define “rural” as both a type of society and the space it occupies—where agriculture and other primary activities account for a significant, though not necessarily dominant, share of land use, employment, income, and economic output, and where population densities are far lower than those of major urban centers. Therefore, rurality is shaped by a complex interplay of livelihoods, rural–urban relations, state interventions, and socio-cultural dynamics.

Rural transformation refers to the broad societal changes through which rural areas diversify their economies, reduce their dependence on agriculture, and become increasingly integrated into national and global systems. This process includes shifts from dispersed villages to towns and small cities, growing reliance on external markets and services, and cultural convergence with urban norms (Berdegué et al., 2013). Governance and policy interventions play a critical role in shaping the trajectory of rural modernization and development.

Scholars have approached rural transformation through various analytical lenses, including citizenship and geography, political economy, political ecology, and socio-cultural studies. These perspectives offer insight into the structural, environmental, and cultural dimensions of rural change in contemporary China.

2.1.1 The citizenship and geographic perspective

Rural areas have long been conceptualized in contrast to urban spaces, often positioned as the opposite pole within a dichotomous framework of human settlement systems (Halfacree, 2017). This binary framing continues to influence how rurality is understood and governed. In this context, rural spaces are not only defined by physical and functional characteristics, but also serve as spatialized boundaries of identity, citizenship, and rights. Rural transformation involves more than economic and infrastructural change—it is also a process of spatial and social reconfiguration. This includes the marginalization of rural populations, especially migrants, and the restructuring of the governance systems that regulate access to resources, mobility, and recognition.

With development and urbanization, cities are seen as the primary sites of political, cultural, and economic worth (Bulag, 2002; Cartier, 2003; Ma, 2005; Yeh & Lama, 2013), whereas rural China has been devalued (Harwood, 2009; Yeh & Lama, 2013); rural areas are marginal compared to urban areas. In China, urban areas are

favored as symbols of progress and modernity, representing the envisioned future and serving as synonymous with development (Yeh & Makley, 2019). Gao (1999) stated that there are two Chinas: a rural and an urban China, differing economically and politically, and emphasizing the regional differences. Driessen (2018) contends that the lack of attention and recognition given to rural change in China is due to the entrenched valuations of "the rural" and "the urban," with the rural being seen as primitive and poor, and the urban as modern and affluent. Because the state views them through the lens of developmentalism, rural people come to live their identities around this definition of urban/modern/developed/civilized and rural/traditional/underdeveloped/primitive (Turton, 2013).

The widespread discourse surrounding population quality (*suzhi*) often portrays rural China as the opposite of modernity and as an obstacle to the nation's progress (Driessen, 2018; Harwood, 2009). Since the 1980s, the concept of *suzhi*, most frequently applied to peasants and rural migrants, has become central to the construction of the "new peasantry" (*xin nongmin*) as a developmental subject (H. Yan, 2003a). Improving *suzhi* has been a key strategy employed by China's governing elites to position the nation competitively within global capitalism (H. Yan, 2003a). The narrative of low *suzhi*, or population quality, stigmatizes rural areas—along with ethnic minorities and the western regions of China—as backward and uncivilized, positioning them in stark contrast to the high *suzhi* associated with modern, developed, and culturally refined urban populations (Chen et al., 2017; H. Yan, 2003a). This is why in Ku Village, a pervasive feeling of being "rural" with the connotation of "underdeveloped" and of being behind the urban produces people's sense of their selves and view of rural reform (Ku, 2003).

This urban-rural dichotomy, perpetuated by the state for political purposes, reinforces inequalities, and drives rural residents to migrate to cities, resulting in rural voids that are viewed as blemishes on China's modernization narrative (Driessen, 2018). Such depictions both draw on and justify the material deprivations rural people

face (Anagnost, 2004; Yan, 2008). Urban spaces are idealized as hypermodern utopias, offering rural youth the opportunity to transform themselves and leave behind poverty in the countryside (Harwood, 2009). With the surge in migration during the 1990s, many working-age men and women left the countryside as their means of making a living shifted. In rural China, the processes of industrialization and urbanization have led to the distinctive phenomenon of "village hollowing," a result of the dual-track pattern of socio-economic development (Liu et al., 2010; Long et al., 2011). H. Yan (2003b) uses the term "spectralization" to describe how rural spaces are discursively and symbolically marginalized within the cultural and political frameworks of modernization. Driessen (2018) introduced the concept of the "rural void" to characterize rural China as obstacles to urbanization and modernization within prevailing binary narratives. These "rural voids" highlight the disregard and marginalization of rural areas in a society focused on cities, influenced by state rhetoric that portrays rural regions as impoverished and outdated, while depicting urban areas as prosperous and modern, especially in the context of forceful, top-down urbanization policies (Driessen, 2018). As Driessen (2018) states, "Without the primitive and the rural, the modern and the urban do not exist" (p.64). However, Wang (2020) has argued that villages are not disappearing—they are being reconfigured through technology and policy. She emphasizes that rural China is dynamic—shaped by migration, digital labor, and shifting identities.

China's *hukou* (household registration) system has segregated its rural and urban populations, forming the basis of a dualistic socioeconomic structure, and producing two distinct classes of citizenship (Chan, 2010; Chan & Zhang, 1999). Under this system, peasants were treated as second-class citizens. They were tied to the land to generate agricultural surplus for industrialization, later becoming rural migrant laborers (*nongmingong*), yet remaining excluded from the welfare benefits and public services accessible to urban residents (Chan, 2010). Although the government has been reforming the *hukou* system since the early 2000s, significant barriers remain, particularly in the local settlement and integration of migrant workers (Chan &

Buckingham, 2008; Yang & Chan, 2025a, 2025b).

To accelerate urbanization, China has started easing restrictions within the *hukou* system, particularly in smaller cities, making it easier and more appealing for rural families to relocate and settle there (Institution, 2015). In 2014, the State Council approved the "National Plan on New Urbanization (2014– 2020)," which shifted the focus towards people-centered urbanization, aiming to have 60% of the population in urban areas by 2020 (Council, 2014), including the urbanization of the floating population and nearby and local urbanization. The four main goals included "promoting the orderly conversion of rural migrants into urban residents" and "promoting urban-rural integration" (Council, 2014). China's urbanization strategy selectively targets rural migrants who are both willing and capable of adapting to urban life, aiming to transform them into active consumers that can stimulate the domestic market. This transformation is expected to drive lifestyle shifts and boost demand for personal and social services. Simultaneously, strengthening the roles of inland cities is intended to increase the need for producer services. Moreover, urbanization is seen as a remedy for agricultural challenges: as villagers transition into urban residents, the land they leave behind becomes available for large-scale, mechanized farming (Council, 2014). But Chan (2018, 2021) argues that the intended goals of reform were not fully achieved, and highlights persistent challenges in restructuring the *hukou* system, improving agricultural land transfer mechanisms, and addressing fiscal policy constraints.

In the ongoing interaction between urban and rural areas, rural spaces are continuously reconstructed within unequal power relations. This perspective foregrounds the spatial distribution of rights and resources, revealing how institutional exclusion is geographically situated and systematically reinforced. This provides a foundational lens for understanding the marginalization of peasants and the dynamics of rural transformation in China, where space, identity, and governance are intertwined. However, the citizenship and geographic lens may underrepresent the

cultural dimensions and everyday lived experiences of rural communities. It may also overlook the broader structural forces, such as economic systems and ecological conditions, that shape rural livelihoods.

2.1.2 The political economy perspective

Areas once considered distinctly rural are now understood as being embedded within broader national and global economic systems, revealing that many rural developments are shaped more by external forces than by local dynamics (Cloke, 2006). In China, rural regions have often been positioned as resource supply zones and institutionally marginalized spaces within national development strategies. For example, Li (2009) uses a micro-history approach to explore the interaction and shaping between the state and peasants within the social, economic, and political transformations during the periods of socialism and reform. He argues that peasant actions were shaped not only by state-imposed structures and policies, but also by the interplay between official systems and the informal institutions rooted within rural communities. This work highlights shifts in state approaches to political and economic development in rural areas, and compares developments during the collective era and the Reform and Opening-up period. Research grounded in the political economy perspective typically focuses on the role of state governance, land ownership and transfer, labor dynamics, and the commodification of rural resources.

Under the state's urbanization and development discourse, the extraction of surplus from rural areas—including agricultural products, human, natural, and land resources—has facilitated industrial growth and urban development. Since the 1950's, Chinese cities had specialized in manufacturing and rural areas had specialized in agricultural production (Ren, 2013). The urban-rural divide in Chinese society was exacerbated by the government's emphasis on industrialization over urbanization until the 1980s, a trend that was later solidified through the *hukou* regime (Ren, 2013). The *hukou* system categorically divides the whole population into two groups: rural residents (peasants) and urban residents (citizens) (Wang et al., 2015). State

involvement in rural areas was primarily driven by productivist thinking, with the extraction of surplus from these regions fueling industrial expansion via an administrative "scissors gap" (Chan, 1992).

Following de-collectivization in the 1980s and the de-agrarianization of China's rural labor force before the early 2000s, agricultural taxes were eliminated, and subsidies in the form of cash, high-quality seeds, and machinery have been provided to households since 2004 (Tian et al., 2016). Since 2000, China has promoted major strategies such as the "new socialist countryside construction" and particularly, targeted poverty alleviation. In 2006, China introduced the "Building a New Countryside" initiative, which embodied a comprehensive strategy for rural development focused on enhancing livelihoods, fostering a "civilized" social environment, creating clean and orderly villages, and strengthening local governance (Tian et al., 2016). Following the implementation of the National Plan on New Urbanization (2014–2020), both agricultural land and labor in rural China have declined since 2000, particularly between 2010 and 2020. In 2017, China's central leadership introduced the Rural Revitalization strategy, setting out five major objectives to be achieved by 2050—economic dynamism, ecological sustainability, culturally enriched rural communities, effective governance, and improved living standards—marking a significant shift in the nation's approach to rural development (Han, 2020). Xi Jinping declared that China had eliminated all rural poverty by the end of 2020 (Huang, 2022). These policies have promoted rural transformation in terms of production, meanings, relationships, landscapes, and people (Chen et al., 2017).

With commodification and marketization, the shift in agricultural production from grain dominance to high-value crops, livestock, and fish is a key feature of the structural transformation of China's agricultural production (Huang, 2022). Smallholders are predominantly commodity producers, participating in numerous commodity relations to access agrochemicals, machinery, rental land, and wage labor

to produce for markets (Zhang & Wu, 2024). The emerging industrial meat sector also prioritizes large-scale concentrated animal feeding operations, rather than small-scale livestock farming that is integrated with crop cultivation (Schneider, 2017). Zhang and Donaldson (2013) argued that fundamental changes to smallholder agriculture only began in the early 2000s, marking the "rise of agrarian capitalism." The rise of industrial meat production in China has led to a preference for concentrated animal feeding operations over traditional, small-scale livestock farming integrated with crop cultivation (Schneider, 2017). A central aspect of China's agricultural transformation is the shift away from grain-focused production toward high-value crops, livestock, and aquaculture (Huang, 2022). Remaining smallholders are mostly commodity producers, widely participating in commodity relations to access agrochemicals, machinery, rental land, and wage labor to produce for markets (Zhang & Wu, 2024).

Moreover, this shift has led to changes in rural land-rights institutions, starting with the emergence of local farmland rental markets (Kung, 2002; Zhang & Wu, 2024). Scholars have observed that state agencies in China have promoted spatial concentration and functional intensification to achieve economies of scale in both agriculture and housing. This involves consolidating farmland by merging individual household plots into larger units and relocating residents from scattered homes into "new rural communities" (Chen et al., 2017; Zhang & Wu, 2017). At the heart of this transformation is the commodification of land, which plays a central role in the expansion of capitalism across rural China (Zhang & Wu, 2017). This shift has interacted with the decline in the smallholder population and changes in their livelihoods. While some mobilities have enhanced livelihoods and capabilities through income-earning and profit-making opportunities, they have also resulted in differentiation processes (Wang et al., 2013). Policies geared towards different mobilities clearly promote capital interests.

In the commoditization process, both humans and the environment can be transformed and commoditized (Apffel-Marglin, 1996). Apffel-Marglin (1996) further

pointed out that the commoditization process not only affects the specific resource being commoditized, but also transforms the entire environment, including both human and nonhuman elements. In Tibetan plateau, Liang (2011), Yeh and Lama (2013) noted that the caterpillar fungus boom bolstered the development of the Tibetan Plateau. Sulek (2019) also argues that the caterpillar fungus economy remains uncontrolled by the state because it benefits the public budget and alleviates the state's financial responsibilities in the production areas. For most Tibetan collectors, digging for caterpillar fungus is pursued purely for its exchange value, realized through its commodity form, rather than for its use-value. Thus, the high price and market demand for wild caterpillar fungus have reshaped rural views in materialized Tibetan villages (Scoones, 2015).

Rural livelihoods have undergone significant transformation due to processes of commodification and marketization, shifting away from traditional agriculture and pastoralism, and toward wage employment and diversified income sources. Gelek and Li (1996) identified that urbanization involves rural-to-urban migration, and not merely a shift from agricultural to non-agricultural livelihoods, as well as an increasing urban population; this process expands urban economic relations and lifestyles, with rural areas adopting urban standards in productive forces, management practices, income structures, and ideologies. Zhang and Wu (2024) noted that successive waves of rural labor shifting into non-agricultural wage jobs have made labor commodification an accepted norm for rural households. Pluriactivity has become a prevalent livelihood strategy, as rural households increasingly rely on both wage income from non-agricultural jobs and marketed surplus from farming operations for their social reproduction. Huang (2022) observed a substantial rise in rural laborer participation in non-agricultural employment.

The livelihood perspective has become central to contemporary discussions of rural development, shaping strategies and policies aimed at improving well-being and reducing poverty through targeted interventions (Scoones, 2013). This approach

emphasizes understanding how rural people access and mobilize various forms of capital—natural, social, human, physical, and financial—to sustain their livelihoods. Building on this, Bebbington (1999) integrates a political ecology lens to highlight how livelihoods are shaped not only by access to resources, but also by power relations and environmental governance. His work underscores the need to consider both structural constraints and local agency in analyzing rural change. Additionally, Wang (2020) examines how technologies like blockchain and AI are affecting rural labor, particularly in agriculture and logistics. While these technologies promise decentralization, in practice they often reinforce state and corporate control, obscuring deeper issues of inequality in rural China.

In Tibetan plateau, researcher believe caterpillar fungus as a new cash income source has altered traditional rural livelihoods, such as pastoralism. For instance, there is often insufficient labor to feed the herds during the caterpillar fungus harvest season (Sulek, 2010; Yeh & Lama, 2013). Sulek (2019) noted that the caterpillar fungus economy is based on a wild natural resource that is gathered. In core production areas, pastoralists have transitioned from herding while digging caterpillar fungus to becoming businessmen who rent out their caterpillar fungus zones (Caibei, 2014). Sulek (2010) commented that the caterpillar fungus boom has improved transportation and cash income availability, resulting in pastoralists' increased integration with (and dependence on) town markets. She argued that gathering has become so lucrative that it causes pastoralists to "degrade" their production system under China's development discourse. However, Galipeau (2021) found that, compared with agricultural labor for wineries in the caterpillar fungus production area, gathering offers local Tibetans a path to freedom from capitalist labor, and a return to communal forms of income production based on community land tenure and common-pool resources. The new stream of cash income from collecting and trading caterpillar fungus has had a strong short-term welfare-improving effect, empowering rural Tibetan communities in areas such as healthcare, education, transportation, consumption, and entrepreneurship (Wang et al., 2018; Winkler, 2009, 2013). Some

scholars argue that the income generated from caterpillar fungus has not resulted in productive investments or the development of human capital necessary for sustained growth. Rather, this resource windfall has discouraged school attendance, participation in nonfarm employment, and efforts to enhance productivity in pastoralism (Wang et al., 2018). This lucrative income source has also led to social issues like increased fighting, deaths, and gambling (Tan, 2013; Winkler, 2009; Yeh & Lama, 2013).

Rural areas in China have long served as sources of labor and land under the rural–urban structural divide and state-led governance, contributing to urban development. With the marketization of agricultural production, smallholders have increasingly become commodity producers, and both land and agricultural products have been commercialized. Thus, rural transformation is framed as a state-led structural adjustment, encompassing land system reforms, labor mobility, and changes in livelihood strategies.

Livelihoods in rural Tibet are more dependent on natural resources such as caterpillar fungus than they are in most other rural regions in China. In these contexts, natural resources are not only economic assets, but they are also integral to community-based production and social reproduction. However, the political economy perspective often overlooks natural resources' role in shaping local livelihoods and regional differences. This limitation is addressed by the political ecology perspective, which emphasizes the ecological and power dimensions of resource access and governance, offering a more nuanced understanding of rural diversity and transformation.

2.1.3 The political ecology perspective

Political ecology is rooted in Marxist and political economy traditions, offering a critical framework for examining the intersection of ecological processes and socio-political power. It has produced incisive analyses of how nonhuman entities are

symbolically and materially absorbed into capitalist systems and other arenas of socioeconomic control—particularly through discursive regimes, governance practices, and struggles over resource access and the equitable distribution of environmental risks (Ogden et al., 2013; West, 2012).

In China, rural areas have become the frontlines of ecological governance and resource competition. Since the 2000s, rural transformation in China has been shaped by the state's evolving modernist approach to environmental management (Chen et al., 2017; Yeh, 2023). Chen et al. (2017) observed that Chinese state narratives about rural initiatives are shaped by both productivist and environmental rationales, which provide valuable frameworks for analyzing rural transformation in present-day China. Wu et al. (2024) employed post-productivism to identify rural transformation as a response to dissatisfaction with state-driven, productivist agriculture from various groups—state authorities, urban consumers, and rural communities. This dissatisfaction has led to a change in government policy from prioritizing agricultural output to focusing on ecological restoration.

The Chinese state re-engages with rural areas through a national welfare initiative that targets both productivist and environmental values (Chen et al., 2017). Since the early 2000s, China has integrated environmental concerns into its governmental policy, marking its emergence as an environmental state (Yeh, 2009). In response to extensive droughts in 1997 and severe flooding along the Yangtze River in 1998, China implemented the Natural Forest Protection Program (NFPP) and the Grain for Green program (Yeh, 2009, 2016). These programs constitute one of the world's largest environmental rehabilitation efforts (Xu et al., 2002; Xu et al., 2006; Yeh, 2009). The Chinese government responded with a nationwide cropland allocation program known as Grain for Green to increase forest cover and prevent soil erosion on sloped cropland (Uchida et al., 2005). The Grain for Green policy, tested since 1999 in Gansu, Shaanxi, and Sichuan provinces, has been implemented nationwide across 25 provinces with a total budget exceeding 40 billion USD (Feng et al., 2005;

Yeh, 2016). Enabled by national grain surpluses, the program provided farmers with subsidies for seedlings, grain, and cash for five or eight years (Liu et al., 2008; Yeh, 2016). In response to concerns over dwindling grain reserves and food security, the Chinese government replaced grain subsidies with monetary compensation in 2004. The government then extended and halved the subsidies in 2007, while also limiting the program's expansion due to urban land conversion (Liu et al., 2013; Xu et al., 2002; Xu et al., 2006; Yin et al., 2010). Then in 2018, the Chinese government introduced the "Work Plan for Eco-poverty Alleviation," with the goal of reducing rural poverty through a new series of ecological construction programs (Wu et al., 2021).These programs have facilitated extensive poverty alleviation in rural areas and have been part of the national "Open up the West" campaign, which targets regions often labeled as "primitive" and lagging in technological and economic development (Uchida et al., 2007; Yeh, 2009). However, large-scale tree planting initiatives have sparked controversy due to their potential unintended consequences, particularly concerning national food security. In response, the State Council issued a directive in 2020 prohibiting the conversion of farmland into non-agricultural uses, aiming to safeguard the country's grain supply (State Council, 2020). This policy shift, informally dubbed "returning forests to farmland" (*tuilin huangeng*), represents a partial reversal of the Grain for Green initiative launched two decades prior (Weins et al., 2023).

Scholars have critiqued ecological programs that extract natural resources and ecological services from rural regions, particularly western and minority areas, for the benefit of eastern China and urban development. Yeh (2009) argued that these projects are intended to integrate environmental considerations into government programs, striving for a balanced approach to economic growth and environmental improvement, while positioning Western China as a key provider of natural resources and ecological services. Wu et al. (2024) apply a post-productivist lens to examine rural revitalization, highlighting how dissatisfaction with the negative impacts of productivist agriculture—expressed by the state, urban consumers, and rural

communities—has fueled change. Urban consumers' pursuit of "quality food" and rural producers' aspirations for a "quality life," along with urban ideals of a rural idyll, have all contributed to this transformation. In China, urbanites' longing for the rural idyll is evident in trends such as counter-urbanization and rural tourism, which have shifted the function of rural areas from agricultural production toward spaces for urban consumption. Tourism has also become an important tool for rural revitalization (Jing et al., 2024; Yang et al., 2021), contributing to and benefiting from the rural environment.

Moreover, Bebbington (1999) emphasizes that livelihoods are shaped by power relations, access to resources, and environmental governance, particularly when viewed through the lens of political ecology. Scholars have debated the effects of ecological programs on livelihood diversification, focusing on three key areas. First, government subsidies are a crucial source of villagers' incomes. Numerous researchers have highlighted these programs' positive effects on rural areas and ecosystems, such as vegetation and soil erosion, as rural depopulation persists due to urban migration (Groom et al., 2010; Liu et al., 2008; Peng et al., 2022; Uchida et al., 2007; Wang et al., 2011). These environmental programs could have long-term dynamic consequences for China's overall development, contributing to migration, local tourism development, and livelihood diversification (Liu et al., 2008; Peng et al., 2019; Wang et al., 2011; Xu et al., 2006). Ecological programs aimed at restoring damaged ecosystems and increasing farmers' incomes have been implemented to achieve a win-win combination of economic growth and environmental improvement (Liu et al., 2008). Sustainable and diversified livelihoods have been strategies to reduce poverty and promote local economic development (Ellis, 2000; Huber et al., 2014; Mao et al., 2020). Peng et al. (2019) found that non-agricultural employment and rural-to-urban labor migration generally contributed to higher household incomes, reduced reliance on natural resources, and alleviated environmental pressures in rural areas. Uchida et al. (2007) suggest that environmental programs could have long-term dynamic consequences for China's overall development if they facilitate migration.

Ecosystem services have contributed to local tourism development and diversified livelihoods (Liu et al., 2008; Peng et al., 2019; Wang et al., 2011; Xu et al., 2006). However, some researchers have worried about the subsidies' sustainability. Moreover, the environmental protection and poverty relief aspects of the program often contradict each other (Bennett, 2008). Wu et al. (2021) criticized the Grain for Green policy for failing to improve rural livelihoods, as it prioritizes ecological goals over economic ones, limiting rural households' access to land resources. Farmers without alternative income sources often plan to return to farming their converted land (Yeh, 2016). Xu et al. (2005) argued that frequent oscillations in forest policy and land tenure insecurity have eroded many local institutions and led to the loss of local knowledge.

Second, wild medicinal plants have become a crucial livelihood resource due to market demand and commodification. This transformation also applies to non-timber forest products (NTFPs), such as matsutake, caterpillar fungus, and morels. These communities frequently harvest wild products from their environment, which have become significant sources of income following the logging ban (Robinson, 2016; Yang et al., 2009). For instance, Winkler (2009) stated that the collection of caterpillar fungus contributes 70–90% of household income in core production areas and at least 40% of cash income for the rural population throughout the Tibet Autonomous Region. The influx of cash from collecting and trading caterpillar fungus has had a substantial short-term welfare-improving effect, empowering rural Tibetan communities in areas (Wang et al., 2018; Winkler, 2009, 2013). However, the diversity of livelihood activities tends to decrease when one highly profitable occupation dominates (Huber et al., 2014). As such, this new source of cash income has left its mark on traditional Tibetan rural livelihoods, particularly pastoralism. During the caterpillar fungus harvest season, labor shortages often leave no one available to tend the herds (Sulek, 2010; Yeh & Lama, 2013).

Third, ecosystem services have contributed to local tourism development and

diversified livelihoods (Liu et al., 2008; Peng et al., 2019; Wang et al., 2011; Xu et al., 2006). In this context, “tourism” refers to rural tourism, which leverages natural and cultural resources to attract visitors. For ethnic minority communities, rural tourism is expected to serve dual purposes: stimulate economic growth and challenge prevailing perceptions of limited social development within these communities (Chio, 2011). Some researchers believed that enhancing rural tourism activities has been considered a key strategy for developing the local economy and increasing employment as part of rural revitalization efforts (Yang et al., 2021), particularly through the “characteristic protection” of traditional and ethnic cultures for rural tourism (Wu et al., 2024, p.4). With the growth of cultural tourism, rural residents’ livelihoods have shifted from being based on productivist agriculture to tourism-based activities, which offer greater economic returns (Wu et al., 2024). Z.Wang (2020) also noted that tourism livelihoods have exerted a significant trade-off effect on migrant work and the migration of rural households. However, some researchers have argued that rural tourism continues to reshape ethnic and local place identities (Chio, 2011; Oakes, 1997) and exacerbate social inequalities (Li et al., 2016; Su et al., 2019). Oakes (2005) critiques the commodification of ethnic culture, noting that it is often repurposed as a resource for local development. This process can lead to cultural alienation, where local traditions are reinterpreted and repackaged primarily for external consumption, distancing communities from their own cultural expressions. The ability to engage in new livelihoods varies, as those with limited assets struggle to participate in tourism, leading to an income gap within their communities (Su et al., 2019). Li et al. (2016) found that ethnic tourism has increased the amount of land available for building and has diversified land use, shifting focus from local needs to tourist demands, causing uneven income distribution.

Political ecology provides a critical lens for examining the interplay between state-led environmental policies and localized socio-political practices, highlighting the underlying power relations and the challenges of policy implementation. Natural resources are not merely assets for sustaining livelihoods, but contested terrains

shaped by power dynamics, institutional frameworks, and social movements (Bebbington, 1997, 2000). While environmental policies have continually reshaped rural landscapes, research on the accompanying cultural and social transformations that occur alongside ecological change remains limited.

2.1.4 Socio-cultural perspectives

The transformation of rural China over the past several decades has been not only economic and infrastructural, but also deeply cultural. As modernization, urbanization, and state-led rural revitalization policies unfold, rural communities are undergoing profound shifts in cultural norms, social practices, and everyday lifestyles, manifested in increasing individualization and changes in family structures.

In the wake of China's Reform and Opening-up, many scholars have focused on rural change within the broader context of modernization, examining how these processes reshape rural communities. The book *Chen Village: Revolution to Globalization* by Chan et al. (2009) through ethnography, it delves into the everyday lives of the villagers, their interactions, livelihood strategies, and responses to external forces such as industrialization, urbanization, and globalization. It highlights the resilience, adaptability, and challenges the community faces as its members navigate various stages of change and modernization. *Gao Village: A Portrait of Rural life in Modern China* by Gao (1999) captures the essence of rural existence and the transformations transpiring amidst modernization and urbanization trends. Drawing on both personal experience and scholarly insight, the book delves into the unique characteristics of rural life, highlighting the interconnectedness of tradition and modernity, community relationships, economic activities, and the social destruction of rural self-sufficiency due to shrinking resources.

Some researchers focus on the personal relationship changes in the rural transformation. Yan's book *Private Life Under Socialism Love, Intimacy, and Family Change in a Chinese Village, 1949-1999* (2003) emphasizes how state policy and

societal change have influenced personal relationships, emotional connections, and family structures in a Northern China village. Yan argues that the transformation of private life led to the rise of the private family and individual private lives within the family. He contends that the state's intrusion during the collective period and its retreat in the post-collective era have exerted significant effects on the private lives of individual villagers, fostering ultra-utilitarian individualism in a context where traditional culture, radical socialism, and global capitalism compete. Kipnis (1997) emphasizes that social connections depend on ongoing human efforts and that human relations are the result of purposeful actions and practices. These practices are not merely remnants of tradition, but are activated and vitalized in contemporary village life. Yan's first book *The Flow of Gifts: Reciprocity and Social Networks* in a Chinese Village (1993) offers an ethnographic account of gift exchange and interpersonal relations. The book highlights reciprocity's role in shaping social interactions and networks in the village context. The necessary exchange of giving and receiving helps to sustain, reinforce, and establish a range of social relationships—be they collaborative, rivalrous, or conflictual.

Further, the Chinese state has strategically adopted ethnic tourism as a tool for developing minority regions, positioning it as a pathway to modernity (Oakes, 2005). Oakes (2005) contends that villagers actively shape the tourism landscape to preserve their subjectivity, aiming to experience modernization in a manner that is "organic rather than traumatic." Similarly, Chio (2011) argues that through rural tourism in China, rural identity is constructed by commodifying nostalgia for traditional rural life and presenting ethnic minority cultures as central attractions to enhance tourism appeal. In her later work, Chio (2011) emphasizes that the perceived sociocultural differences of ethnic communities—contrasted with dominant urban and mainstream norms—constitute their most valuable economic resource. This "power of difference" is amplified through ethnic tourism, which inscribes cultural distinctiveness onto the bodies of villagers.

State policies and tourism planning that prioritize rural areas have led to the reinterpretation of rural identity through spatial and architectural expressions tailored to urban tourists' expectations. Xie (2016) suggests that rural tourism development may also reshape villagers' lifestyles to align with the rural idyll imagined by urban visitors. However, tourism has also disrupted traditional social structures, over-commercialized minority cultures, and contributed to the erosion of agricultural knowledge, thereby affecting the sustainable development of ethnic communities (Li et al., 2016). Chio (2017) conceptualizes rural modernity as a place-based condition emerging from tourism development, where the linear, state-driven developmental agenda intersects with the multidirectional demands of tourist encounters, intertwined with the economic livelihoods embedded within rural landscapes.

Scholars have also found that the emergence of new sources of cash income has altered social relations, especially within ethnic minority communities. Changing livelihoods also changes minority cultures, particularly how minorities understand human–land relationships, as well as their livelihood's impact on the environment (Mao et al., 2020). Sulek (2010) finds that while the fungus economy has brought unprecedented wealth and improved living standards for many households, it has also led to significant shifts in pastoralist practices, new social inequalities, increased competition and conflict over access to fungus-rich pastures, and changes in gender and generational roles. Wang et al. (2013) emphasized that mobility is a socially embedded process. Interpersonal and community networks among minority groups have expanded beyond their original rural settlements, reshaping traditional norms, softening cultural boundaries, and in some cases contributing to the erosion of distinct cultural practices. Hathaway (2022) also explored how the world views mushrooms and the people who have grown rich harvesting them. In terms of changing beliefs, Buddhist lamas have commented that the affluent lifestyles resulting from increased income through caterpillar fungus violate Buddhist norms (Tan, 2013; Winkler, 2009; Yeh & Lama, 2013). Yeh and Lama (2013) suggested that Tibetans face moral ambiguity when digging caterpillar fungus. Due to its unique "nature"—"half worm,

half grass"—many Tibetans express a sense of sympathy for caterpillar fungus as a fellow sentient being (Yeh & Lama, 2013). Yet, they convince themselves that caterpillar fungus is not alive when it is harvested (Yeh & Lama, 2013). Yeh and Lama (2013) mentioned that competition for profits from caterpillar fungus in villages might reduce family relations to monetary relations, and alter lifestyles in ways that conflict with Buddhist norms.

The cultural perspective offers an in-depth understanding of the daily life and cultural logic of rural society, emphasizing subjectivity and local knowledge. However, it often overlooks broader structural forces—such as the state and the market.

These perspectives are frequently employed in rural research to examine power dynamics, political relations, and socio-cultural transformations. Within these frameworks, the rural is often conceptualized as a human and ecological resource serving urban development. Over the past several decades, China's rural transformation has involved a shift from agriculture-based livelihoods to diversified non-agricultural activities, including migrant labor, tourism development, environmental policy implementation, and the commodification of production. This transformation reflects broader processes of modernization and individualization, deviating from traditional cultural norms and family-based social structures.

However, human-centered perspectives alone do not capture the complexity of rural life. Plants and animals should not be viewed merely as livelihood resources or commodities; they are integral to the rural environment, coexisting with humans and actively shaping social structures and relationships. Recognizing their ecological roles is essential to a more holistic understanding of rural transformation.

2.2 The Multispecies Perspective in Rural Studies

The multispecies perspective offers a novel lens through which to reconsider rural

China and its ongoing transformation. This approach challenges the anthropocentric narratives which have traditionally dominated rural studies, instead emphasizing the roles and agency of nonhuman life forms—such as plants, animals, and microorganisms—in shaping rural landscapes and social dynamics.

While the multispecies framework has been critiqued for occasionally neglecting the influence of structural forces such as state governance and market mechanisms, this research bridges this gap. Specifically, it explores how multispecies interactions are entangled with processes of urbanization, marketization, and state-led rural development. By examining these interconnections, this study reveals how nonhuman entities not only inhabit rural spaces, but also actively participate in and influence the transformation of rural life.

2.2.1 Theoretical foundations of the multispecies perspective

Multispecies ethnography centers on how a multitude of organisms' livelihoods shape, and are shaped by, political, economic, and cultural forces (Kirksey & Helmreich, 2010, p. 545). As Kirksey and Helmreich (2010) highlight, multispecies ethnography explores the interconnected lives and deaths of organisms closely tied to human societies. Emerging from the convergence of environmental studies, science and technology studies (STS), and animal studies, this approach brings attention to previously overlooked species, such as insects, fungi, and microbes, within anthropological research. Multispecies ethnography has been likened to a swarm: a decentralized network of "a multitude of different creative agents" (Negri et al., 2005). This perspective shifts ethical and theoretical attention away from human exceptionalism, engaging with alternative epistemologies such as affect theory and nonrepresentational theory (Ogden et al., 2013).

By challenging conventional classifications and boundaries between nature and society, multispecies ethnography intersects with philosophical and theoretical approaches, including object-oriented ontology, hybrid geographies, and

poststructuralist political ecology (Galvin, 2018; Kirksey & Helmreich, 2010; Ogden et al., 2013). The concept of "species" in this framework carries a hidden ontology, prompting scholars to critically engage with inherited natural and cultural categories (Kirksey & Helmreich, 2010). As Van Dooren et al. (2016) suggest, species are not fixed entities, but dynamic ways of life shaped through ongoing interspecies interactions. Donna Haraway's work is foundational to the "species turn" in anthropology. In *When Species Meet*, she argues that "becoming is always becoming with"—a process of co-constitution within contact zones where the very nature of being is negotiated (Haraway, 2008). Her earlier work (1994) underscores that all entities, human and nonhuman alike, are formed through practices of disassembly and reassembly. Echoing this, Tsing (2012) asserts that "human nature is an interspecies relationship" (p.141). Multispecies approaches prompt us to reconsider difference and the role of classification systems in shaping lived realities. They also encourage attention to the concrete, situated interconnections between nature and culture that unfold in dynamic contact zones—spaces marked by distinct histories and potentialities (Van Dooren et al., 2016).

A key critique of multispecies ethnography concerns the ethical and methodological challenge of representing nonhuman perspectives. This issue resonates with Arjun Appadurai's (1988) canonical anthropological problem of voice and place: the tension between "speaking for" and "speaking to," and between "speaking from" and "speaking of." Donna Haraway responds to this challenge through concepts such as symbiosis, companion species, and contact zones (Haraway, 2008, 2020). Rather than speaking on behalf of nonhumans, she advocates for recognizing co-constitutive relationships, where "becoming-with" entails openness to the agency and capacities of all beings (Haraway, 2010). Building on this, much of the literature on multispecies ethnography has focused on the relational dynamics among diverse organisms—plants, viruses, humans, and nonhuman animals—emphasizing that human identity and experience emerge through these interspecies entanglements (Ogden et al., 2013).

Furthermore, the multispecies perspective has been critiqued for overlooking the political dimensions and power dynamics embedded within interspecies relationships. However, Ogden et al. (2013) argue that multispecies ethnography is an attempt to understand how various life forms enter the "political fray". This approach emphasizes both ethical and political interspecies relations, including representation, care, and coexistence (Galvin, 2018; Govindrajan, 2019; Zhou, 2023). Scholars have expanded multispecies frameworks to include narratives of colonial legacies, capitalism, racism, and ecological change (Vehrs et al., 2024). Vehrs et al. (2024) highlight the political ecology of multispecies relations, showing how decisions around conservation and environmental infrastructure—such as wildlife corridors, protected areas, and hunting policies—are inherently political acts that shape multispecies interactions. These decisions often reflect broader struggles over land, resources, and identity.

Multispecies scholars have also begun to reframe political questions: How are colonialism, capitalism, and their associated power asymmetries manifested within broader webs of life? Tsing (2015) directs attention to how ecological and biological processes become entangled with capitalist systems. She introduces the concept of "salvage accumulation," which refers to the appropriation of value produced outside of capitalist control. Rather than viewing biological processes as subsumed by capital, Tsing suggests that ecological assemblages themselves reveal how political economy operates: "Assemblages drag political economy inside them; they are sites for watching how political economy works" (Tsing 2015, p. 63). Her work foregrounds frictions, connections, and marginality as key analytical tools for understanding capitalism, globalization, and marginality.

Besides, deities and spirits present a challenge for expanding ontology within multispecies ethnography, particularly regarding questions of representation. While multispecies studies often focus on biological life forms, the inclusion of deities and

spirits—entities that may lack tangible, physical forms—introduces unique ontological and representational complexities. In multispecies ethnographic research, nonhuman entities can serve as mediators, either being sacrificed or acting as conduits to deities (Ingold, 1980; Kohn, 2007; Simon, 2015). Ingold (2006) emphasizes an animic ontology often associated with Indigenous cosmologies, wherein beings emerge through a world-in-formation, shaped by the lines of their relationships. Kohn (2013) draws on Runa animist cosmology to broaden the conceptualization of agency and selfhood. Within this framework, not only animals and plants, but also spirits, are regarded as selves, beings endowed with perception, intention, and communicative capacities. This perspective encourages a shift from symbolic interpretation to semiotic engagement, fostering a more inclusive understanding of how various beings—biological or otherwise—navigate and interact within their worlds. Researchers have learned from the cosmologies and knowledge of indigenous and local peoples, thereby expanding or creating spaces of hybridity and fluidity in social and ontological boundaries, between human and nonhuman, domestic and wild animals, land, and spiritual entities (Bate, 2022; Kohn, 2007). The experiences, knowledge, and voices of Indigenous and local communities have thus been increasingly emphasized and valued in multispecies ethnographic research.

Animism and beliefs in mountain deities are embedded in Tibetan Buddhist understandings of the cosmos across the Tibetan plateau (Coggins, 2019; Torri, 2015). Makley (2018) emphasizes that many Tibetans consider deities and other invisible beings to be active participants in their daily lives. Cosmological landscapes serve as the armature of relational ontologies, grounding and informing everyday practices, livelihoods, power relations, causation, and the use of landscapes (Coggins, 2019; Makley, 2018). These cosmologies have long been engaged in discussions of the environment, ecology, conservation, and human–nonhuman relationships (Torri, 2015; Woodhouse et al., 2015). Animist ecological conduct is structured around reciprocity and mutual regard among living humans, nonhuman organisms, the spirits of the dead, and the spirits and deities that animate various landforms, places, and even more

abstract spaces (Coggins, 2019). Yang and Wangden (2025) argue that the Tibetan Buddhist cosmological framework continually supports the emergence of a more-than-human world, particularly in research on the role of plants in Tibetan societies. Other scholars have explored the significance of local gods and spirits in the landscape, the concepts of sin and karma related to killing animals and plants, and the use of Buddhist moral precepts in conservation efforts (Gao & Clark, 2024; Woodhouse et al., 2015). Yeh and Gaerrang (2021) adopted the "reverse environmentalism" framework to consider both the agency of the nonhuman and human difference, while rejecting notions of rigidly bounded ontologies, as illustrated in the case of Tibetan-pika entanglement. These studies have revealed the essential role of the nonhuman in Tibetan society and cosmology. While the cosmos itself is rarely the direct focus of these studies, animism and beliefs in mountain deities nonetheless underpin the understanding and exploration of human–nonhuman relations amid rural transformation.

2.2.2 Rethinking rural transformation through a multispecies lens

Spaces of encounter in rural contexts involve the unity of human and nonhuman bodies and entities (Kirksey & Helmreich, 2010). Haraway (2008) borrows the concept of "contact zones"—originally from Pratt—to describe social spaces where different cultures encounter, confront, and negotiate with one another amid significant power imbalances, as seen in situations like colonialism, slavery, or immigration. Haraway emphasizes that these zones are shaped by mutual dependencies and asymmetrical relations, and that identities and beings are formed through relational encounters within contact zones. Multispecies ethnographers study these zones where the boundaries between nature and culture dissolve, and where interactions between humans and other beings generate mutual ecologies and co-produced niches (Fuentes, 2010).

The multispecies perspective offers a powerful framework for rethinking rural space. Nonhuman agencies not only co-constitute the contexts of life, but also actively

reshape the everyday fabric of rural existence and the spaces in which it unfolds (Jones & Cloke, 2008). Community, or "being-in-common," must therefore be reconceptualized as a multispecies community—one that includes all beings with whom livelihoods are interdependent and entangled (Jones & Cloke, 2008). Galvin (2018) critiques traditional agrarian studies for their narrow focus on human labor, land tenure, and policy, arguing instead that agrarian environments are assemblages—dynamic networks of humans, animals, crops, microbes, and technologies shaped by colonialism, capitalism, and ecological change. These assemblages are historically and spatially specific, and inherently multispecies. Jones and Cloke (2008) similarly argue that rural spaces, bodies, homes, and institutions all contribute to human–nonhuman relations in diverse ways, prompting renewed attention to nonhuman agency, relational agency, and materiality.

Much of the multispecies ethnography focused on agrarian contexts examines these contact zones, particularly with animals and microbes (Galvin, 2018). Galvin (2018) adapts Haraway's concept of "when species meet" to explore agrarian worlds as formative contact zones. As Haraway (2008) suggests, "meetings make us who and what we are in the avid contact zones that are the world" (p. 287). From swidden fields to slaughterhouses, agrarian spaces are sites of interspecies encounters. Human and nonhuman beings are also implicated in agrarian biocapital, with sites such as research labs, factory farms, and slaughterhouses serving as key spaces where multispecies biocapital is produced through industrial agriculture (Blanchette, 2015). Viewing animals as laboring subjects—through biological processes like digestion, reproduction, and lactation—offers a politically charged lens for critiquing the commodification and exploitation of animal life within agro-industrial regimes (Wolfe, 2019). Building on this multispecies understanding of agrarian transformation, Duggan and Peeren (2020) extend the conversation by emphasizing relational agency and entanglement. They question who and what gets to define "country life," and advocate for rethinking rural resilience not as a nostalgic return to tradition, but as a dynamic, inclusive, and multispecies process.

Multispecies ethnography provides a lens through which to observe rural transformation. Ogden et al. (2013) describe it as a mode of attunement to the agency of nonhuman beings and the ways in which human identity emerges through interspecies relations. This approach marks a shift from viewing nonhumans as symbolic or background elements to recognizing them as co-creators of culture and history (Kirksey & Helmreich, 2010). Haraway (2008, 2020) emphasizes coexistence, relationality, and situated knowledge within multispecies contact zones, where humans and nonhumans shape each other through shared histories and interactions. A "more-than-human" history requires attention to the unequal, dynamic, and unpredictable encounters between human and nonhuman agencies (Pearson, 2015). Tsing (2012) tracks mushrooms to uncover webs of world history, using them as a lens to explore interspecies entanglements and global interdependencies. More broadly, a more-than-human history involves evolutionary processes (Lean & Jones, 2023), interactions with the environment (Hathaway, 2022), relationships with humans (Haraway, 2008; Hyvärinen, 2019; Kohn, 2013), and changing roles within ecosystems (McIntyre-Mills & Corcoran-Nantes, 2021; Tsing, 2015). Wang (2020) highlights the entanglement of humans, nonhumans, and machines in rural economies, showing how rural transformation involves nonhuman actors, such as chickens, as active participants in world-making processes. Thus, multispecies ethnography provides a valuable lens for observing long-term social trajectories by attending to nonhuman beings—their transformations, entanglements, and roles within evolving human–environment relations.

In the Himalayan region, multispecies research often centers on specific species. Hathaway (2022), for example, examines matsutake mushrooms to reveal the complex, symbiotic interactions between mushrooms, plants, humans, and other animals through world-making approach. Many Tibetan and Yi individuals have devoted themselves to harvesting and selling matsutake mushrooms—a rare delicacy that fuels a multibillion-dollar global trade and still only grows in the wild

(Hathaway; 2022). In the Matsutake Worlds Research Group led by Anna Tsing and collaborators, the focus is on rural mushroom pickers, foresters, and buyers within a global web of interdependence, examining the complex micro-ecologies of the mushroom's mycorrhizal mats (Tsing, 2012; Tsing et al., 2008; Tsing, 2015). Zhou (2023) discusses the commodification of the Tibetan Mastiff in relation to care and value. For wild animals, researchers usually emphasize their coexistence with humans, often involving climate change or Buddhist beliefs (Chen et al., 2016; Dai et al., 2020; Gao & Clark, 2024; Gao et al., 2023). However, these studies may not provide a comprehensive view of rural contexts. Bum and Cheng (2025) found that through the lens of multispecies placemaking, the COVID-19 pandemic constituted an "anthropause" that prompted Pema Rito communities to renegotiate their relationships with the pastoral landscape, as well as with viruses, wildlife, and livestock. Govindrajan (2019) also emphasizes the interspecies relatedness between humans and nonhumans, including goats, cows, pigs, and monkeys in India's Central Himalayas. However, these studies are less focused on long-term rural change.

In this way, multispecies ethnography offers a compelling framework for examining rural transformation by foregrounding the dynamic and enduring engagements between human and more-than-human actors. I will observe rural change through the lens of multispecies ethnography over a period of thirteen years.

In this research, I use multispecies approaches to examine how nonhuman entities interact with structural forces such as urbanization, marketization, and state governance in the context of rural transformation. This research is also inspired by Tsing's concept of "unruly edges" (1994, 2012, 2015), which highlights the value of margins where imperial and capitalist control is incomplete and multispecies interdependencies thrive. In her essay *Unruly Edges: Mushrooms as Companion Species*, these "edges" represent ecological and social complexity, where life persists outside of human planning and exploitation (Tsing, 2012). In *The Mushroom at the End of the World*, she extends this concept through the notion of "ruin," describing

landscapes damaged by industrial capitalism, colonialism, and global supply chains. In these spaces, both mushrooms and marginalized people find ways to live, trade, and relate (Tsing, 2015).

The field site of this research—a mountain village located at the cultural edge of Han and Tibetan regions—mirrors these "unruly edges." Largely untouched by urbanization and industrial development, the village relies on wild fungi, such as caterpillar fungus and mushrooms, for livelihood, fostering strong human–nonhuman relationships. These fungi resist domestication and control, growing unpredictably in disturbed landscapes. Tsing (2012) uses the term "unruly" to challenge dominant narratives of domestication and human-centered progress. Drawing on Haraway's concept of companion species, she proposes a multispecies perspective of unruliness—one that embraces non-hierarchical, entangled relationships marked by love, dependency, and cohabitation. Unruliness, in this sense, becomes a mode of living and flourishing outside of dominant systems (Tsing, 2012; Tsing, 2015).

This research does not explore a singular and discrete species, but rather focuses on its entanglement with a range of other human and non-human actors in rural transformation. It examines how more-than-human beings, intertwined with structural forces, continuously and dynamically reshape human–land relations, land distribution, social structures, labor collaborations, migration patterns, state interventions, and environmental conflicts.

2.3 Research Questions

How do nonhuman species contribute to processes of rural transformation?
How do nonhuman species reshape human–land relationships?
How do nonhuman species influence the processes of urban–rural migration?
How do nonhuman species interact and collaborate with state forces in shaping socio-political landscapes?

Chapter 3 Methodology and Field Site

3.1 Methodology

In this research, I utilize ethnographic methodology to examine the role of various species in the process of rural transformation. I focus on the change in Sunshine Village between 2009 and 2022 through the lens of four species which are intertwined to villagers' livelihoods: caterpillar fungus, pigs, mushrooms, and wild boars. This study highlights the human-nonhuman relationships inherent in these interactions within the context of rural change.

Ethnography enables researchers to study societies or social groups from the inside by immersing themselves in their way of life over an extended period (Seale, 2012, p. 258). Ethnography stresses the description and interpretation of the meanings that particular groups of people derive from their interactions with the world around them: i.e., how they understand the world (Mitchell, 2007). Ethnographic research emphasizes context, which is not merely a precondition for developing general theory from particular events; rather, well-described context itself constitutes the development of theory: "description is explanation" (Hammersley, 2018; Mitchell, 2007). Ethnography has been widely applied in the study of ethnic groups, organizations, and occupations (Hammersley & Atkinson, 2007). Over the span of thirteen years, I have amassed thick ethnographic materials on Sunshine Village.

The main reason for choosing Sunshine Village, apart from its history, geography, ethnic minority characteristics and rich biodiversity, is its accessibility (Walsh & Seale, 2018), as well as my own emotional connection with this village. My initial visit to the village was in autumn 2008, during which I scouted the area in preparation for my role as a volunteer teacher for an NGO project the following year. Then in 2009, I spent eight months as a volunteer teacher in the village, teaching preschool to about 15 children aged 4-6. I familiarized myself with the village by visiting and

getting to know each student's family. Subsequently, I conducted a comprehensive survey of every household, gathering data on population, family relationships, sources of livelihood, and other relevant topics. Through this process, I became well-acquainted with every family in the village and learned the local Sichuan accent the villagers used. As the only outsider, I immersed myself in the local dialect and participated in various village events, including chanting, funerals, temple fairs, and the *Guozhuang* dance.[5] I took pride in integrating as a member of the community and built deep relationships with villagers. I also maintained contact with the villagers and even revisited my former students briefly in 2019 and 2020. I was impressed to see that my former students had grown taller than me and were eager to witness the transformations that had occurred throughout the village over the past decade through prolonged re-engagement. Throughout my engagement, I documented a wealth of information through journals, surveys, project reports, and photographs, which constituted the basis of my research data.

Even though I did not need a gatekeeper to access the community, I had concerns about how money could influence my relationships villagers, as these relationships were my foundation for collecting data (Walsh & Seale, 2018). Before returning, it was difficult to decide which host family to live with because I had been acquainted with *every* family. Moreover, the issue of payment, such as rent for the host family, had the potential to damage existing relationships, impacting my fieldwork and potentially leading to gossip about the host family. This sensitivity stemmed from a previous experience in which after assisting a relative from my hometown in purchasing caterpillar fungus from a villager in 2009, I was addressed as "boss" by other villagers the following day. The emergence of tourism in the village further complicated matters, as there was a hotel which had been the venture of a businessman from Guangdong and was managed by the village secretary, as well as two guesthouses operated by former village secretaries, in the village. Villagers also

[5] *Guozhuang* is a traditional Tibetan dance involving singing and dancing in a circle.

now had experience hosting tourists, which had influenced their attitudes towards outsiders staying in the village. During my fieldwork, someone inquired whether I needed to rent their room or if I could recommend any outsiders who were looking to rent their home as a guesthouse. The decision of where to live (and to whom to pay rent) could alter the relationships between myself and the villagers. Additionally, as a single woman in my mid-30s, I had to consider whether my gender role would be suitable for the host family, and whether it would be convenient for me to live with them. Consequently, determining which family to live with became a key concern before my fieldwork, requiring a delicate balance to maintain relationships with villagers.

Ultimately, I chose to stay in Gyatso's home. After my departure in 2009, Gyatso had started her career as a preschool teacher, and the preschool had been recognized by the township central school until its closing in 2020. Gyatso had been transferred to work as a kindergarten teacher at the township central school. Her older daughter was one of my students in 2009 and studied in Chengdu in 2022. Gyatso brought her younger son to work and study in the township, and they would return home every weekend. Her husband, Mr. Lin, often worked outside the village. Gyatso's father lived in and looked after the nursery by the roadside at the foot of the mountains. On weekdays, only Gyatso's mother, 64-year-old *Niangniang* Yangchen, was at home, managing the domestic work. Their house was situated in a fairly secluded area of the village. The family maintained a low profile, as a "silent" family (Walsh & Seale, 2018) and had fewer conflicts with other villagers. Since I had stayed at their home during my short visits in both 2019 and 2020, I decided to contact Gyatso to arrange to stay with them again.

Embarking on seven months of fieldwork in Sunshine Village beginning June 1, 2022, I immersed myself in rural daily life and farming activities. Ethnography focuses on writing culture, and provides the perspective to see the world from the natives' point of view (Malinowski, 2013; Mitchell, 2007). Initially, Gyatso rejected

my offer to pay rent, so I actively contributed to domestic work and planned to pay before leaving. I took on cooking, dishwashing, and childcare duties, earning the affectionate nickname "*Niangniang*"[6] from Gyatso's younger son and niece. When Gyatso's younger brother brought his friends back from Chengdu, *Niangniang* Yangchen arranged for me to cook for and entertain them. She also discreetly discussed with me which of her son's friends would be a good match for him as a girlfriend. I regularly assisted *Niangniang* Yangchen with farm work, participating in the harvesting of barley, potatoes, corn, rapeseed, peppers, and other crops. I also accompanied her on walks to the temple to pray. These activities grounded me in both the farmers' experiences and their cultural system (Geertz, 1973). Due to my limited prior involvement in agricultural labor, I overexerted myself carrying corn, resulting in knee pain and a diagnosis of arthritis at the hospital. When the Covid-19 pandemic was severe and the village required all residents to undergo nucleic acid testing, I, as a member of the family, accompanied *Niangniang* and her husband to the neighboring village for nucleic acid testing. Before leaving, I mentioned paying rent again and explained I could use money from a school grant. However, after they refused, I quietly transferred 3,000 yuan to them as a rent payment. Gyatso's family thought that I had already contributed significantly, noticing that I had bought groceries from the county every two or three weeks. Additionally, because I had assisted the *Huofo*[7] in writing articles, they provided us with rice and flour. Gyatso's family members were somewhat offended when they noticed I had paid, interpreting it as a sign that I did not consider myself part of the family. The atmosphere grew awkward. Eventually, Gyatso's father decided to return half of the rent payment to me, stating, "you are one of us." I accepted the elders' arrangement, but felt both embarrassed and touched.

In the field, I overtly declared that I was a PhD student conducting research for my dissertation (Hammersley & Atkinson, 2007). Most villagers were surprised to

[6] *Niangniang* is a term in the Sichuan dialect for "aunty".

[7] "*Huofo*" is the Chinese term referring to "*sprul sku*" in Tibetan, which literally means the "emanation body" of a Buddha. In a Tibetan context, "*sprul sku*" denotes the chosen reincarnation of a lama of high spiritual stature.

learn that I was still a student at my age and were curious whether government leaders could access my research. My position had changed over the time I had lived in the village. While assisting at a funeral in early July, one month after my arrival in the village, some villagers had been surprised to see me and asked, "Why are you still here?" They thought I was just a traveler on a short-term visit, like a familiar tourist. During a break to work together on the temple a month after I had arrived at the village, a villager asked whether I needed to rent their room. When I visited one family, the hostess asked me if I could recommend any outsiders to rent their house as guesthouse, so they could move to the urban area. In the villager's view, I was a familiar guest. Moreover, they referred to me as "teacher" or by my name and inquired about my job and income. Due to my past experience as a volunteer teacher and my status as a PhD student, some parents requested that I organize an English club for the students in summer holiday. In August 2022, I ran clubs twice a week for primary school students and for middle and high school students—the former in the morning and the latter in the afternoon—in the village committee building. Some students invited me to have lunch at their home nears the building. Some villagers and young people viewed me as a teacher and called me "*laoshi*"[8]. In addition to Gyatso's family, I visited other households for casual conversations and observed their activities. Essentially, every family welcomed me to join them for milk tea or meals, chatting, or to conduct flexible interviews (Bryman, 2016). At times, I stayed with other families for one or two nights, primarily at my former students' homes. When visiting each household, I would pitch in and help with whatever tasks they were working on, such as feeding pigs, picking vegetables, and helping children with their homework. When I visited the hotel next to the road, and the owner's niece was overwhelmed with serving several tables of guests, I assisted with food preparation, serving, and attending to guests. After the rush, we chatted while we ate. I also helped the *Huofo* write copy explaining the temple. I was even invited to assist with pig slaughtering. Additionally, a neighbor sought my help while at Gyatso's home, asking

[8] "*Laoshi*" is the Chinese term for teacher.

me to assist her in completing a task assigned by her daughter's teacher using her mobile phone. I participated in collective village events such as women's parties, temple repairs, funerals, and sutra recitations, offering whatever assistance I could. Since autumn, villagers had begun to regard me as a semi-laborer from Gyatso's family. For instance, when Gyatso was absent from the village, villagers considered me labor from their family. I also participated in a women's group engaged in fertilizing. When I became tired after digging, they arranged for me to cook their midday meal and then wash dishes and make tea. *Niangniang* Yangchen observed that I was helping other families, and visitors to Gyatso's home also mentioned my assistance. Thus, in the villagers' eyes, I was a familiar guest, a volunteer teacher contributing to the village, and a semi-laborer from Gyatso's family. In this way, I occupied a position between being an insider and an outsider of Sunshine Village. Within this context of daily life, I collected all of my data through immersive participant observation and engagement in flexible conversations. Every night, after washing dishes and cleaning up, I would return to my room to write field notes, totaling over 268,000 Chinese characters, which constituted my "thick description" of ethnographic work (Geertz, 1973).

I also adopted the approach of multiple-species ethnography, which is a branch of ethnographic work aimed at decentering humans in research methodology to create a more egalitarian discursive space both within and outside of the field (Buller, 2015; Hodgetts & Lorimer, 2015; Kirksey & Helmreich, 2010). Multispecies ethnography involves "writing culture in the Anthropocene, attending to the remaking of anthropos as well as its companion and stranger species on planet Earth" (Kirksey & Helmreich, 2010, p. 549). The focus of this research is to understand how humans and nonhumans co-create meaning in their interactions (Boonman-Berson & van Bommel, 2023). During the fieldwork, I accompanied villagers on expeditions to dig caterpillar fungus and pick mushrooms several times to observe the fungi's habitat and the changes in interaction between fungi and humans over the past decade. Additionally, I engaged in tasks related to pig husbandry, including food preparation, herding and

feeding, and participated in the entire process of pig-rearing, from procurement to slaughtering, to better understand the relationships between humans and livestock. Furthermore, I conducted in-depth interviews with villagers who had experience with wild boars and observed the traces they had left behind when consuming crops. In this research, understanding the changes in the interaction between humans and nonhumans is a crucial perspective for comprehending the village's transformation.

In addition to ethnographic methods, I also employed the document analysis method, which involved examining official documents and mass media sources (Bryman, 2016). I also visited the Danba Archives and the Garze Prefecture Library Local Literature Reading Room, where I reviewed archives such as the Danba County Records, as well as data and statistics on the history of Kham, tree forest resources, fungi, medicinal herbs, agricultural and pastoral production. This material contributed to exploring changes in different species and livelihoods within the research context. Concurrently, I observed villagers' activities such as mushroom picking, caterpillar fungus digging, mushroom collecting, and daily life sharing, as well as their various interactions on social media platforms including TikTok and WeChat Moments. Additionally, I leveraged existing research other scholars had conducted on Sunshine Village to gain further insight into the changes occurring in the community.

3.2 Field Site and Its Changes

Sunshine Village is located in Danba County, Garze Tibetan Autonomous Prefecture, Sichuan Province, China. Nestled at altitudes ranging from 2,600 to 3,200 meters, the village encompasses five administrative groups, approximately 60 households, and a population of 262 residents within its valley terrain, spanning from the roadside to the mountainside peak.

The villagers predominantly identify as Kham or Gyalrong[9] Tibetan. The Tibetan

[9] Gyalrong Tibetan has been considered the fourth branch of the Tibetan ethnicity (three main branches: Ü-Tsang, Amdo and Kham) due to the Gyalrong language (Fei, 1989; Wang, 2004).

regions in China are traditionally classified into three main branches: Central Tibet (Ü-Tsang), Amdo, and Kham. This classification is based on Tibet's languages, geography, and historical administrative divisions (Luo, 2018; Wang, 2004). The Chinese government officially recognized the Gyalrongwa (the native population in the Gyalrong region) as Tibetans in the 1950s (Li, 2007; Jinba, 2017). They inhabit the valleys of the Dadu River and the Large and Small Jinchuan Rivers in Northeastern Kham (Burnett, 2014). This area serves as an intermediary zone between the Ü-Tsang region and the Han Chinese world (Zheng, 2016). The Garze Tibetan Autonomous Prefecture constitutes the main part of Kham. The capital city, Kangding (Dartsedo), has historically been a hub for trade and politics due to its strategic location as the junction of the ancient tea-horse trade route, which connected Tibetan regions in the west with inland Chinese regions in the east (Tsomu, 2016; Zheng, 2016). During the late Qing Dynasty, the *Mingzheng Tusi* (明正土司, Chakla king), regarded as the head of the four major *tusi*, established Kangding as the regime's headquarters in the Kham area.

Sunshine Village, known by its Tibetan name meaning "thousand soldiers," legendarily derives its name from the Battle of Jinchuan during the Qianlong period of the Qing Dynasty. It is said that a thousand soldiers were stationed there during that time, hence the name (Toponym Leading Group of Danba County, 1987). According to villagers' recollections', Sunshine Village was part of *Mingzheng Tusi*'s territory. They remembered that residents had served the *Mingzheng Tusi* as *ulak* (乌拉)[10] which referred to transportation corvée (Tsomu, 2016; Zheng, 2016). Thubten (a villager) recalled, "In the past, the route from the neighboring village to Kangding was the official road. The people in our village were called *bei* (shouldering) *ulak*,

[10] Kangding was an important crossroads on the old "Tea-Horse Road". Due to its dual ecological structure—mountain valleys with lower altitudes to the east and bitter cold highlands to the west—the border tea trade proliferated in Kangding. According to Zheng, S. (2016), interaction between people and ecology, and the *ulak* traffic pattern that only Tibetans can handle, has emerged; *Kangding Native Chieftains between the Han Chinese and Tibetans—A Life History of the Last Mingzheng Tusi*. SDX Joint Publishing Company.

which was the transportation team. It is also a kind of corvee. We here were responsible for transporting things from the upper half of the town to Kangding. Grandfather's father started when he was 14 years old." Qiu (2009) stated that one of the reasons for the village's decline over the past century could be attributed to the Republican period, during which people fled from war and heavy corvée duties known as *ulak*. Some villagers also fled during this time.

Due to the village's historical proximity to Kangding and its neighboring county, men prefer to identify themselves as Khampa Tibetan to express masculinity (Jinba, 2013). Although men typically wear modern-style clothing in their daily lives, each man owns at least one splendid Kham chuba reserved for festivals and rituals. Women in the village typically follow traditional Tibetan fashion sensibilities,[11] but with heavy influence of Kham rather than Gyalrong style. This includes wearing *ngdehuo*[12] and braiding their hair with red yarn, which is then coiled on top of the head in their daily lives. However, Sunshine Village is administered by Danba County, which is regarded as the heartland of Gyalrong Tibetan culture (Yi et al., 2018). This affiliation has introduced Gyalrong elements into local clothing practices. For instance, some women wear Gyalrong-style headscarves along with *ngdehuo,* while others incorporate two aprons[13]into their braided hairstyles. Thus, it could be said that Sunshine Village straddles the geographic intersection of the Kham and Gyalrong Tibetan cultural regions.

Sunshine Village is situated approximately 40 kilometers away from Danba's county seat. Danba is considered the heartland of the Gyalrong Tibetan culture (Yi, Zhao, & Zhong, 2018). Most Tibetan scholars agree that the term "Gyalrong" is

[11] The majority of the women adhered to traditional Tibetan fashion customs in 2009. In 2022, only elderly women were still wearing the traditional Tibetan attire. Middle age and younger women wore modern clothes.

[12] In the local Tibetan dialect, *ngdehuo* refers to a form of traditional attire, similar to a sleeveless and simplified version of the chuba.

[13] The attire of Gyalrong Tibetan women, distinguished by a square headscarf and two aprons, is locally referred to as the "three-piece style."

derived from “Rgyal Rong,” as supported by ancient Tibetan texts (Dmu Dge, 1997; Lha et al., 1994). “Rgyal Rong” is believed to be an abbreviation of “Shar Rgyal Mo Tsa Ba Rong,” which translates to “the temperate agricultural area ruled by the queen in the east” or “the temperate agricultural area around Mount Murdo in the east.” Another interpretation of the name “Gyalrong” is “Rgya Rong” (Ma, 1944). “Rgya” signifies “Han,” while “Rong” conveys the meaning of both “valley” and “agricultural area” (Tsering, 2022). Thus, “Rgya Rong” signifies “the agricultural area close to the Han region” (Lin, 1948). Tsering (2022) notes that Gyalrong is primarily a farming area, influenced by Tibetan mainstream nomadic culture, which emphasizes the characteristics of their own agricultural practices. Lin (1948) further demonstrates that this area is situated not only on the edge of Tibet, but also at the margins of Central Plains culture.

Jinba (2013) argues that Danba and Gyalrong should not be seen as peripheral to both Han and Tibetan cultures, but rather “as a convergence zone where these cultures connect, interact, exchange, compete, blend, and coexist” (p.7). The Gyalrong region has historically served as a strategic communication link between Tibetan and Han cultures (He & Zuo, 2016; Li, 2007). According to Luo (2018) and Zhuang (1937), the Gyalrong region’s intermediary role was shaped by the eastern expansion of the Tubo regime and the westward migration of Han Chinese, including the implementation of the garrison system. He and Zuo (2016) also argue that the Gyalrong Tibetan area demonstrates both geographical marginality and a complex, mixed ethnic origin, owing to its unique location between Han and Tibetan cultural spheres. Moreover, Fei (1980) identified the Gyalrong Tibetan area as part of the “Tibetan-Yi Corridor,” a crucial region for the intersection of ethnic groups from China’s Northwest and Southwest. Danba, located on the eastern edge of the Tibet-Yi Corridor, has developed cultural diversity and complexity through the exchange and fusion of many cultures (Qiu, 2009). Scholars have suggested that Gyalrong culture has developed from (or integrated with) the Qiang ethnic group (Lin, 1948; Ren, 1990), and there remain similarities in dress and customs between the two groups (Li

et al., 2011).

The Gyalrong region is located in a transitional zone between the Amdo and Kham Tibetan dialects (Li, 2007). In Danba, Tibetan residents communicate in four main languages or dialects. Around 37 percent of the Tibetan population speak a Kham Tibetan dialect, about 34 percent use the Ergong language or dialect, nearly 27 percent speak the Gyalrong "official" language or dialect, and the remaining 2 percent converse in the nomadic Amdo Tibetan dialect (Lin, 2006). Qiu (2009) identified the language used in Sunshine Village as the Ergong language/dialect.[14] However, when I purchased a book titled *Sichuan Daofu Ergong* (Wengmu, 2019) to study, and asked my host Gyatso whether it was the language they spoke, she said it was different from their own language. Li (2007) indicated that Gyalrong Tibetans have a more diverse and complex range of local languages due to terrain fragmentation and the complexity of ethnic origins. Villagers also mentioned that people living in different valleys may speak different dialects, and their language differs from that spoken in the township. As a result, Chinese, particularly the Sichuan dialect, has become the lingua franca among various Tibetan groups in Danba (Jinba, 2013). In 2009, most adults (with the exception of the elderly) could speak Chinese. Villagers refer to their local Tibetan language as "*Dijiao hua*" in Chinese, and their Sichuan dialect mixed with Tibetan grammar as "*Danba hua*," considering both to be their own language. On one occasion, an investor from Shanghai who lived in Sunshine Village expressed regret at being unable to speak the local language (*Danba hua*). In response, a villager said, "WU Dan speaks our language well." This reveals how villagers identify both the local Tibetan language and the Sichuan dialect as their own languages.

In addition to being linguistically marginalized, most residents of the Gyalrong region are followers of Bon, an ancient pre-Buddhist tradition that has become

[14] The Ergong language is also known as the Horpa language or Daofu language. Daofu was formerly known as "Daowu". Qiu (2009) identified Sunshine Villagers as speakers of the Daowu language, which is based on three Tibetan languages in Danba County—Xikang, Daowu, and Xirong.

intertwined with Buddhism and is considered a historically marginalized branch of Tibetan religion (Kvaerne, 1995; Luo,2018). The Gyalrong Tibetan region, located on the periphery of central Tibet, became a refuge for persecuted Bon followers amidst Buddhism's dominance in Tibet (Luo, 2018). Both Tibetan Buddhism and Bon emphasize the worship of sacred mountains and mountain deities, which occupy an irreplaceable position in the spiritual lives of local people (Li, 2007; Wang, 2004). The majority of Sunshine Village's residents adhere to the Bon religion and maintain an animistic worldview, believing that all things possess spirits and that each village is associated with its own sacred mountain. Villagers perform rituals at these mountains during important festivals, such as building pagodas, hanging prayer flags, and burning pine branches. The mountain gods are deeply revered, as they are believed to control all aspects of life, including wild animals and agricultural harvests. For example, in response to the invasion and crop destruction caused by wild boars, villagers offer prayers to the mountain deity, seeking protection and control over the local wildlife. Extreme weather events are interpreted as signs or warnings from these deities; for example, hail is considered a manifestation of the mountain god's anger. When villagers ascend the mountain to collect wild herbs, such as caterpillar fungus, they are especially mindful of their behavior. It is believed that girls who wear makeup or perfume may anger the mountain god and provoke hail. Additionally, if a death occurs in the village, it is considered unclean and disrespectful to visit the mountain immediately thereafter. Such practices reflect the villagers' profound respect for the mountain gods.

A Bon temple is situated on the mountain between Sunshine Village and the neighboring village. A *Huofo* settled in the temple around 1990, coming from Aba. He presides over the daily routine of the temple, performing rituals such as beating the trigrams and reciting sutras for the faithful. The *Huofu* shared his perspective on the harvesting of caterpillar fungus, arguing that it is less harmful to the environment compared to the extraction of deep-rooted herbs such as *qianghuo*, that are believed to

connect to the heart (*xinxing* 心性) of the sacred mountain. Emphasizing the Bon religion's principle of harmonious coexistence between humans and nature, he advocated for the revival of the Mountain Closure Festival. During this festival, all forms of harvesting, cutting, and hunting are strictly prohibited for a designated period each year, allowing the environment and sacred sites to recover.

Villagers visit the temple to turn the prayer wheel and offer prayers, particularly on the 1st and 15th days of the lunar month, or to participate in pujas and temple fairs. The *Huofo* also organizes meditation and prayer activities for elders. During this event, elderly residents from Sunshine Village and neighboring communities stay at the temple for three days to recite sutras and worship the Buddha, seeking blessings for health and longevity. Villagers from both villages also assist in repairs or construction when the temple needs maintenance. It takes about one hour to walk from the nearest village to the temple, but villagers started using tractors on the road after the temple's opening ceremony in 2009 following its refurbishment. However, in August 2020, a massive rainstorm caused a mountain to collapse, blocking the road up the mountain from the village, and it has yet to be repaired. As a result, villagers are now more likely to drive or take a car from neighboring villages to reach the temple. According to Qiu (2009), from childbirth to marriage, funerals, healing, blessings, house repairs, relocations, agricultural and animal husbandry activities, it is customary to invite the temple's lama to participate in various ceremonies. However, based on my observations in 2022, it seems that only during funerals is it necessary to invite the lama to their homes. These lamas might be from other places and not necessarily from the village temple.

Figure 3: A view of Sunshine Village in 2008 (left) and 2022 (right)

In Sunshine Village, which comprises around 60 households and a population of 262, each family is interconnected through kinship ties. In the 1940s, a Han family settled in the village due to famine, and over time, they intermarried with local Tibetans. The traditional house-name system of Gyalrong is still upheld, representing the rights and obligations of the heirs within each family (Lin, 1948). Gyalrong Tibetans do not have a family name; but each house contains a set of material and immaterial assets, including land, property, lineage, and social status, all encapsulated under the house name, which remains constant over generations (Jian, 2021; Li, 2017; Lin, 2006). The house-name system ensures the continuity of family inheritances, and is passed down through both male and female descendants. The son or daughter who inherit the family home and their siblings who have been married to other families keep their blood relations and kinship titles, and help each other during the farming season (Li, 2019). While the house name was commonly used in the past to identify individuals with the same name, its usage has dwindled in recent years as the permanent population of the village declines.

The houses in Sunshine Village, mostly built during the 1980s and 1990s, adhere to the traditional architectural style known as "*Qionglong* (邛笼)" in Tibetan, or Blockhouse (*Diaofang*, 碉房) in Chinese (Qiu, 2009). These structures are characterized by their red and white colors and their stone and log construction, and

typically consist of three to four floors. The ground floor serves as livestock pens and a kitchen for preparing feed, while human activities occur on the second floor, including kitchens, living rooms, and bedrooms. The third or fourth floor usually houses a scripture hall for ancestral worship and a platform for drying grain and grass. The roofs of each house and some staircases have been reinforced with cement, while inside, the traditional central cooking area known as the *guozhuang*[15] has been removed from most houses, with only 1-2 of the 55 buildings retaining *guozhuang* as of 2009. The stoves in each home resemble those found in Han villages, and every living room is equipped with modern amenities such as sofas, TVs, and stereos. However, each house also contains Tibetan furniture like Tibetan beds and tables. Some buildings also feature interior and exterior decorations painted with traditional Tibetan motifs, particularly in the sutra halls. Additionally, housing construction in Tibetan areas has started to incorporate modern building materials like cement and security doors alongside traditional locally-sourced materials (Qiu, 2009). By 2020, most villagers had installed toughened glass roofs, altering the appearance of the original buildings but providing more protection from rain and eliminating the need to rush to collect drying grains. Modernizations in kitchens include the adoption of electric butter tea-making machines in place of traditional wooden barrels. New houses built around 2020 primarily consist of brick and cement and are structured as two-story buildings, typical of rural Han areas in Sichuan. Livestock enclosures are either not built or are separated from the main living quarters. Despite these changes, the outer appearance of the houses still features red and white colors and decorative elements, with the roofs of the four corners adorned with small towers.

The villagers primarily engage in agricultural activities, cultivating crops such as corn, potatoes, rapeseed, highland barley, turnips, and radishes on terraced fields. These crops serve both for personal consumption and as fodder for livestock, including cows and pigs. In 1983, land reform was implemented in Sunshine Village,

[15] *Guozhuang*, here refers to the fire pit, which is the activity center in the house space.

and land was distributed to households, with each household receiving 10-20 *mu* of land. However, after the implementation of the Grain for Green policy, each household's land allocation was reduced to 5-10 *mu*. Ever since, the majority of the grain produced, particularly the corn and potatoes, is used as feed for pigs.

Preserved pork is a staple meat source in the village, with every family traditionally slaughtering their pigs at the end of the lunar November to prepare preserved pork for the entire following year. The ceilings of kitchens or storerooms are adorned with preserved pork. According to villagers, each household consumes approximately two to three pigs, totaling around 250 kilograms to 450 kilograms, throughout the year. However, between 2009 and 2022, the local Tibetan pig breed disappeared, replaced entirely by hybrid pigs. There are no longer any sows in the village, prompting villagers to begin purchasing and raising pigs from the middle of the year onwards. Many families now opt to purchase whole pigs from pig farms, slaughtering them on-site before returning the pork to the village.

Most households still raise cattle because they consume a large amount of milk daily to make milk tea, butter, and cheese. Similar to raising pigs, caring for cattle is primarily the household duty of the women. Every morning, they let the cattle out to graze, and in the evening, they wait for them to return to milk them. Every few days, they feed the cattle cornmeal and other grains. If the cattle get sick, they prepare medicine for them, and if the cattle do not return home, they have to go to the mountain to find them. Additionally, they care for the calves. However, many young people who work or study away from home do not know how to milk cows, so the purchase of packaged fresh milk is becoming increasingly common.

The village's primary economic activity revolves around collecting caterpillar fungus and other non-timber forest products (NTFPs), which collectively account for 50-80% of their annual household income. Every year, from the end of April to the middle of June, villagers venture to mountain areas higher than their place of

residence to harvest caterpillar fungus, a practice dating back to the early 1980s. As caterpillar fungus' price has soared since 1990, it has become the villagers' main source of cash income. In addition to caterpillar fungus, many male villagers also gather other medicinal materials such as Sichuan fritillary bulb (川贝), *Qianghuo* (羌活, *N. franchetii Boiss*), Gastrodia, Rhodiola rosea, and Chinese Angelica. Due to its abundant natural resources, Sunshine Village has been considered affluent in Danba County, with a net income of 5,180 *yuan* per person in 2007 (Qiu, 2009). Families with high incomes earned more than 100,000 *yuan* annually, while those with lower incomes earned around 20,000 *yuan* per year. Most families earned between 40,000 and 60,000 *yuan* per year, and the wealth gap within the village was not very pronounced in 2007 (Qiu, 2009). Moreover, mushrooms have become a new source of livelihood for the villagers since 2016, following their commodification. Various types of mushrooms, including *shanmu jun* (杉木菌, *Lactarius deliciosus*), *hong junzi* (红菌子, chicken of the woods), *edan jun* (鹅蛋菌, *Amanita caesarea*), and matsutake, are now harvested. Initially, villagers collected *shanmu jun* mainly within the village, with a household (typically consisting of one to two individuals) earning five or six thousand yuan per season from it. However, as production declined, villagers began traveling outside of the village to gather mushrooms. On average, a person can earn around 100 *yuan* per day by picking mushrooms. Some households have even become traders, buying and selling mushrooms and caterpillar fungus to augment their incomes.

In addition to being an area for collecting NTFPs, this mountainous region also serves as the village's yak farm. After the redistribution of land to households in 1983, the 1,200 yaks that were previously managed by the village collectives during the People's Commune era were also distributed to households, with each household receiving approximately 20 yaks. However, over time, most households opted to sell their yaks, resulting in only about five families in the village continuing to rear yaks.

Remarkably, one of these families made a significant investment in 2022 by purchasing over 80 yaks to restart their yak-rearing activities in an effort to boost their income.

The village has also ventured into tourism. In 2009, the wealthiest family was a farmhouse-owner near the road, which is a popular route for travelers in Sichuan. From 2009 to 2022, the owner's hotel had expanded threefold, including a brand-new five-story guesthouse building. Additionally, in 2009, a Cantonese investor began constructing a hotel in the highest part of the village. However, due to factors such as transportation challenges, the hotel did not open until 2018. In 2022, the village secretary, who was instrumental in attracting the investment, was serving as the manager of the hotel. Moreover, a guesthouse operated by the son of the former village clerk, located adjacent to the hotel, had also opened its doors to tourists. All three establishments can be found on major online travel platforms, and an increasing number of tourists are not merely passing through the village via the road, but are exploring the village to relish its scenic beauty. Tourist season in the village typically peaks from May to October. During the busy tourist season, some villagers find employment in the hotels, which over time, have partly replaced manual labor jobs such as temporary road repairs, that were common in 2009. Additionally, some villagers host guests in their homes on occasion. Villagers also utilize social media platforms such as WeChat Moments and TikTok to promote their offerings, including the sale of wild herbs such as caterpillar fungus to visiting guests.

In 2018, a businessman from Shanghai, known as "Lao Li" or "Li Laoban" among villagers, arrived in the village to develop a paragliding project. He also leased land from villagers to establish cooperatives and cultivate crops such as highland barley, sunflowers, and rapeseed in 2022. However, due to management issues and poor yields, the village committee ultimately decided to allow two impoverished households in the village to harvest the crops. The aim of his initiative had been to develop comprehensive experiential tours centered around Sunshine Village.

Sunshine Village boasts abundant forestry resources, including fir, spruce, oak, birch, and alpine rhododendron. Since 1979, the Danba Forestry Bureau has established a nursery along the roadside in Sunshine Village, covering an area of 14 *mu* (approximately 2.3 acres). The nursery cultivates tree species such as spruce and alpine pine (Danba County Annals Compilation Committee, 2009). In 1987, village roads were constructed, and villagers commenced logging activities to augment their incomes. However, in 1998, China initiated the large-scale Natural Forest Protection Program (NFPP) (*Tianranlin Ziyuan Baohu Gongcheng*) (Jinba, 2013; Qiu, 2009) aimed at safeguarding the environment in the upper and middle reaches of the Yangtze River and the Yellow River following the devastating floods in the middle reaches of the Yangtze River during the summer of 1997. The project provided substantial forestry subsidies, totaling more than 600 yuan per person per year, with an additional grassland subsidy exceeding 300 yuan, totaling nearly 1,000 yuan. Following the ban on logging, the Chinese Central Government launched a nationwide cropland fallow program called Grain for Green (*Tuigeng Huanlin*) to enhance forest cover and mitigate soil erosion on sloped cropland (Uchida et al., 2005). This policy, piloted since 1999 in Gansu, Shaanxi, and Sichuan provinces, was implemented throughout Western China beginning in 2002 (Feng et al., 2005). In Danba County, from 1999 to 2004, the task of returning farmland to forest covered an area of 78,000 mu, involving 15 townships, 181 administrative villages and 10,530 households, with a total population of 49,500 villagers, and 42,870 parcels of farmland (Danba County Annals Compilation Committee, 2009). The Grain for Green policy began around 2000 in Sunshine Village. According to Qiu (2009), 341 *mu* of existing cultivated land and 553 *mu* of fallowed arable land had been reforested with spruce trees. Each household received a Certificate of Forest and Woodland Tenure Rights to guarantee their use of retired farmland for 70 years. Initially, the Grain for Green policy provided noodles and rice for the first four or five years. Starting from 2004, the policy fully implemented the “grain-to-cash (粮改现)” approach, replacing the exchange of grain

with that of cash. Subsequently, monetary compensation was introduced, amounting to 260 *yuan* per mu for 16 years. In 2007, forestry subsidies could account for up to 7% of a household's total income (Qiu, 2009). Since around 2017, there has been an annual subsidy of 20 yuan per mu for fallow land.

Wildlife is abundant in the territory of Sunshine Village, including musk deer, wild boar, black bear, wolf, Tibetan snowcock, Tibetan macaque, Himalayan marmot, hedgehog, and Himalayan blue sheep. Historically, villagers practiced hunting, known as "*dashan* (打山)", targeting musk deer for their musk, bears for their paws and bile, wild boar, and Himalayan blue sheep for meat. It had been common for households in Sunshine Village to own guns. Hunting served as a means of livelihood for some villagers. The China Wildlife Protection Law, promulgated in November 1988, categorized a list of State Key Protected Wild Animals. In 1996, the Law of the People's Republic of China on the Administration of Firearms was introduced to strengthen the prohibition on hunting. As a result, local government authorities confiscated guns from villagers starting from the mid-2000s until around 2020. In recent years, due to the impact of initiatives such as Grain for Green and the improvement of natural conditions, various wildlife populations have expanded. However, villagers have faced challenges from wild boars and monkeys, which have damaged their crops and sabotaged their harvests.

Due to the rich biodiversity, two development projects by two international NGOs were conducted in Sunshine Village, in succession from 2006 to 2010. The first NGO focused on global biodiversity protection and was attracted by Sunshine Village's biodiversity. It collaborated with the county Forestry Bureau to conduct a project aimed at protecting the forest and wild animals from 2006 to 2008. With this initiative, villagers were organized to patrol the mountains to prevent logging and poaching. Additionally, based on the villagers' request, the project funds were utilized to establish a preschool for the children in the village. Volunteers were selected to

teach in the village, and a second NGO focused on rural education partnered to provide training and educational support for the preschool. Upon the completion of the environmental project in late 2008, the second NGO initiated a two-year project focusing on early education for children and cultural development in the community from 2009 to 2010. For this project, local teachers were selected to collaborate with outside volunteers to provide preschool education for children aged 4-6 in the village. Additionally, regular *guozhuang* dances were organized with the villagers. I served as a volunteer teacher in this project for 8 months in 2009.

Tan (2022) emphasizes the significance of ecological concerns in shaping ways of life and livelihoods in Kham. Sunshine Village is shaped by its history, geographical location, and biodiversity, which form the production and livelihood of this Sino-Tibetan village, where natural resources are the main source of villagers' incomes. At the same time, environmental policies, tourism development, and NGO projects have collectively contributed to making the village representative of ongoing rural transformations. Against the backdrop of urbanization and marketization, the roles of these nonhuman entities in rural transformation become a new perspective for understanding rural changes and human-nonhuman relations.

Chapter 4 Migration by Caterpillar Fungus: Generational Variances in Youth Life Trajectories

Caterpillar fungus, which emerges from the ground each spring, can only be found and harvested during this season. Collectors locate the caterpillar fungus in the meadows by spotting its plant-like fruiting body, which protrudes only 5 to 10 cm above ground, and then digging out the entire caterpillar fungus. Within a span of less than two months, the caterpillar fungus becomes the primary source of income for many households.

One afternoon in mid-April 2009 when I had been in the village for over a month, I noticed a group of young strangers playing basketball as I descended from my second-floor room in the school building and passed through the grounds to the restroom. These young men, seemingly around 20 years old, were dressed fashionably, sporting ripped or baggy jeans and bleached blonde hair. Among them, one of the tallest boys, with shoulder-length curly hair, caught my attention by addressing me as "*meinv* (美女, pretty girl)" instead of the usual "*laoshi*," a term villagers commonly used to refer to me. I did not respond to his remark. Upon my return from the restroom, the young man adjusted his tone and called me "*laoshi*." Subsequently, I engaged in conversation with them. They represented the younger generation (aged 15-25) of the village in 2009, but were often employed as temporary migrant workers elsewhere. Some worked in hotels located near tourist areas like Jiuzhaigou Valley and Hailuogou, or performed in the Tibetan performing arts centers in hotels or in Chengdu. Unlike other migrant workers who might leave home for extended periods, most of their jobs were temporary, because come springtime, from mid-to-late April until early June, they had to return to the village to dig caterpillar fungus.

Caterpillar fungus is a unique commodity endemic to the Tibetan Plateau and one of the most valuable medicinal fungi around the world (Liang, 2011; Wang, Tang, & Nan, 2018; Winkler, 2009). It is known as *Yartsa gunbu* or simply *bu* in Tibetan and *chongcao* (short for *dongchong xiacao*, "winter worm, summer grass") in Chinese. Because of its unique appearance and the fact that it comes from the Tibetan plateau, many people believe caterpillar fungus to be full of mystery. This has created a hype space on the market. Caterpillar fungus is believed to strengthen the lungs, kidneys, liver and immune system, increase energy and vitality, stop hemorrhaging, and decrease phlegm (Holliday & Cleaver, 2008; Yeh & Lama, 2013). The price of caterpillar fungus increased 1,000% between 1997 and 2012 (Winkler, 2013) and reached hundreds of thousands of *yuan* per kg in 2021. This skyrocketing price has been associated with the macroeconomic environment of China's development (Liang, 2011). Caterpillar fungus has become the new main resource of cash income contributing to the livelihoods of the Tibetans from the production area.

Although this is a marginal production area and caterpillar fungus from Sichuan rarely appears in the market, local prices have not been affected as a result. The commodity chain of caterpillar fungus reflects a form of geographical abstraction, wherein markets construct narratives that emphasize the fungus with core Tibetan regions such as Nagqu in Tibet or Guoluo and Yushu in Qinghai. These narratives align with consumer imaginaries (Liang, 2011), rendering marginal production zones like Sichuan and Yunnan largely invisible. However, the local price of caterpillar fungus in Sunshine Village has not been influenced by this abstraction. Consumers tend to favor whole caterpillar fungus (Yeh & Lama, 2013), which resists excessive scaling, branding, and monopolization. This highlights the role of nonhuman agency—its biological form and embedded social meanings—in shaping the commodity chain.

Therefore, despite Sunshine Village's marginal status in terms of caterpillar

fungus production, villagers have experienced a similar trend observed across much of the Tibetan Plateau, as described by Yeh and Lama (2013). Each spring, for nearly two months, the caterpillar fungus harvest prompts a seasonal migration of labor, with villagers traveling from their homes to higher-altitude mountainous regions to collect the fungus. In Sunshine Village, this movement is not limited to rural-to-mountainous flow; it also includes a reverse trend with individuals returning from urban areas to rural villages, as previously noted. Initially, I believed that the allure of the caterpillar fungus would draw migrant workers, including the younger laborers, back to the Tibetan village. This seemed distinct from the trend of "village hollowing" observed in other rural areas across China.

However, upon my return to the village and the caterpillar fungus mountains after a thirteen-year absence, I encountered no more than five individuals under the age of thirty. It was evident that the younger demographic, including temporary migrant workers, was not returning for the caterpillar fungus harvest. This prompts the question: why hasn't the allure of the caterpillar fungus drawn the younger population back to the village? What are the variations in youth life across generations in the village? How has the role of the caterpillar fungus contributed to these changes? This section explores the changes in the relationship between humans and caterpillar fungus between 2009 and 2022 in Sunshine Village.

4.1 Caterpillar Fungus' Declining Share of Income: Yield and Price Trends

"It is not cost-effective now," *Niangniang* Yangchen responded when I mentioned my observation that only a few young people were returning for the caterpillar fungus harvest. Caterpillar fungus as a new resource of livelihood has contributed to household wealth for rural Tibetans (Costello, 2008; Winkler, 2009; Yeh & Lama, 2013). In Sunshine Village, the price of caterpillar fungus rose particularly fast in the early 1990s. Herbal medicine became villagers' main source of income, accounting for more than 70% of household income (Qiu, 2009). Per capita yearly net income in 2007 was RMB 5,180. Families with high incomes were earning more than RMB

100,000 per annum, while those with low incomes were earning about RMB 20,000, with most families earning RMB 40-60,000 per year. Sunshine Village was regarded as a wealthy village in Danba County due to its advantageous natural resources (Qiu, 2009). However, the proportion of villagers' cash incomes derived from caterpillar fungus has declined in the 2010s. In 2022, villagers digging caterpillar fungus' average income per household was about RMB 20,000. Quitting their existing jobs to return for caterpillar fungus digging has become economically unviable. Why has the pursuit of harvesting caterpillar fungus become financially unfeasible as a livelihood for the villagers? My observations and conversations with villagers suggest two underlying reasons—declining production and price fluctuation.

Whenever I returned to the village in 2019 and 2020, I would inquire about the production and income from caterpillar fungus in the village. The villagers' consistent response was, "Not good this year." I wondered why they consistently reported "the caterpillar fungus is not good", possibly indicating their reluctance to discuss their finances with an outsider like me. It was not until 2022, during my fieldwork, that the villagers experienced "the worst caterpillar fungus production" in their history. While conversing with several villagers in the dimly lit stone room at night on the caterpillar fungus mountains, I began to comprehend the overall decline in the availability of caterpillar fungus in Sunshine Village. "It's not as plentiful as it used to be every year," I remarked. The villagers concurred. Despite the inherent resilience of caterpillar fungus (Winkler, 2013)—with a few villagers expressing satisfactory harvests in 2020 and an improvement in 2022 over 2021—the overarching trend has been a prolonged decline in production.

In Gyatso's family, her husband, Mr. Lin was the only one who dug for caterpillar fungus in 2022. He worked with people from another family and together they dug up a total of around 1,700 pieces. Each household collected over 800 pieces, which was considered a good result in the village. *Niangniang* Yangchen, Gyatso's 64-year-old mother, reminisced, "In the past, we (a household) used to collect between 4,000 and

5,000 pieces. Then it decreased to 3,000-4,000 pieces. Nowadays, even gathering 1,000 pieces is considered a good result." Thubten, who is over 40 years old and is *Niangniang* Yangchen's nephew, reminisced about his mother's youth when they had used back baskets to pick caterpillar fungus. He emphasized their use of the term "pick" instead of "dig" and the baskets as containers, underscoring how easy it had been to find caterpillar fungus and how abundant it had been during that time.

Yang Jian, Gyatso's youngest brother, who was in his thirties and working in Chengdu, did not return to collect caterpillar fungus in 2022, although he had done so previously. During his visit home from Chengdu, he remarked, "The production of caterpillar fungus has declined. In the past, every household used to gather 1,000 pieces at least. When I was young and my sisters were unmarried, each individual could find 1,000 pieces, allowing a household to collect several thousand."

The decline in caterpillar fungus production was also evident based on my own experiences and observations visiting the caterpillar fungus mountains in 2009 and 2022. Finding a caterpillar fungus in 2022 was much more difficult than it had been in 2009. In 2009, I spent time with Chemi and other young people after they had descended from the higher mountains to the river beach campsite in the evening. They knew I could not find caterpillar fungus on my own, so Chemi drew a circle on the ground and told me there was a piece of caterpillar fungus for me to find. After a few minutes of searching without success, Chemi showed me where it was and explained the process of digging up a caterpillar fungus. However, 13 years later, in the same location around the campsite, I followed Phuntsok, a middle-aged woman, as she bent down and scanned the ground for an hour. She finally found one caterpillar fungus. That entire afternoon, she found only three caterpillar funguses. In the same location, over the span of 13 years, finding a caterpillar fungus had transformed from an easy game to a challenging task.

Studies have reported that caterpillar fungus yields have decreased due to habitat

degradation, climate change, and particularly overexploitation in the Himalayas (Hopping et al., 2018; Shrestha & Bawa, 2013; Wei et al., 2021). In addition to the villagers' complaints about overexploitation caused by individuals returning to the mountains to dig caterpillar fungus—which has already reached the stage of spreading spores after most people have already left—the impact of climate change on the village is even more pressing. Throughout June, which marks the end of the caterpillar fungus gathering season, it rained almost every day. This rainfall not only washed out the bridge leading up the mountain to harvest the fungus, posing safety risks for those traveling on the road, but also made the search for caterpillar fungus in the rain more challenging and dangerous. The excessive dryness in Sunshine Village, as well as throughout the entire Sichuan province after the caterpillar fungus season, affects the villagers' income from non-timber forest products (NTFPs). The declining trend in caterpillar fungus production has also persisted. When I asked Gyatso about the caterpillar fungus yield in 2023 via WeChat, she informed me "it was worse than the previous year (2022). The highest yield reported by a villager was around 1,000 pieces per household."

Over time, the villagers' perception of what constitutes a large caterpillar fungus yield have changed, decreasing from 5,000-4,000, to 3,000-2,000, and now hovering around 1,000 for a household. The phenomenon of declining caterpillar fungus production was evident in Sunshine Village, where it is affecting locals' livelihoods as many caterpillar fungus production areas have experienced declining, or even disappearing, fungus production yields (Shrestha & Bawa, 2013).

Further, there has been a shift in the price of caterpillar fungus: from a state of regular skyrocketing to fluctuation. With the macro-economic environment of China's development in the wake of the Reform and Opening Up, the price of caterpillar fungus has skyrocketed (Liang, 2011). Winkler (2013) mentioned a staggering 1,000% increase in price between 1997 and 2012. In 1984, the most expensive *chongcao* cost around RMB 5,380 per kg, whereas it was sold for as much as RMB

526,000 per kg in 2010 (Liang, 2011). The wholesale price for *chongcao* in Lhasa rose by only 38% between 1985 and 1997, but experienced a 342% increase between 1997 and 2004 (accounting for inflation) (Winkler, 2008). This timeline of price changes aligns with what the villagers stated.

Rigzin, over 60 years old, had served as a soldier in his youth and later returned to his village, working as a village official in the 1980s and 1990s. Recollecting those times, he remarked:

> Caterpillar fungus used to be considered medicinal, but its price used to be quite low. In the 1960s and 1970s, a *jin* (half kilogram) of caterpillar fungus could only fetch a price of just over ten *yuan*. By the 1980s, a single piece began selling for 17 or 18 cents, around 20 cents. Then, between 1985 and 1987, the price of caterpillar fungus started to escalate, with one piece reaching 50-70 cents. In 1988, it surged to 2 *yuan*. The growth was remarkable. Subsequently, it climbed to 3-5 yuan. During the 1990s, it spiked to 8-10 *yuan* and became 20 *yuan*, and 20 *yuan* became 40 *yuan*. Families were content earning 5,000 *yuan* at that time, feeling quite comfortable. Later, with its value soaring, they could earn 10,000 yuan, which was very comfortable. Eventually, it escalated to 20,000 *yuan*, 30,000 *yuan*, 50,000 *yuan*… Families were able to earn up to 50,000 *yuan* through digging caterpillar fungus. However, people were never satisfied and remained solely focused on it.

The skyrocketing price of caterpillar fungus astonished the villagers and brought significant wealth to each household, especially after 2000. However, this price surge was influenced by China's 2013 anti-corruption policy, causing an end to the explosive growth, and in some cases even leading to decline (Cunningham & Long, 2019). Several scholars have highlighted the connection between caterpillar fungus's value and its role as a gift for fostering *guanxi* (a form of social connection) within

China's corruption practices (Cunningham & Long, 2019; Liang, 2011; Linke, 2016; Yeh & Lama, 2013). Since the implementation of the anti-corruption policy, the price of caterpillar fungus has decreased and stabilized. Rigzin also mentioned this, stating, "After 2012, the price of our caterpillar fungus stabilized between 20-30 yuan, correlating with the intensified anti-corruption efforts in the country."

From 2009 to 2022, the purchase price of caterpillar fungus in Sunshine Village changed little. In 2009, the purchase price was around 15-20 *yuan* per piece. By 2022, the price ranged from 25 to 35 *yuan* in the village. The price has not spiked, but fluctuated within a range, varying from 20 or 30 to 40 or 50 *yuan*, contingent upon the year's production and market demand. Higher production results in prices around 20 to 30 *yuan*, while lower production leads to prices of 40-50 *yuan*. Moreover, regarding the market dimension, an elderly man who runs a shop selling medicinal herbs, mountain goods, and local specialties in Kangding said: "there is less caterpillar fungus this year (2022), so the prices are high. Over the past three years of the pandemic, the price of caterpillar fungus increased a bit each year, each year higher than the previous. Moreover, the supply is limited, so the prices have risen again." The market demand also impacts the price of caterpillar fungus, but the purchase price for villagers is still within a certain range. Consequently, caterpillar fungus prices have become volatile based on production.

The income from caterpillar fungus declines as production decreases and prices fluctuate. For example, Chemi's family earned around 24,000 *yuan* in 2022 and 40,000 *yuan* with a better harvest in 2021. However, their annual income from digging caterpillar fungus had already reached 23,000 yuan in 2007. According to Qiu's (2009) record, the majority of families earned cash income from digging caterpillar fungus within the range of 28,000-42,000 yuan annually in 2007. However, in 2022, as Ngawang said:

> Herbs are decreasing significantly, showing an obvious decline. The annual income from caterpillar fungus for each family used to be at

least 50,000-60,000 *yuan*, or even 70,000-80,000 *yuan*. Now, it's only 10,000-20,000 *yuan*, a considerable drop. These are not good prospects for the young people.

Simultaneously, there has been a notable increase in consumption among villagers. Sulek (2019) comments that the caterpillar fungus boom has improved transportation and the availability of cash income, which has resulted in the pastoralists' increased integration with (and dependence on) the town markets. In 2022, nearly every family owned a car, and the frequency of travel to and from the county seats had increased in Sunshine Village. Parents would rent homes to live near schools in towns or county seats for their children. The villagers' consumption also significantly increased, but the income from digging caterpillar fungus has either remained consistent or declined. Moreover, the share of caterpillar fungus in total household income in Sunshine Village is decreasing. As a result, villagers have to rely more on earning money from other NTFPs and from migrant work.

Consequently, there is less incentive for people to return and engage in digging activities than there was in earlier times. Stewart (2014) pointed out that narratives of decline may be interpreted as a decline in the personal value harvesters assign to collecting as a practice. Harvesters' perception of whether their time and effort spent collecting caterpillar fungus is worthwhile is closely linked to its market value and the income they can generate from it. Thus, many migrant workers from Sunshine Village have opted to remain in cities rather than return to harvesting caterpillar fungus. As such, the entanglement of caterpillar fungus with ecological conditions and its status as a market commodity significantly influences human activity. Accordingly, labor organization has been adjusted to align with changes in the distribution of caterpillar fungus areas. Additionally, spanning four decades, caterpillar fungus has fostered villagers' wealth accumulation and facilitated their engagement in urban life.

4.2 The Unpredictable Nature of Caterpillar Fungus vs. the Logic of Fairness:

From Competition to Collaboration

Villagers refer to the locations where caterpillar fungus grows as “the caterpillar fungus mountains” or “the medicinal mountains”. These mountain areas have altitudes much higher than the village, ranging from 2,600 m to 3,200 m. The habitat of the caterpillar fungus encompasses grass and shrublands around the tree line, typically found between 3,000 m and 5,000 m (Winkler, 2008). In the 1980s and 1990s, villagers had to ride horses for about 12 hours over the mountains to reach the area. Later, they switched to motorcycles, which took about an hour on dirt roads. Now, the dirt road has been paved, and it takes about 40 minutes to reach the area from the villages. There are two campsites in the area, where villagers have built makeshift houses out of stone and wood. Previously, several families would share a shed covered with plastic sheeting, but now each family has its own house, and the living conditions have greatly improved. During the caterpillar season (the end of April through June), the villagers would hike the mountain with bedding, food and other necessities. The mountains are the habitat of not only the caterpillar fungus, but also other medicinal herbs such as Sichuan fritillary bulb (川贝) and *qianghuo* (羌活, *N. franchetii Boiss*), which provide the villagers with a significant source of income. This is why when villagers talk about “going to the mountains,” it generally means seeking livelihood opportunities. Since the caterpillar fungus mountains are intertwined with each household’s interests, the area has undergone many historic divisions between the villagers.

Figure 4: One of the campsites on the caterpillar fungus mountains in June of 2009

(left) and 2022 (right).

This section examines the transformative role of caterpillar fungus in reshaping social relations within the village, emphasizing a shift from competition to collaboration as harvesting land is increasingly allocated on an individualized and "equitable" basis. Several studies have highlighted conflicts among neighboring villages or between locals and outsiders over natural resources such as caterpillar fungus and mushrooms (Pant et al., 2017; Yeh, 2000). Stewart (2014) also analyzed the natural resource governance impact on social relations between insiders and outsiders. However, research examining the division of village land for caterpillar fungus harvesting and the involvement of laborers over time has been limited. This gap may be because most research on caterpillar fungus focuses on large grasslands, such as in Qinghai, where a more capitalist model dominates its collection (Duojie & Scobie, 2023; Sulek, 2019). In Sunshine Village, caterpillar fungus digging is exclusively the work of villagers, without any capital involvement, possibly due to limited production compared with the main caterpillar fungus production areas.

Niangniang Wangmo had already tried to get me to marry into and stay in the village, she said: "The people here are hard-working. As long as we work hard, we can earn money. Because our mountains are rich in herbs. It is equality." In Hathaway's (2022) research, matsutake picking was a much more equitable activity than tourism. The villagers also believed that relations were equal among them in the wild herb gathering. Qiu (2009) also believed that the wealth gap between the rich and the poor in the village was minimal in 2007. However, since the mid-1980s, caterpillar fungus has emerged as a highly valuable commodity, and the process of marketization has significantly reshaped local community dynamics. With the increasing price of caterpillar fungus, the distribution of the digging areas, which directly affects each family's income, has long been a significant source of conflict among the villagers. In the pursuit of fairness, land claims for the caterpillar fungus mountains have regularly been divided and refined according to villages, groups, and

households, over the past four decades.

In the initial period, villagers engaged in labor-centered competition, where both the scale of land accessed and the number of individuals mobilized were key determinants of family income. From 1983 to the early 2000s, there was no division within the caterpillar fungus mountains. The entire village population had access to any part of the mountains for caterpillar fungus harvesting. More labor equated to more caterpillar fungus, and thus more money. This led most household members at the time (including the youth) to engage in the harvesting. However, it also resulted in much of the generation born in the 1970s and 1980s withdrawing early from formal education. The phenomenon during this period aligns with some scholars' arguments that the resource windfall disincentivized school attendance (Wang et al., 2018). Furthermore, the arrival of relatives from other villages or distant areas led to conflict between villagers. "Our mountains were teeming with people at that time...but we realized it didn't work," recalled Rigzin. Subsequently, the village began restricting access, allowing only those with registered local *hukou* or resident villagers to access the caterpillar fungus mountains.[16] Discussion commenced of dividing the caterpillar fungus mountains into administrative groups akin to yak farms.

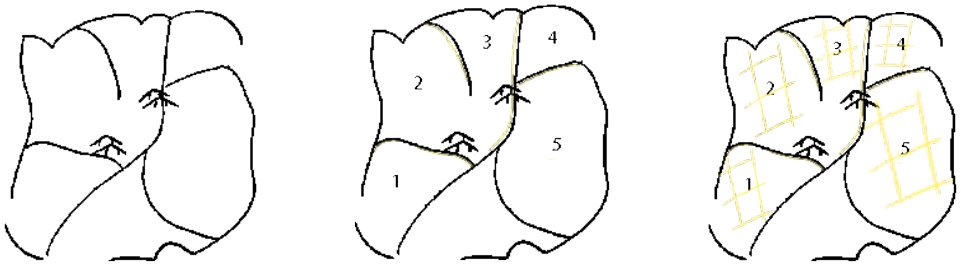

Figure 5: The process of land distribution in caterpillar fungus collection, the second figure is divided by group and the third one is divided to household.

[16] Some villagers live in the village, but their *hukou* was registered in another location due to their pursuit of urban *hukou*. Some villagers had married into other villages or were not living in the village, but their *hukou* was still in the village. Individuals in both situations could dig caterpillar fungus, but the villagers would occasionally complain about the latter.

Since the early 2000s, the entire expanse of the caterpillar fungus mountains has been divided into five parts, aligning with the five administrative groups in Sunshine Village. This mountainous region is also the village's yak farm. "We used to pack into households (in 1983), and what about dividing up the yak farms?...the yak during the People's Commune era were divided in the same way." Rigzin recalled. The village is broken into five administrative groups, and members from each household within a group are only permitted to harvest caterpillar fungus in their designated group area. This method was implemented to manage and restrict outsiders' access. However, the distribution has led to new conflicts between the groups. Initially, the village used a lottery system to allocate the caterpillar fungus area. Villagers gathered and wrote numbered slips of paper corresponding to the five caterpillar fungus mountain areas, choosing a representative to draw lots. The unpredictable nature of caterpillar fungus growth further complicated perceptions of fairness in land distribution. Some villagers complained about consistently receiving areas with poor production, feeling it was "unfair" compared to other villagers' harvests from other groups. Consequently, the allocation method was shifted to a rotating system, where the five groups took turns distributing one of the five parts of the caterpillar fungus area each year.

For the villagers, the 1990s through the 2010s was also a prime period to generate income from caterpillar fungus due to the escalating prices and yields. During this season, every available laborer from each household would venture into the mountains for caterpillar fungus harvesting. To manage their responsibilities at home, caring for the elderly, children, farmland, and livestock, they would hire farmers from nearby areas without caterpillar fungus resources. Tashi recollected:

> In the past, when there was an abundance of caterpillar fungus, I used to join in digging. However, with young children, we needed additional help. Our farmland was extensive, requiring additional labor. So, we hired temporary workers (小工, *xiaogong*) to assist in

> both household and field work for about two months. Initially, we paid around 350-400 *yuan* a month, which gradually increased to 1,000 *yuan* a month in subsequent years. We hired someone every year. During our son's elementary school years, we employed a laborer.

This demonstrates the significant income derived from caterpillar fungus, which creates a new employment relation. The villagers were inclined to employ labor to manage their household responsibilities, allowing all available residents to focus on caterpillar fungus harvesting. Even though having more people meant more caterpillar fungus and increased cash income at a group level, parents prioritized their children's education and were cautious about allowing them to drop out of school in 2009. Hiring outside labor focusing on the domestic work was the method by which villagers organized the labor force during the peak of caterpillar fungus season.

Since the early 2010s, each group's caterpillar fungus mountains have been divided into smaller sections based on its population, in response to timing-related competition over harvesting. Every household harvests caterpillar fungus in their designated sections, determined by the family members with local registered *hukou* and those residing in the area. For instance, a household with five people with local registered *hukou* gains access to five specific sections, known as "*Wu Tuocao* (五坨草)," as termed by villagers, meaning "five parts of grassland". Villagers use "*Tuo*" to denote the unit of a grassland section. According to Tsomo who explained the rationale behind changing the distribution method, conflicts between villagers stemmed from differing digging times. While residing together, some individuals would start hiking the mountain and harvesting caterpillar fungus early in the morning, returning late, while others commenced later and returned earlier. Since more time spent digging resulted in more caterpillar fungus, this was deemed unfair.

Consequently, the caterpillar fungus mountains' group areas have been divided

into specific sections for each household. The rotating system has remained in place among the five groups, with each having access to each part of the caterpillar fungus mountains, alternating between groups. The method of distributing sections within the group to each household varies according to group rules. Some groups utilize a lottery system, while others opt for a consultative selection process where villagers choose their caterpillar fungus areas. This system restricts villagers to harvesting caterpillar fungus only from their designated sections, leading to an individualization process among them.

Caterpillar fungus has its own distinct growth habits and lifespan. Caterpillar fungus is highly spatially (and temporally) variable (Yeh & Lama, 2013). As a wild product, humans cannot control where or when caterpillar fungus grows in the mountainous terrain. Given the limited availability of land and the fungus's unpredictable growth cycle, villagers cannot rely solely on waiting within their designated areas for harvest. As Tsewang noted, "You can't dig and focus on the same small areas every day." Chemi and her father, for example, left the caterpillar fungus mountains and their lands for six days before returning for the harvest.

This shift led to a reduced demand for labor. As of my 2022 fieldwork, the digging areas were limited for each family, requiring fewer family members to focus on their designated small areas. Each household would send just one or two people to the caterpillar fungus mountains. For instance, Tashi and her husband live in the village; their daughter works in the county seat, and their son works in Xinjiang. Tashi mentioned, "Due to the limited digging area, I don't need to go to the mountains to dig caterpillar fungus; my husband is enough." They also do not need to hire outside workers anymore. Despite having unstable jobs, her daughter and son choose not to return. Tashi lives in the village but opts not to go to the caterpillar fungus mountain. The labor force arrangement has shifted from entire nuclear families and extended family members engaging in digging, to just one or two individuals. Consequently, the market-driven assumption that increased labor and extended time investment would

yield higher returns no longer held true in this context. Some individuals, with unstable work outside the village, choose not to return, as the labor force within their family, who are residents, are sufficient for their limited sections.

The biological characteristics of the fungus necessitated new forms of collaboration among community members. Due to the characteristics of caterpillar fungus, spatial limitations, declining yields and a diminishing labor force, labor organization on the caterpillar fungus mountains has transitioned from competition to collaboration. The villagers have formed various cooperative teams to dig for caterpillar fungus together. Some might describe these activities with the term "village reciprocity". However, Kipnis has argued that this is an empty label and instead we should examine the details of actual practices to understand local forms of intersubjectivity and local processes of inclusion, exclusion, and power (Kipnis, 1997).

The Gyatso and Yang families cooperated, as their caterpillar fungus areas were adjacent within the same group, each having a similar number of caterpillar fungus areas—eight and seven, respectively. Gyatso mentioned, "It didn't matter if we crossed the boundaries of our area, so we collaborated." Each family provided one laborer: Gyatso's husband, Mr. Lin, and Yang's wife. Although they dug individually, they pooled their findings, sold them together, and split the proceeds. This arrangement resembles the cooperative arrangement in Qinghai among relatives and friends who rent a grassland exclusively for their family members to collect caterpillar fungus, without recruiting anyone else. They share all costs and divide their earnings equally (Duojie, 2022). However, in the case of Sunshine Village, they do not need to rent the land, and instead only invest their labor.

Another form of collaboration involves working together and sharing the daily caterpillar fungus harvest. For instance, three to five people from different families formed a team, taking turns to dig each family's areas daily. Upon returning, they divided the harvest among members based on a certain proportion. The owner of the

caterpillar fungus area dug that day might receive a larger share. Many villagers opted for this method, citing Karma's reason: "It was more enjoyable with more people. We could support each other and search for caterpillar fungus together. We brought buns for a midday meal to heat and had lunch together in the mountains." This way could allow time for caterpillar fungus to grow one-by-one in each household's area. Another form involves exchanging labor. If a villager assists a family in digging caterpillar fungus for a day, that family member should reciprocate the help. All harvested caterpillar fungus belongs to the area's owner. The cooperative labor (*nymle*: working together in rotation) is categorized as a form of alternative paid labor because households contribute the same amount of labor when working together (Duojie, 2022). These collaborations continue the tradition of reciprocal, cooperative, or collaborative labor in every farming operation (Duojie, 2022), which was also utilized in the caterpillar fungus digging. However, one night when I was chatting with a group at Tashi's house on the caterpillar fungus mountain, I asked if partnering and companionship were primarily between relatives, and Yungdrung responded, "Those relatives don't work!" Other people laughed.

Labor exchange is a technique of ritual *guanxi* production from everyday activity (Kipnis, 1997). With the process of marketization, market logic is increasingly influencing even familial relationships, indicating a deepening of calculative behaviors (Yeh, 2011). Duojie (2022) mentioned that labor is another major livelihood resource for Tibetan peasants. Moreover, land and caterpillar fungus are also vital resources for the villagers. Caterpillar fungus can also serve as capital during collaborations, breaking from the fee-paying collectors, hired collectors, and piecework collectors—models that have dominated the caterpillar fungus economy in Qinghai, where the majority of rural peasants must participate (Duojie, 2022). The distribution of caterpillar fungus mountains among households has encouraged new collaborations among villagers. The ability to maximize benefits relative to kinship is most important in the collaborations. The collaboration has reduced the necessity for those who work outside of the village to return.

In Sunshine Village, kinship networks continue to provide trust and social capital, particularly in the context of caterpillar fungus land trading. In the absence of robust formal institutions, these networks often function as substitutes, facilitating economic transactions and maintaining social cohesion (Yan, 1996, 2018). Under this method of dividing land among households, each household's land became their provisional "private property", which facilitated the trade of caterpillar fungus land among villagers. This land individualization is a process of privatization (Tsing, 2013a). However, this privatization is informal since the villagers only have the use right; the land belongs to the collective. Despite occurring only during the caterpillar fungus season each year, it facilitated land trade among villagers. Families not directly residing in the village would sell their caterpillar fungus areas to relatives and not return.

Mr. Min sold his areas to Tsomo's family in 2022 since he works as a policeman in a neighboring county. His daughter and son continued to study in Kangding, while his wife worked in hotels and restaurants and did not return for caterpillar fungus digging. This type of sale usually occurs between closer relatives or neighbors. The former village head, Tsring, who lived in the county seat most of the time with his son, said:

> We sold the medicinal mountains after dividing them among households. Each *tuo* sold for 3,000 *yuan*, then later sold for 1,700-1,800 *yuan* each. They were also sold for more than 2,000 *yuan*. Our medicinal mountains have been given (sold) to my niece's family (also their neighbor). If they dig more caterpillar fungus, they will give more money; if they dig less, they could give less. We are all relatives. They gave 8,000 *yuan* this year (2022) for a total of seven *tuo* of grassland. I returned 2,000 *yuan* to them that day…(caterpillar fungus is not good this year). My son has four restaurants in the county. It (the 8,000 *yuan*) is my pocket money.

The practice of *renqing* within kinship networks facilitates negotiation and bargaining in land transactions (Yan,1996), as the biological unpredictability of caterpillar fungus harvesting introduces variability and uncertainty into potential yields. Scholars have argued that, although marketization and the expansion of capitalist relations have challenged traditional kinship structures, kinship itself has not disappeared (Yan, 2009). Instead, kinship ties have been reconfigured to facilitate new forms of economic cooperation, resource pooling, and risk-sharing within the market economy (Wu et al., 2023; Xu et al., 2007).

Tsomo's husband also considered discussing a lower caterpillar fungus land payment with Mr. Min. They had not paid before digging but might have had an approximate price in mind. With the worse harvest, Tsomo would pay less due to their relative relations. The villagers continue to express ethical concerns about fairness during the land trade and division due to kinship among villagers. This reveals how the caterpillar fungus land trade has not become disembedded from its social relations (Polanyi, 1944). Because of these kinship relations between each family, the villagers maintain ethical concerns about fairness. Moreover, for those who work or live outside the village and do not return to dig for caterpillar fungus, the income from the sale of caterpillar fungus land is not their main source of income. However, with the trade in caterpillar fungus land and fewer and fewer young people due to migration, there is uncertainty about how labor participation in caterpillar fungus digging will occur in the future.

Moreover, due to low production of caterpillar fungus in 2022, the village committees were determined to start a patrol system (*xunshan*) after the caterpillar fungus season. Due to the other wild medicine growing on the caterpillar fungus mountains, people from Sunshine Village and other villagers came to dig the wild medicines, such as *qianghuo*, which villagers believed destroyed the growth of the caterpillar fungus, thus affecting the following year's production. "It means that you can't dig up *qianghuo* in the caterpillar fungus mountains. Digging up *qianghuo* with

the living worms coming out, caterpillar fungus won't grow the next year." Xiaolin explained. So the village committees established the patrol system to stop those from outside the village, as well as those from the village, from digging herbs on caterpillar fungus mountain. Five administrative groups were assigned by lottery for the five months from July to November. Each group then arranged to patrol the mountains on certain days of the month according to the number of people in each household (the number of *tuo* in the caterpillar fungus fields). Mr. Lin said: "Our group will go to the mountains in November. Two people in a group at a time, we have to take a video on a mountain and send it out to a WeChat group to prove we are in the mountains. If I take a picture of someone digging for herbs in the mountains, I will be rewarded with 500-1,000 *yuan*. The village committee will deal with that person who digs medicine." *Niangniang* Yeshe, around 60 years old, lived alone in the group near the road. The group arranged 3 days for each household in October. When I asked her how she participated in patrol, she replied: "I could not go since I have high blood pressure. My legs are also not working. So I had to find a relative to work the three days for me at that time." She had used the method of exchanging labor to work in a relative's home instead of patrolling. On the last day of November, also the last day of patrol for 2022, the village clerk went on the mountain patrol and came back to thank the villagers in the WeChat group for their patrol work.

Since the end of 1980s, the value of caterpillar fungus and the pursuit of fairness in Sunshine Village, as viewed by villagers, has led to an individualistic transformation in the division and distribution of the caterpillar fungus mountains—from the village, transitioning through groups, and eventually reaching households. Fairness is under both neoliberal market and collective contexts. Tsing (2013b) demonstrated that capitalist commodity value is created everywhere through tapping and transforming non-capitalist social relations. In the process, the commodity status of the caterpillar fungus engenders ongoing socio-spatial dynamics. This process is marked by two intersecting tensions. Firstly, collective land holdings have undergone a process of individualization, driven by the pursuit of personal interests. However,

collective relations persist, manifesting through collaborative endeavors or institutional mechanisms such as the patrol system. Furthermore, ethical considerations regarding equality, rooted in kinship ties and communal consciousness, endure within practices of land exchange and cooperative labor.

Caterpillar fungus precipitates a reconfiguration of human relationships, characterized by the simultaneous operation of kinship-based and market-oriented logics, both shaped by its ecological unruliness. While the nonhuman role of caterpillar fungus has been emphasized in studies of commodity chains, livelihoods, and its entanglement with local cosmologies (Sulek, 2010; Yang & Wangden, 2025; Yeh & Lama, 2013), this section foregrounds how the fungus actively shapes social relations and labor organization. Although the commercialization of caterpillar fungus has fostered individualism through land distribution, it reconfigures its relationship with collective solidarities and kinship networks, working towards a shared individual welfare within the context of neoliberal market forces.

4.3 Caterpillar Fungus for the Youth: From Livelihood to Experience

Caterpillar fungus as a new resource of livelihood has contributed to household wealth accumulation for rural Tibetans (Costello, 2008; Winkler, 2009; Yeh & Lama, 2013). Caterpillar fungus has reshaped trajectory of rural–urban migration in Sunshine Village, diverging from broader trends observed across rural China. Numerous studies have shown that intergenerational differences in migration are marked by a stronger preference among younger cohorts for permanent urban settlement compared to older generations (Yue et al., 2010; Zhao et al., 2018). According to Driessen (2017), most first-generation migrants who temporarily left Qinghe in the 1990s were motivated by poverty to seek urban employment, primarily to support their families financially. Their earnings were often used for purposes such as house construction, and many eventually returned to the village in old age. In contrast, during the same period, the rising market value of caterpillar fungus provided villagers in Sunshine Village with a viable income source that enabled them

to remain in the village. It created a significant gap between generations, particularly in how they perceive and relate to rural life.

In her book *Other Modernities* (1999), Lisa Rofel emphasizes the transformation of gender identity and desire among different cohorts across various Chinese historical periods, marked by changes in popular culture, urbanization, marriage and kinship patterns, and work trajectories. Over the past forty years, with the changes in the state regime, urbanization, and economic development following the Reform and Opening-up policy, caterpillar fungus has contributed significantly to wealth building for villagers in Sunshine Village, and influenced the lives of two generations. Young people are also increasingly involved in urban life through education and employment opportunities, initially facilitated by the wealth generated from caterpillar fungus. Compared to the generational differences in aspirations and expectations for urban life (Driessen, 2017), what stands out more prominently in Sunshine Village is the divergence between generations in their perspectives on caterpillar fungus and their relationship to rural life. As times have changed, for the youth of various generations, caterpillar fungus has shifted from being a primary source of livelihood to an experiential element, or even becoming distant from their lives. This shift reflects how subjectivity and desire among different generations are shaped by state discourse and economic status, with caterpillar fungus playing a significant role in this process.

4.3.1 The first generation: freedom, livelihood and regret

The middle-aged villagers (30-50 years old) represent the first young generation to experience the commercialization of caterpillar fungus and its rising prices. Growing up in impoverished conditions during the 1980s and 1990s, they began digging caterpillar fungus alongside their parents at a young age (around 10-16 years old). The pursuit of education became challenging during this time, leading many to abandon their studies. At that time, more labor would yield more caterpillar fungus. For them, digging caterpillar fungus provided a sense of freedom and achievement, offering immediate cash income for their families' livelihoods.

While riding back from the caterpillar fungus mountains on a motorbike, Thubten, 43 years old, who was driving, shared his recollection: “I began digging caterpillar fungus at 16 years old, after I graduated from middle school and stopped studying. I trekked the mountains with my brother, leading the horse. After a whole day of walking, there was no shelter.”

Tsewang, a 35-year-old man, had started digging caterpillar fungus at a similar age. As one of the few young adults in the village, he has undertaken the responsibility of organizing weddings and funerals for kin. During a break at a funeral, we engaged in a profound conversation about his life. “Our family faced hardships then, with our siblings,” he shared:

> I started digging for caterpillar fungus at the age of 12. I attended Sunshine Elementary School but only made it to the 3rd grade before discontinuing. My father was always drunk, adding to our woes. While my older sister managed to complete elementary school, I had to assist the family, which left me envious of her.

When I inquired about those times, he recounted, “Back then, there were no motorcycles or roads like today. We relied on horses to traverse the mountains, departing at 4:00 in the morning before sunrise and reaching our destination by 4:00 in the afternoon. Food was scarce; we carried only dried vegetables.” Then, he gestured towards the forest on the opposite mountain and mentioned that he had begun felling trees at the age of 13. “Look at Sunny Mountain’s forest; countless trees have been cut down. I acquired a tractor at 14 and began hauling trees. I got married at 18.”

The caterpillar fungus offered young people an opportunity to improve their livelihoods, mitigating their families’ financial challenges and staying in the village. For the youth, digging for caterpillar fungus became a means of finding enjoyment and achieving financial success beyond their typical domestic work and studying.

Xiaolin, a 39-year-old woman, had begun digging for caterpillar fungus after completing primary school. She mentioned, “As a child, I was content as long as I didn’t have to study.”

Chemi, at around 30 years old, might have been one of the youngest individuals in the village at the time of my fieldwork. She resides with her daughter, along with her mother, father-in-law, and her youngest brother, who is disabled. She inherited the house to be the head of the family. One afternoon, I visited their home and played with her daughter on the ground. We engaged in a casual conversation.

> I didn’t want to continue school when I was in the first year of middle school. That’s when we began harvesting caterpillar fungus. Our group of young people who weren’t in school went to collect it. We had fun exploring the caterpillar fungus mountains…My family faced tough times back then. The tuition was 480 yuan per semester, but our family’s annual income was only 200 yuan.

For this generation, their childhood had been marked by poverty. Digging caterpillar fungus had provided an opportunity for freedom and achievement amid financial difficulties and educational challenges. This is why scholars have argued that caterpillar fungus disincentivizes school attendance (Wang et al., 2018). Caterpillar fungus provided the means for young individuals to sustain themselves in the village and eventually start families. Sulek (2019) mentioned that in China’s new economy, gathering has become so lucrative that the income from it covers households’ financial needs and makes other occupations seem like a waste of economic energy.

However, after the 2000s, influenced by urbanization and the state’s development discourse, they have witnessed life beyond the village, and perceive urban living as more promising. Yeh and Lama (2013) argued that caterpillar fungus has incorporated Tibetan herders into the cash economy, but in a way that simultaneously marginalizes

them, making them vulnerable to the whims of Chinese urban consumer demands through a narrowing of livelihood options. Chen et al. (2017) point out that the discourse surrounding low *suzhi*, or population quality, portrays rural areas—along with ethnic minorities and China's western regions—as primitive and uncivilized. This stands in contrast to the high *suzhi* attributed to urban spaces and populations, which are seen as modern, developed, and culturally advanced. Amidst the discourse of a devalued rural China (Harwood, 2009; Yeh et al., 2013), the first generation has begun to complain about the hardships of farming, including digging for caterpillar fungus, and has regretted giving up studying at an early age.

In the conversation on the motorbike, Thubten remarked, "It would have been better to pursue education and gain some knowledge (*you wenhua*). We didn't continue our studies after middle school. If people have some education, they can seek work elsewhere, avoiding the toil of physical labor."

Xiaolin also expressed regret for not pursuing higher education, "I got married too early. The "9+3" policy[17] was conducted right after my older son was born. He was less than a year old, and I wished to study, but circumstances wouldn't allow it." She has an older son in high school and a younger daughter in middle school, living with her parents in their home in 2022. Her husband works outside the village. Following the caterpillar fungus season, she visited her husband's workplace, where she also worked to cover expenses related to the children.

After the caterpillar fungus season, Chemi also planned to seek work where one of

[17] The "9+3" policy refers to an initiative launched by the Sichuan Provincial Party Committee and Provincial Government in 2009, known as the "9+3" free education plan in Tibetan areas. The primary objective was to organize middle school graduates and high school graduates who had not continued to higher education in Tibetan areas to receive three years of free secondary vocational education in central and eastern China. After completing this education, the graduates could be recruited for roles in grassroots civil service, public institutions in Tibetan areas or the military, or be admitted to higher vocational colleges to further their studies. Sources: The People's Government of Sichuan (https://www.sc.gov.cn/10462/10464/10465/10574/2012/11/23/10236801.shtml) and Ministry of Education of the People's Republic of China (http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jyzt_2015nztzl/2015_zt12/15zt12_fpcx/201510/t20151016_213726.html).

her another younger brothers lived. This brother was working in a county as a public servant. He was among the first batch to join the 9+3 policy. Later, he served as a soldier in the special forces in Fujian. “Our people have good physical fitness. He was always ranked first or second in the army at that time,” Chemi proudly said. He then went to Shenzhen, returned to take a test, and eventually secured a job.

> At that time, I thought it would be good to become a public institution staff member, but I didn’t expect him to be a civil servant. They were allocated a dormitory; originally, his wife also had a dorm from their school. After they married, they obtained their own place… It’s all about luck. The boys in our village who were part of the first 9+3 program now have jobs…We girls were naive; none of us took the exams. What were we thinking? We were only focused on earning through work. Digging caterpillar fungus at that time was comfortable. I regret it so much and wish I had thought long-term. It’s not easy to secure a stable job...If I had taken the 9+3 route back then, I could have had a job. Instead, I would remain a farmer for life.

Chemi was full of envy for her brother. She had inherited the family home and was responsible for caring for the family. When I asked, “Do you want to leave this place in the future?” Chemi replied, “I had never thought about it,” and then she looked at her four-year-old daughter and added, “They will have to leave.”

Rather than working outside the village, Tsewang chose to feed yaks as an income supplement. In the spring of 2022, Tsewang purchased over 80 yaks and began herding them in the caterpillar fungus mountains alongside his wife. “If I were like you before I got married, I wouldn’t have gotten married. Now it’s all about the two children. We will try our best to provide for them, and it will be up to them whether they have that fate in the future.” Tsewang has two sons enrolled in middle and high school in the county seat. He complained:

> These kids nowadays wear brand-name clothes. I’ve never even worn

them. My son bought a pair of shoes for six or seven hundred yuan and bought two clothing items for a total of 2,000 yuan in the county seat. We can't even spend two thousand on clothes for a year. I mentioned, "I can't afford you guys in high school"; they'll know more about brands.

For the generation aged between 30 and 50, caterpillar fungus provided a significant livelihood resource, contributing to their engagement in village life and their children's education. During their youth, caterpillar fungus had provided enjoyment and a sense of freedom (Stewart, 2014; Tsing, 2013a), offering an escape from the challenges of studying. However, with urbanization and the decline in caterpillar fungus production, people began to recognize the importance of education and developed a yearning for city life. They now aspire for their children to pursue higher education and seek employment opportunities outside the village, hoping that the new generation will choose a different path.

Caterpillar fungus not only facilitates wealth accumulation for young individuals to participate in village life, but also enables their migration to distant places. For younger villagers (25-40 years old) who migrate to urban areas with unstable work, caterpillar fungus provides an opportunity to venture into business in urban regions. "Most people from our village who are living outside the village are doing a little bit of caterpillar fungus business," mentioned Yangjian, Gyatso's youngest brother. He had joined in the digging during a brief visit in 2020, and had returned at the end of summer after caterpillar fungus season in 2022 with some friends from *weishang* (running a small business through WeChat).

During a conversation in the kitchen after serving his friends, he spoke about his previous business ventures in herbs.

I began the caterpillar fungus business around 2014 or 2015,

> collecting it in Shiqu.[18] But I realized it requires a significant amount of cash. So, I chose to act as a middle broker without handling the collection. If a customer needs caterpillar fungus, someone places an order through me, and I arrange for it to be sent directly to the customer. Now, transactions mainly occur through microbusinesses, and all prices are immediately known within our circle. Previously, information was more closed, creating room for profit. Now, the price margins have narrowed, making it harder to earn. The price details are openly shared within circles of friends. This transparency has made it difficult to earn a decent margin.

Despite his current involvement in parking services, he continues to serve as the middle broker in the caterpillar fungus business, providing him with financial support and access to urban life.

Yang Shu, the only young person who returned from the city in 2022 to participate in the caterpillar fungus digging, has settled in Chengdu. He runs a bar and also sells Tibetan clothes. His parents and younger brother have moved to the county seat to manage a hotel. Yang Shu mentioned, “The business has been affected by the pandemic, so I returned to focus on harvesting caterpillar fungus.” Caterpillar fungus had previously enabled their family to build wealth when they had moved away.

Consequently, migrant workers from Sunshine Village are engaged in the caterpillar fungus business to varying degrees. This involvement in the caterpillar fungus trade provides them with a gateway to urban entrepreneurship, building wealth not only for the villagers but also for those who migrate to urban areas.

4.3.2 The second generation: education funding and the tourist experience

[18] A county in Garze.

Zhang and Wu (2017) note that as smallholder livelihoods have become commodified, families have been compelled to reallocate labor to optimize income—often resulting in younger, more productive members moving away from agriculture into non-agricultural employment. Thus, caterpillar fungus has contributed to the education of the village's younger generation, enabling them to engage in non-agricultural work. Most individuals under 30 years old have pursued or completed vocational school or college, largely due to the wealth generated by caterpillar fungus. With the improved living conditions in the 2000s, their parents focused more on their children's education. The parents aspired for their children to pass exams for civil service or public institution positions like teaching, medicine, or nursing. As such, digging for caterpillar fungus has become a representation of the farmers' hard work and experience.

Wealth from caterpillar fungus provides significant material resources for young people today. For those in middle and high school, children's monthly living expenses range from 800 to 1,200 *yuan*. At the time of my fieldwork, one of my former students was studying at a technical secondary school in Leshan. His monthly living expenses are around 2,000 yuan, and the annual tuition exceeds ten thousand yuan. His younger brother, studying in middle school in the county seat, receives 200 *yuan* as pocket money per month. Gyatso's older daughter attends a technical secondary school in Chengdu, and her monthly living expenses amount to around 3,000 *yuan*. Thus, caterpillar fungus has indeed provided economic support for young people. However, relying solely on caterpillar fungus is becoming increasingly unsustainable.

Caterpillar fungus has improved the education of the younger generation but created a significant gap between them and their parents, keeping them away from the village. While residing in Tsomo's tent on the caterpillar fungus mountains, I engaged in a lengthy conversation with an elderly couple about their younger son who they were concerned about. They had two sons, born a year apart. Times had been tough when both were studying at university, and their entire income relied on caterpillar

fungus and other herbs. The older son had graduated and become a teacher. However, the younger son had faced a setback when he had not gotten into graduate school on his first attempt and was now studying at home. Tsomo expressed her anxiety, "Caterpillar fungus isn't yielding much now; we're toiling hard, but the returns are minimal. It's putting too much pressure on us."

Her husband added:

> Previously, to support two college students, it cost us around 50,000 to 60,000 yuan a year. Our younger boy has grand aspirations, and as long as we can afford his examination fees, we'll support him. His exam is scheduled for December. We suggested he take the civil service exam after the graduate school test, but he declined. Initially, he didn't reside in the university dorms, claiming it hindered his studies, and he rented a home in Chengdu for 1,200 yuan a month. We couldn't afford it anymore, so earlier this year, we requested he continue his studies at home.

One summer afternoon, I encountered Tsomo's younger son at their residence. He had studied automation (a major with promising prospects) at Southwest Petroleum University, a renowned institute. However, he was uninterested in working in the oilfields, finding the environment dull and unappealing. He also had no inclination toward the civil service examination or a lifelong career. Instead, he aspired to pursue a white-collar job in the CBD (central business district) and wished to undertake a graduate finance program at the University of International Business and Economics. Yet he believed that the university education was neither beneficial nor relevant to his plans, often stating, "It's not what I imagined."

When I asked if he had considered the worst-case scenario, he paused and replied, "If I fail again, I'll work but will retake the exam. Only then will I have more choices." He mostly stayed in his room studying, only emerging for meals with the family and remaining within their courtyard. When villagers passed by, I would greet

them, and once they left, I informed Tsomo's younger son who they were. He remarked, "You seem to know everyone. I don't know anyone here except those from our own village. I feel I'm the opposite of you; you're heading toward the village while I'm aiming for the city."

Urban China is often idealized as a hypermodern utopia, portrayed as a place where rural youth can reinvent themselves and break free from the hardships and poverty associated with rural life (Harwood, 2009). H. Yan (2003b) contends that the post-Mao culture of modernity has engendered both epistemic and material marginalization of the countryside, fundamentally reconfiguring rural–urban relations. This process has deprived rural youth of the capacity to construct meaningful identities, leading them to perceive the rural as a space marked by death and exclusion. Even though the young physical body remained in the village, it had already become a stranger in this familiar place. Tsomo's younger son remained in the village for nearly a year, yet he rarely interacted with anyone beyond his immediate family. He also did not cultivate social connections with any other villagers. He expressed a conviction that he did not belong in the village; even if he had failed the exam, he expressed a preference for pursuing employment opportunities in urban areas. These people can be said to have become disembedded from local social structures (Giddens, 1992). Giddens (1992) argued that modern social life is deeply shaped by the restructuring of time and space, along with the rise of disembedding mechanisms that detach social relations from specific local contexts and reconfigure them across vast time-space distances. They act to transform day-to-day social life.

While caterpillar fungus has supported their education, it has also distanced them from their village in terms of social relations. The younger generation's perceptions of society, careers, and their futures are shaped by their education, primarily funded by caterpillar fungus. However, the schools were thoroughly non-peasant institutions (Kipnis, 1997, p. 178).

Moreover, passing the civil service exam or securing a position as staff in a public institution becomes most young people's goal after graduation, which algins with the villagers' values. Some of them spend around two years in the village preparing for the exam. Kelsang, who is under 30 years old, has been a primary school teacher for six years, having graduated college two years before passing the teacher's exam. One summer day, I visited the lowest village in Sunshine Village, where Kelsang's aunt owns a farm stay by the road, having run it for around 20 years. On that day, Kelsang's aunt was away, and Kelsang, who was on summer holiday, was assisting in managing the farm stay and serving customers.

She had spent two years in the village preparing for the exam and failed the first time. "Only three out of 300 applicants were accepted," she said. "I was under immense pressure; all the villagers and relatives asked if I passed the exam. I lost weight during that time. I went to the caterpillar fungus mountains to dig for caterpillar fungus. I could harvest 20-30 pieces a day, which was not a bad result."

When I asked her, "Which is better, digging for caterpillar fungus or going to work?" She smiled and said, "Working is more comfortable. Digging for caterpillar fungus is too tough." Her mother was in the mountains digging *qianghuo*, which is tougher than digging caterpillar fungus. She remarked, "Farmers still work hard."

Young people perceive digging for caterpillar fungus as demanding agricultural labor. However, their living expenses and educational costs, funded by the income from caterpillar fungus, are provided by their parents. Digging for caterpillar fungus becomes experience for young people to taste both the plateau landscape and the hard work their parents had undertaken.

I met Karma's younger son in the caterpillar fungus mountains. He had studied nutrition and had just graduated from college. Before starting his placement in Guangdong, he had visited home for a few days and come to the caterpillar fungus

mountains for the first time. His mother was excited and proud to show off her son, and other villagers were also discussing his arrival. The young man was dressed in outdoor clothing and seemed excited. He proudly displayed a piece of caterpillar fungus he had found on the first afternoon and some bulbs of the fritillary. He mentioned, “I got to know a lot of plants on the mountains.” His enthusiasm was akin to mine, or that of a traveler experiencing new sensations in the 5,000-meter-altitude mountains. He also posted a short video to share his experience and views of the caterpillar fungus mountains on his social media.

Norbu, from one of the poorest families in the village, had just started university in the fall of 2023. His father had passed away while in the caterpillar fungus mountains when Norbu was around ten years old. During his high school summers, he began digging *qianghuo* and collecting herbs to support his family and pay his tuition. He had only dug caterpillar fungus once during his high school holiday and shared his experience:

> The first thing I learned from digging for caterpillar fungus was how dangerous it could be. I went up there in the middle of April, when the ice hadn’t yet melted. I rode my motorcycle up alone, and the road was icy, with a very narrow bridge at the time. When I reached the mountain, it was quite good as I wasn’t too tired. Around eight, nine, or ten o’clock in the morning, I leisurely made my way to the caterpillar fungus mountains to collect, and there were many people, so it was quite enjoyable. Seeking caterpillar fungus didn’t involve running around; I just lay on a patch of ground, slowly searching. Therefore, it wasn’t tiring on the caterpillar fungus mountains. In the evening, returning to the shed was cozy. After a day of digging caterpillar fungus, everyone gathered in the shed, singing, drinking tea, and so on.
>
> For me, it was quite enjoyable because I approached it with a playful mindset, going to the mountain to explore and wander. But for the fathers

> and adults, it might not have been the same. They might not have found caterpillar fungus that day, they might not have earned money, and they might have felt a bit disheartened. It's important to experience the challenges of life and understand the hard work of our parents.

Norbu demonstrates the difference between the younger generation digging for caterpillar fungus and the adults' digging. While the younger generation approaches digging for caterpillar fungus with a playful mindset, for the adults in the village, it is intertwined with their livelihoods. What is enjoyable for the youth had been a serious occupation for Chemi's generation—their primary source of income and a significant part of their life's hard work. However, for Norbu's generation, it was more of a temporary experience.

Most young people have never been to the caterpillar fungus mountains. As Tsewang's (the former village head of a neighboring village) older daughter said, "Our generation doesn't even know where the caterpillar fungus mountains are." Laktse has also never been to the caterpillar fungus mountains, and used the word "occupation" to describe the meaning of digging caterpillar fugus for the villagers in the past. She described this as happening *in the past,* as their family has not been involved in digging for caterpillar fungus for several years, and has sold their areas to villagers. Her father is currently employed as a policeman in a neighboring town, while her mother works as a server in hotels. Her younger brother recently completed middle school in the county seat and has started high school. She explained:

> In the past, our family dug for caterpillar fungus when my grandpa was still alive. It used to feel like something we had to do every year, an occupation for the season and our primary source of cash income...Due to over-exploitation, the resources have significantly dwindled. Over the last few years, this term has appeared less and less in my life. There's the objective reason of its diminishing availability, coupled with our family not engaging in this activity for a long time. So, digging for caterpillar

> fungus isn't as prevalent as before. Nowadays, the main focus is on part-time work and other endeavors. Digging for caterpillar fungus has rarely appeared in my life.

Caterpillar fungus has contributed to the education of young people; at the same time, they feel that it is distant from their lives. From livelihood to experience, caterpillar fungus has not only sent them elsewhere, but has also weakened their social relations within the village. Instead, they have become involved in urban life. As mentioned by Kipnis (2019), education desire reinforces China's unrelenting urbanization. After long-term education in school, children no longer desire agricultural careers. Young people who desire urban lives are both a necessary (though not sufficient) condition for the expansion of urban areas, and a driving factor behind the shape of China's urban labor markets.

Yan (2003) observed that the emergence of individuality in rural China is most evident in increased autonomy, deeper emotional bonds, and growing personal aspirations across generations. Young villagers, in particular, are more attuned to social change and exhibit stronger individualistic tendencies than their parents. Galipeau (2021) discovered that vis-a-vis agricultural labor for the winery in the caterpillar fungus production area, gathering is a means for local Tibetans to emancipate themselves from capitalist labor, reverting instead to communal modes of income generation founded upon community land tenure and shared resources. Initially, for the first generation, harvesting caterpillar fungus represented a pathway to liberation from capitalist labor, enabling them to escape poverty and amass wealth. However, within the context of the prevailing discourse devaluing rural China (Harwood, 2009; Yeh et al., 2013), they did not revert to communal modes of income production. Instead, aspirations towards urban life are fostered, and lower education levels are considered inadequate. There is a desire among them to engage in capitalist labor and urban life. For the second generation, nurtured in material sufficiency through the wealth accrued from caterpillar fungus, aspirations and consciousness

have shifted. From an early age, education sponsored by caterpillar fungus earnings propels them towards urban areas, where engagement in capitalist labor becomes their aspiration and perceived sole avenue to success. Therefore, across generations, the significance of caterpillar fungus has transformed from a means of livelihood to a formative life experience, reflective of shifting desires and subjectivity.

4.4 Conclusion

One summer afternoon in 2022, while supervising the English club as requested by their parents, I observed several young boys of middle and high school age playing basketball on the same grounds where I had volunteered thirteen years before. Suddenly, I overheard other boys referring to Tsewang's son as "*fuerdai* (富二代, the rich second generation)." When I inquired why they had called him that, they explained that his family owned at least 80 yaks. This was an example of caterpillar fungus leading to wealth building, which in turn, integrated the children of the wealthy into urban life, adopting urban lifestyles and ideologies along the way.

The cash income from caterpillar fungus has facilitated villagers' integration into the commercial market and urban areas, changing their lives. Caterpillar fungus has reshaped the trajectory of rural–urban migration in Sunshine Village. Unlike the broader pattern of first-generation rural migrants who sought urban employment primarily to earn money for their families, many in Sunshine Village were able to remain in the village and accumulate wealth through the caterpillar fungus economy. This income enabled them to invest in the education and urban engagement of the younger generation. As a result, caterpillar fungus not only altered migration dynamics but also contributed to significant generational differences in perceptions of rural life and the role of natural resources in shaping future aspirations.

This chapter delves into the evolving significance of caterpillar fungus across different generations, transitioning from livelihood sources to experiences. This

illuminates its shifting relationship with life desires. The younger generation, benefiting from more favorable material conditions for profiting from caterpillar fungus, now seeks to participate in the capital markets and urban life, reflecting a divergence in subjectivity and life desires across generations, influenced by the shifting times, not only in Tibet but also throughout China.

Despite numerous factors such as climate change and market prices, caterpillar fungus itself plays a crucial role in preparing for shifts in desires, potentially facilitating villagers' involvement in urban life. As young people moved to urban areas, middle-aged and elderly women took on the responsibility of caring for their grandchildren, a shift influenced by pigs.

Chapter 5 Reassembling Lives through a New Pig Breed: *Niangniang*s' Mobility

The conspicuous presence of pigs with ebony coats roaming freely throughout the mountain village caught my attention in 2009. Every household raised their pigs to range freely, and ultimately slaughtered them and preserved their pork on an annual basis. Proudly referred to as *Zangxiangzhu* (藏香猪, Tibetan pigs) by the villagers, their delectable taste was a point of emphasis.

Preserved pork has long been the predominant meat source in Sunshine Village. As such, slaughtering pigs at the end of the year and preserving the pork is a significant household event. Strips of preserved pork hung from the ceiling of every household's pantry or kitchen for consumption year round. Pigs are primarily raised for preserved pork for personal consumption, rather than as a source of cash income. During my time at the school in 2009, I visited every family and was regularly offered meals featuring preserved pork as a gesture of hospitality. The village head also gave me preserved pork as a measure to improve my standard of living. Also, the villagers taught me how to cook the preserved pork with vegetables and make a soup.

Thirteen years later, the villagers' hospitality had persisted, as had the dish featuring preserved pork—strips of preserved pork still hung from every household's ceiling; however, the Tibetan pigs had disappeared from the village landscape. Where were the pigs? The pigs' disappearance raises several questions: When and why did Tibetan pigs disappear from the village? From where is the preserved pork now sourced? How did the changes in pig breeds interact with the way of life in the local community? What has been the impact on the lives of the key pig breeders—the

niangniangs[19] (嬢嬢, aunties)?

5.1 The Missing Taste of Tibetan Pigs: The Transition to Hybrid Breeds (2010-2020)

Lhamo, one of the few farmers still engaged in commercial pig rearing, was a neighbor of Gyatso's family. I would frequently pass her home and would often engage in conversation with her. When I inquired about the pigs' disappearance from Sunshine Village, Lhamo kindly showed me her group of eleven ebony piglets in the pigsty while explaining:

> The breed of the pigs has changed. We used to raise *Zangzhu* (Tibetan pigs), but now we raise the *Dunaoke* which love to dig in the ground. If they are not confined, they tend to root others' crops.

Dunaoke literally means "single braincase". But these pigs appeared large and healthy. In addition to the black pigs, there were more white pigs. I heard the same pronunciation from other villagers when they introduced the pig breed which they fed. I was confused about the name of the pig breed and sought clarification based on the pronunciation in the Sichuan dialect. This led to the discovery of the breed's name "Duroc",[20] with an English pronunciation similar to the Sichuan pronunciation of *Dunaoke*. Duroc is one of the most popular modern breeds in China, alongside Landrace and Yorkshire types; the three are commonly abbreviated as "DLY" (Lander et al., 2020).

The villagers had shifted from raising the local Tibetan pigs which had previously been their pride and joy, to importing crossbred Duroc pigs. The pigs' disappearance

[19] *Niangniang* is a term in the Sichuan dialect for "aunty". In this chapter, it refers to women aged between 50 and 70.

[20] The Duroc pig breed was developed in the United States and has been improved to increase its lean meat percentage. From Lonergan SM, Huff-Lonergan E, Rowe LJ, Kuhlers DL, & Jungst SB. "Selection for lean growth efficiency in Duroc pigs influences pork quality." *J Anim Sci*. 2001 Aug; 79(8): 2075-85. doi: 10.2527/2001.7982075x. PMID: 11518215.

from the village had been due to a change in feeding practices from free range to captive breeding, triggered by a change in pig breed. Yet the following question arose: when did the hybrid pigs replace the local Tibetan pigs in Sunshine Village?

Gyatso's husband, Mr. Lin who had moved to Sunshine Village from a neighboring county upon marriage in 2012, remarked, "Duroc pigs have been present for 20 or 30 years, since I was a teenager. Duroc and Landrace pigs have always been here." Initially, I assumed he might have been from a different county, with its own unique pig-raising conventions. However, his statements aligned with the records from *Danba Xianzhi* (丹巴县志, *Danba County Annals*): "Neijiang Yorkshire, Landrace, and Rongchang Duroc pigs were introduced to improve crossbreeding with local pigs in Danba County in the 1970s. A hybrid of Landrace and Duroc pigs then emerged among pigs in the county (Danba County Annals Compilation Committee, 1996, p. 223)." Despite the introduction of hybrids in the 1970s, I vividly recalled encountering Tibetan pigs in 2009, and even took several pictures related to them, but strangely had never heard of the hybrids at that time in Sunshine Village.

To gain further insight, I visited my former neighbors, the elderly couple Mr. and Ms. Yang, whose house was adjacent to the school where I had previously volunteered. When I had boarded at the school in 2009, I regularly saw their black pigs roaming around. Uncle Yang proudly indicated, "They are *Zangxiangzhu* (藏香猪, Tibetan pigs)." They had raised three pigs in the pen since the beginning of the 2022. Uncle Yang mentioned, "*Zangzhu* (藏猪, Tibetan pigs) haven't been raised for years...When you were here, Duroc, Neijiang, and Tibetan pigs were all here. The free-range pigs were Duroc or Landrace." *Niangniang* Yangchen said: "The breed hasn't changed. Some of the previous pigs wouldn't grow, while others grew well with big ears." But Jigme's father, the former village head, recalled, "Originally, it was the Tibetan pig, but not anymore. The pig breed changed years ago." Pinpointing

the exact year of the transition from Tibetan pigs to Duroc, Landrace, or hybrids is challenging, but Tibetan pigs had surely disappeared from the village landscape within the past decade. More villagers were now using terms such as “previous” and “now” to describe Tibetan pigs and Duroc pigs. From the numerous black Tibetan pigs roaming the village in 2009 to the pigs’ disappearance from the village’s landscape in 2022, it can be concluded that the local Tibetan pigs had vanished during the previous decade. But the hybrid pigs had been introduced in 1970, prompting the question of why it had taken decades for the Tibetan pigs to be replaced in Sunshine Village. Furthermore, it is worth noting that the villagers did not use the term “*Zangxiangzhu* (藏香猪, Tibetan pigs)” when referring to the Tibetan pigs at the time of the research. Instead of using the well-known name “*Zangxiangzhu* (藏香猪, Tibetan pigs),” they used the term “*Zangzhu* (藏猪, Tibetan pigs),” omitting the character “*xiang* (香, tasty).” The omission of the character “*xiang*” indicates that the villagers’ previous praise for the Tibetan pigs has now turned into criticism. Why aren’t Tibetan pigs (*Zangxiangzhu*, 藏香猪) as tasty (*xiang*, 香) anymore? With the “*xiang*” missing, the villagers provided two main reasons for the abandonment of the local Tibetan pigs during the previous decade.

The first reason stemmed from concerns over the diminutive size and sluggish growth of the local Tibetan pigs. As expressed by Gyatso’s husband:

> Raising Tibetan pigs is difficult. They grow slowly and won’t reach a significant size. They only grow to around 50 to 100 kg, a measurement deemed insufficient for our needs. Feeding them more would require an excessive amount of grain, which our labor cannot support.

This sentiment prevails across the community. Nowadays, a household in the village usually raises two or three pigs. In the past, *Niangniang* Yangchen recalled, “I used to raise more than a dozen pigs. Now I feel tired even raising three pigs.” The

hybrid pigs demonstrated higher productivity than the native pigs. China's first nationwide survey of native livestock in 1960 identified over a hundred distinct indigenous pig breeds (Cheng, 1985). However, the survey found that two decades of importing foreign pig breeds had caused the extinction of eight native breeds, placed thirty-one at risk, and led to a population decline in 85% of indigenous pig varieties (Cheng, 1985; Frantz et al., 2016; Yang, 2013). According to an official from the livestock division of China's Ministry of Agriculture, by 2010, more than 90% of pork in China was produced using DLY pigs and native–exotic crossbreeds (Lander et al., 2020). The disappearance of native pig breeds is attributed to the dominance of productivist logic in state policies concerning rural areas (Chen et al., 2017). McOrist, Khampee et al. (2011) mentioned that the native pig breeds have rarely been involved in recent expansions or consolidations of concentrated animal feeding operations due to their lower prices and slower growth rates. Instead, the villagers have pursued larger pigs with a shorter time frame and all households now buy *jiazi zhu* (架子猪, hybrid feeder pigs) to feed for a shorter period (normally 1-6 months) before slaughter. In short, the local Tibetan pigs have not aligned with the villagers' pursuit of efficiency and productivity in recent decades, principles championed by modernity, even in secluded rural minority areas. Why then hadn't the local Tibetan pigs satisfied villagers' productivity requirements in past decade?

Figure 6: A local Tibetan sow (left) and her piglets in 2009, and the hybrid pigs (right) in 2022.

This is also related to the context of urbanization and the decline in rural labor. Returning to Sunshine Village after thirteen years, I found that apart from the disappearance of the pigs, the population living in the village had also decreased along with the process of urbanization. Since the initiation of its economic reforms in 1978, urbanization has proliferated throughout China (Shen, 2006; Zhang, 2002). The release of the National New-type Urbanization Plan (NUP), which emphasized people-centered urbanization (Chen et al., 2018), marked a decade of rapid urbanization that involved Sunshine villagers in urban realities during the 2010s. In people's minds, a dense discursivity has denigrated the rural condition as being empty of significance and meaning (Driessen, 2018). Urban areas in China are often seen as symbols of progress and modernity, representing both the imagined future and the embodiment of development (Yeh & Makley, 2019).

Sunshine Village now faces a challenge common to many rural villages in China: a shortage of laborers under the age of 30. For instance, in Gyatso's household, which may have the largest landholding in the village at 9 *mu*, only *Niangniang* Yangchen remains to tend the land. *Niangniang* Yangchen has two daughters, Gyatso and her younger sister, who are married, the former residing with Yangchen and her husband in the village and the latter in another village. She also has two sons. One son is married and works in the neighboring county, while the other works in Chengdu. In the household, Gyatso's father tends the nursery, while Gyatso brings her son to work in the township school during weekdays, and her husband gathers non-timber forest products (NTFPs) most of the time. *Niangniang* Yangchen cares for the land, crops, pigs and cattle every day. During busy farming periods, such as harvesting season, Gyatso, her husband, and their father stay to assist. Lander et al. (2020) have shown that more and more rural residents are abandoning pig farming and moving to urban areas, where they contribute to China's growing economy as low-wage workers.

Schneider (2017) noted the government's project of separating people and pigs, whereby people are brought together in "modern" apartment buildings, while pigs are

housed in “modern” pig barns. However, since they believe that grain-fed pigs are healthier and tastier and most of the crops they cultivate are intended for pig feed, the villagers insist on using the grain which they grow to feed their pigs. Raising small Tibetan pigs requires raising more animals, which in turn requires more grain and additional labor, for both feeding the pigs and for crop cultivation. The reduction in labor over the past decade has made it difficult to grow more food in order to feed additional Tibetan pigs. Li’s (2010) research corroborates the finding that rural-urban migration has increased the costs of rural labor, culminating in a national decline in household swine husbandry. With these factors in mind, hybrid pigs have been shown to be more adept at satisfying the villagers’ desires. Moreover, the rapid urbanization and population decline during the 2010s may explain why Tibetan pigs in Sunshine Village were replaced over the decade leading up to my 2022 fieldwork.

The second main reason is the preference for lean meat, which has been influenced by urban values. During a journey from the county seat to the village, I revisited this query: why are Tibetan pigs no longer being raised? A villager from the neighboring village sitting next to me responded, “Local pigs tend to be excessively fatty, as thick as the palm of your hand,” demonstrating with hand gestures. She continued, “Fatty meat is no longer appealing; the preference now veers towards lean meat.” The driver also chimed in, “Now we raise the *shourou zhu* (瘦肉猪, pigs with a high percentage of lean meat), a delectable amalgamation of fat and lean layers.” In Sunshine Village, when Mr. and Ms. Yang showed their three pigs in response to the question “Are they Duroc?”, they emphasized that their pigs were *shourou zhu,* instead of using the terms “Duroc”, “Landrace” or “hybrid pigs”. Ms. Yang emphasizes: “I used to raise Tibetan pigs that were not too big but fat. This *shourou zhu* is delicious, one layer of fat and one layer of lean, also big.” Their assertion that they specialized in lean pigs echoed the pride with which they had proclaimed their rearing of Tibetan pigs thirteen years before.

The preference for lean meat also reflects how the villagers' standards and awareness of bodies—from pigs to humans—have been reshaped by the social transformation of urbanization and marketization. One study has reported that the demand for pork products in China derived from lean Western breeds has been growing steadily in the 21st century, with a predicted annual growth rate between 4% and 7% (McOrist, Khampee et al., 2011). Lander et al. (2020) pointed out that modern hogs, in contrast to the gregarious, omnivorous domestic pigs of premodern China, are bred to convert the least amount of grain and oilseed-based feed into the highest amount of lean muscle in the shortest possible time. The aim of this selective breeding is to produce pigs explicitly adapted to survive and thrive in industrial conditions. Moreover, during research in the rural areas of the lower Yangzi Valley, Huang (1990) reported that the sunburnt skin characteristic of women who worked in the fields was a reason for youth to flee the countryside for urban jobs, as it violated Chinese standards of beauty. However, Kipnis (1997) has argued that peasants prefer a wife (or daughter-in-law) who is hard-working to one who is beautiful, based on research conducted in a Northern China village in the 1990s. With the modernization and urbanization in China in the past three decades leading up to my 2022 fieldwork, this preference for lean meat as an urban value has percolated from urban to rural areas, infiltrating even the hinterlands and influencing remote rural enclaves. The villagers favored lean meat, with some women even selectively picking lean portions from dishes, while eschewing fatty components, reflecting their acute awareness of their physiques. The same demand for a high percentage of lean meat in pigs also extends to the human body, particularly among women. The appraisal of others' svelte legs or lamentations about their own stomachs is also routine during gatherings.

With the "*xiang*" missing, the shift in pig breeds reflects a dynamic mindset among villagers, who have been influenced by urban values as they encounter urban realities. Villagers have been engaged in rapid, people-centered urbanization over the decade leading up to my 2022 fieldwork. This transformation is characterized by a relentless pursuit of efficiency and productivity, and a preference for lean meat. The

shift in pig breed has also reshaped the methods of obtaining and feeding pigs, marking a significant change in the village's practices. Veeck et al. (2017) mentioned that under the influence of urbanization and marketization, traditional pig-related rituals may have waned or been transformed. Additionally, they have influenced human-pig relations.

5.2 The Detachment of Pigs from the Household

Following the shift in pig breeds, a notable change in the village has been the sight of empty pigpens and the absence of sows. Villagers have transitioned from year-round pig rearing to purchasing mature pigs starting in the middle of the year. Each family then cares for these pigs for 1-6 months, raising them for eventual slaughter before the Spring Festival. Some villagers even acquire entire pigs directly from small farms near the county seat, slaughtering them and returning the pork to the village. Consequently, many pig pens remain empty for extended periods, and sows are no longer present in the villages for significant durations. This shift has reshaped the dynamics of human-pig relationships within households, particularly in terms of acquisition, spatial arrangements, and emotional ties to the animals.

Lander et al. (2020) argued that although pigs have held an important role in China's economy, they have been regarded as valuable commodities wherever markets existed. The shift from maintaining sows for breeding purposes to the annual purchase of *jiazi zhu* has commoditized the relationship between humans and pigs. Mr. Lin elucidated:

> Maintaining a sow is arduous, especially during winter when there is a shortage of pigweed for their sustenance. Furthermore, our commitments to harvesting caterpillar fungus leave us with no capacity to care for the sows.

Tashi also recalled:

> In the past, we used to raise sows, and in February and March, they would

> give birth to piglets. The sows would always be kept year after year, so grain was consumed early. Before we raised Tibetan pigs, the largest sow would only grow to about 100 kilograms, usually weighing more than 50 kilograms. Back then, our local corn wasn't of good quality, and the yield was too low—it simply wasn't enough to feed them.

Keeping sows year-round rather than buying *jiazi zhu* outright puts pressure on villagers in terms of labor and grain production. Consequently, villagers have opted to cease raising sows and instead purchase *jiazi zhu*. Thus, sows have gradually disappeared from villagers' households, with villagers beginning to purchase *jiazi zhu* every summer. After the caterpillar fungus harvest each year, villagers determine how much labor they will have and the demand and price of pork. With this information, they begin purchasing hybrid feeder pigs one after another.

The act of purchasing pigs has become a significant event for households due to their expense. Discussions among villagers center on where households buy pigs, their price, quantity purchased, and weight. Purchasing decisions are influenced by factors like price per kilogram and the pigs' weight. For instance, in late June 2022, Gyatso and her husband drove to a village near the county seat to buy pigs. Before that day, a relative came to Gyatso's home to show videos of pigs from different pig farmers in his contacts through WeChat. The first farm only had pigs weighing 150 kilograms. Gyatso's father watched the pigs in the video and remarked, "This one's too big, too fat, looks like it's been fed a lot of feed." Therefore, they chose a different pig farm with lower prices and lighter pigs. They had chosen this pig farm over the pigs from their neighbor Lhamo because Lhamo's pigs were still small. Gyatso's husband explained their intent:

> They won't be big enough to raise by Spring Festival. It's appropriate to buy pigs that weigh about 100 kilograms, raise them for half a year, and then they will weigh 150 or 200 kilograms before the Spring Festival, so it's just right to slaughter them.

Pigs that are either too small or too big are not suitable. Their aim in buying pigs was clear: to produce pork before the Spring Festival. In the pig farm, Gyatso and her husband selected two pigs, each weighing around 50 kilograms at first. Gyatso's husband told me: "The one with big ears and thick legs grows bigger." However, the pig farm refused to sell only the medium- and small-sized ones. Consequently, they had to choose a larger pig along with two medium-sized ones. Thus, they ended up purchasing two pigs weighing a total of 125 kilograms and one weighing 150 kilograms and were pleased with the price they had negotiated: "4 yuan a kilogram, which saved more than 1,000 yuan compared to last year. A big achievement this year...It does not matter whether pork prices rise again."

Thus, acquiring pigs has morphed into a market-oriented behavior. Some households now buy pigs only one month before slaughter. Increasingly, families procure whole pigs directly from pig farms, slaughtering them on-site and bringing back only the pork. A villager said, "We have not raised pigs for ten years. It is comfortable (easy) to buy the whole pigs (to kill directly)." At that time, the villagers preferred grain-fed pigs. Consequently, price, size, and the feeding method became significant factors in villagers' purchasing decisions. The goal is to produce 150 to 200 kilograms of pork from each pig before the Spring Festival.

Access to pork has shifted from the year-round breeding of sows to purchasing hybrid feeder pigs for the purpose of producing pork. According to villagers' discourse, each household could consume two to three pigs, around 250 kilograms to 450 kilograms, for the whole year. In the beginning of October, Tsewang bought two pigs, one weighing 180 kilograms and the other 130 kilograms, raised them for a month, and one grew to 200 kilograms and the other to 150 kilograms before slaughter. He said, "There is still one more to go to slaughter in about ten days. Otherwise, 350 kilograms a year is still not enough to eat." When I expressed surprise that the family had to consume so much pork, Tsewang remarked, "When you're out,

you have to buy a few kilograms of pork for each meal, and if you calculate it, you'll find out that it's not necessarily less than this in a year." Thus, the relationship between pigs and humans has been commoditized and marketized. Nemeth (2017) argued that from pre-modern agrarian settings to the contemporary era, pigs' role has evolved from being mere livestock to becoming a valued commodity in the form of pork. Lander et al. (2020) discussed how the historical partnership between humans and pigs has shifted in recent decades. While the relationship initially began as a partnership, the rise of industrialized pork production has led to a dynamic where humans now raise pigs in a manner that could be described as exploitation. Villagers now encounter pigs only as a pork "product" (Cook, 2015), rather than as members of their household. This shortened pig-rearing duration has weakened the bond between humans and pigs.

Additionally, the relocation of pens away from homes reflects pigs' detachment from households. In the traditional Gyalrong Tibetan houses of Sunshine Village, pigs have been raised on the ground floor of the three-story houses. These houses, mostly constructed during the 1980s and 1990s, adhere to the traditional architectural style, featuring red and white colors, stone and log construction, and encompassing three floors. The ground floor typically houses livestock pens for pigs and cattle, along with a kitchen designated for preparing livestock feed. Human activities occur on the second floor, encompassing spaces such as kitchens, living rooms, and bedrooms. The third floor typically hosts a scripture hall for shrines and ancestral worship within each household, as well as a platform for drying grain and grass. Pigs received care as integral household members, coexisting with humans.

However, as a result of the absence of sows and the reduced rearing time, pigpens remained empty for longer periods every year. Moreover, in newer homes, separate livestock enclosures have been built, away from the human living areas. For example, Lhamo's house, completed in 2019, features a main two-story building with a balcony, where Lhamo, her husband, and their two children reside, and a one-story

house with three small rooms for livestock next to it. The repositioning of pigs and cattle outside the living quarters of humans, ancestors, and deities signals a shift. This change signifies a modification in the relationship between humans and pigs, transitioning from an intimate connection to a more pragmatic view of pigs as a means to attain pork products. The change in pig-raising spaces could both reflect and influence human-pig relations (Nemeth, 2017). Xie and Chen (2022) have also shown that housing has an effect on the expression of identity among rural residents who have urbanized in situ. As such, the relocation of pig pens has led to changes in the social meanings of people's lives.

Alongside spatial alterations, the emotional interactions between pig breeders from various generations also mirrors shifts in the human-pig relationship. Malcolmson and Mastoris (1998) showed that while pigs were kept for practical purposes such as sanitation, manure, and food, they were also regarded as intelligent creatures with whom farming families formed daily, meaningful interactions. Govindrajan (2019) delves into this sense of connectedness in her book *Animal Intimacies*, emphasizing the intimate relationship forged through daily caregiving between humans and animals. While middle-aged and elderly women share similarities in their daily care routines, such as preparing pig feed, distinctions in emotional attitudes across generations were evident during the pig slaughtering ritual before the Spring Festival.

In Sunshine Village, the slaughtering of pigs from house to house usually begins in the second half of the eleventh month of the lunar calendar, also known as the Winter Month. After the fifteenth day of the Winter Month, 64-year-old *Niangniang* Yangchen (the breeder of three pigs) would often chant, "Pigs are going to suffer, people are sinning. There is no way out because people have to eat pork. People need pork."

She exhibited empathy towards pigs. On the day her family slaughtered the pigs,

as the breeder of the three pigs, *Niangniang* Yangchen chose to isolate herself in her room and ate only *tsampa* (a Tibetan staple foodstuff). She even refrained from joining the evening meal prepared for neighbors who had come to help, expressing discomfort, and abstaining from eating meat for the following week.

However, during my participation in the pig slaughtering process in another household, the 40-year-old mistress focused on providing tools, arranging meals for neighbors assisting in the process, and organizing the freshly-cut pork. She was also involved in caring for the pigs, but did not exhibit as strong an emotional connection during the slaughtering process as *Niangniang* Yangchen had. Her emphasis lay more on efficient labor arrangements and the outcome of pork yield. Finally, she invited the neighbors who had helped slaughter the pig to enjoy the feast of pork dishes. Her emotional responses appeared less pronounced than *Niangniang* Yangchen's, emphasizing efficiency and the final product. These middle-aged women expressed happiness at the amount of pork they had produced. The two groups of women, differing in age and generation, exhibit varying levels of exposure to pig rearing practices and urban values.

Niangniang Yangchen's expression of discomfort during the pig slaughtering process highlights a connection forged through the daily intimacy of care between humans and pigs (Govindrajan, 2019). Her well-being is entangled with that of her pigs, resulting in a sense of relatedness between human and nonhuman animals. During the raising period, *Niangniang* Yangchen would regularly release the three pigs from the pigsty into their yard. She kept the pigs semi-free range because she believed that exposure to sunshine could prevent skin disease in pigs. "If the pigs always stay in the dark pens, their skin will turn red," she explained. This might be related to her more extensive sow care experience, which built a sense of relatedness. This ethical practice could be transcendent of the idea of the self and the other self (Kohn, 2013). With the shortened pig-raising time, the younger generation had disembodied from pigs and weakened the sense of relatedness. *Niangniang* Yangchen

observed:

> More and more young women in our village work outside the home, leaving no one in their homes. In the future, the elderly like us won't be able to engage in farming anymore. The younger generation works outside the village, except for digging caterpillar fungus. They won't raise cattle and pigs, but instead buy pork directly. It is cheaper, and they don't have to work so hard.

The intimate relations between pigs and humans weaken with urbanization and the change in pig breed. The fact that purchasing pigs has become an annual event for every household foreshadowed the commodification that has overtaken the relationship between pigs and people. Pigs have been physically and emotionally removed from human households, transforming pig' relations with humans from that of household members to mere products. As such, pigs have become increasingly disembodied from households. Across the generations, there has been a shift in human-pig relations, influenced by varying levels of exposure to pig-rearing practices and urban values. Originally virtual members of the household, they have now become market commodities, and in the process, have reassembled human lives.

5.3 How Pigs Facilitated Humans Abandoning Farming

In rural areas, pigs have served as a crucial resource, not only providing protein for human consumption, but also serving as a valuable source of manure for crops (Chauhan, Patel et al., 2016). Mao Zedong once referred to pigs as "a fertilizer factory on four legs" (Schneider, 2011). Pigs practical benefit for human societies extend beyond their role as food, playing various roles in the evolution and ecology of local agricultural systems (Veeck, Yu et al., 2017). Pig-derived fertilizer nourishes the land, contributing to crop production and providing a crucial link between humans and the land in agricultural systems. However, this ecological link is now weakening, and in some cases, collapsing.

In Sunshine Village, pigs play a significant role in agricultural engagement for humans. The primary crops cultivated are primarily intended for livestock, including cattle and pigs, rather than for human consumption or sale. Essential food items like rice and flour are purchased from the county seat. The village's cash income primarily stems from activities such as collecting caterpillar fungus and other NTFPs, while livelihoods from crops and pigs serve a secondary role, mainly for personal consumption. As such, pigs, along with land and human production, form a self-sufficient production chain that has long sustained this village.

Unlike cattle, pigs eat many of the villagers' crops, such as corn, potatoes, and radishes. When I helped harvest the corn and felt tired, I asked *Niangniang* Yangchen, "Is all this corn for feeding the pigs?" *Niangniang* Yangchen smiled and replied, "Yes, it's for feeding the pigs and cows. Corn is primarily for the pigs, as no pig gets fat without being fed corn flour. Barley and wheat are for human consumption. The rest is mostly for the pigs and cows." "Was grain grown to feed livestock in the past?" I inquired. *Niangniang* Yangchen responded, "Yes, originally the grain was mainly for the cows and pigs." Villagers grow corn, potatoes, and turnips, all of which are primarily fed to the pigs. The villagers follow a traditional agriculture recipe, combining steamed potatoes or radishes, maize powder, chopped pigweed, and leftovers from human meals to feed the pigs two or three times a day, aligning with human mealtimes. The preference for feeding pigs grain is widespread among villagers, who emphasize the superior taste and quality of pork obtained from grain-fed pigs compared to those fed with commercial fodder. Dorjee, who is a part-time chef at a hotel in Sunshine Village, explained:

> The taste and fat of feed pigs are different from that of pigs raised with grain. When you stir-fry pork, the meat from feed pigs can stick to the pan, but the pig with grain would not, and the taste is much better.

Tsomo's husband added, "Fodder-fed pigs have a strong fishy taste when you butcher them." I visited their home and had dinner together one day. Tsomo expressed

concern, saying, “Our sons (one works and another studies in the city) have to eat fodder-fed pork in the city.”

Some villagers continue to raise pigs, especially the middle-age and elderly people, even if only for a short duration, due to the belief that self-raised pork is not only more delicious but also healthier. *Niangniang* Yangchen used the word “*clean* (*ganjing*)” to describe the pigs raised by themselves, not like the commercially raised pigs. They raise pigs not only for their own households but also for their adult children working in cities. For example, *Niangniang* Yangchen raised one of the three pigs for her son who works in a neighboring county’s county seat. Similarly, the elder couple Mr. and Ms. Yang raised three pigs—one for themselves and their older son’s family, one for their daughter working in the township central school, and another for their younger son, who is married and works in the capital of Garze Autonomous Prefecture. Most of the pig breeders are the middle-aged or older left-behind villagers. Since the villagers still use grain to feed pigs, as Gyatso’s husband mentioned, feeding more Tibetan pigs would require additional grain, which the available labor force could not support. Therefore, pigs play a crucial role in driving crop cultivation, and serve as a vital link between human activity and the land.

Thus, the change in pig breed has influenced how much land is cultivated as well as the resulting production. As Tashi said:

> We grow corn, potatoes, rapeseed, and radishes, but most of it is used to feed the pigs. Because the pig-raising period is shorter now, nowadays, we only cultivate about two or three *mu* (亩, unit of area equal to one fifteenth of a hectare) of land, and the rest of the land is left uncultivated and abandoned. We bought the pigs in September; it was enough to feed our pigs for a few months.

Tashi’s household has five to six *mu* of land. She had abandoned half of their land

since the grain from cultivating two to three *mu* was enough to feed pigs for the shorter duration. As the practice of raising pigs for shorter durations or abandoning pig-raising altogether has become more common, the pigs' consumption of grain has declined. This has led to a slackening of the production chain, reducing the necessity of farming. In the wake of this process, farming, originally a necessary food source for grain-fed pigs, has been losing its importance in agricultural life.

Further, pig manure serves as the primary fertilizer for crops in Sunshine Village. Pigs play a pivotal role in this process by providing both protein for human consumption and manure for agricultural cultivation (Chauhan, Patel et al., 2016). During the 19th and early 20th centuries, China's population expanded by hundreds of millions, pushing people to cultivate increasingly marginal lands and intensify agricultural practices through the careful use of pig and human manure (Worster, 2017). Mao Zedong referred to pigs as "fertilizer factories," emphasizing their vital role in boosting agricultural productivity and supporting the plant-based diets that had sustained China for millennia (Schmalzer, 2002). However, following Mao's meeting with Richard Nixon in the early 1970s and the normalization of relations between China and the United States, the Chinese government proceeded to purchase several modern nitrogen fertilizer plants (Schmalzer, 2002). Since then, China's synthetic fertilizer production has surged, reducing the agricultural reliance on pig manure—even as its availability continued to grow (Marks, 2017). Lander et al. (2020) argued that the scale of industrial pork production has turned manure from a valuable agricultural resource into a major waste problem nationwide, as synthetic fertilizers increasingly replace its traditional use.

However, in Sunshine Village, middle-aged and elderly villagers, the main participants in agricultural production, still use pig manure as fertilizer. The practice of moving manure from pig pens to fields after slaughtering, especially in the winter, is a labor-intensive endeavor that often involves labor exchange between villagers. Mr. and Ms. Yang had been feeding three pigs since the beginning of the year. This

could produce 10 tractor-loads of manure from their pen for the year. Mr. Yang said:

> With pigs, there is fertilizer, which is the benefit of pig raising. Farmers cannot grow crops without fertilizer. Now there is scientific farming with chemical fertilizer. We used to relay on pig manure. “More pigs made more fertilizer; more fertilizer produced more grain.” The cattle’s manure is not as good as pigs’.

The ecological link between pig manure and land has been critical for crop production. Tsewang’s household purchased two pigs on October 4 or 5 and slaughtered them in early November. His uncle explained, “We raised the pigs for more than a month to obtain enough fertilizer. After collecting their manure, we stored it in a shaded area in the forest. Once it had decomposed, we used a tractor to transport it to the fields.” The trend towards shorter pig-raising periods and the increasing direct purchase of pork has weakened this connection. Some households no longer keep pigs, leading to a shortage of pig manure, which had previously been the primary source of fertilizer for the land. For example, Dorjee’s household did not feed pigs in 2022 and bought two pigs directly, totaling around 250 kg, and returning the pork to the village. I asked Dorjee how he had procured his fertilizer, and he mentioned that he had used what little remained from before and from the cattle pen. This weakening of the link between pigs and the land has challenged the village’s agricultural system.

Moreover, the Grain for Green policy has led to a reduction in each household’s farmland of between 1/3 and 1/2 since 2000. In recent years, the infestation of wild boars and the destruction of crops have also disincentivized the villagers’ from growing crops. This decreased reliance on farming has had a significant impact on the relations between humans and the land in rural areas. The changes in pig breeds, arable land, crops, policy, and wild boar infestations create complex interactions and entanglements, potentially diminishing the role of hybrid pigs as a link between humans and the land.

In conclusion, both the role of pigs and their relationship with the land in Sunshine Village have undergone significant changes due to factors such as shorter pig-raising periods, urbanization, and changing policy. Schneider (2017) used Marx's concept of metabolic rift to argue that commodity pork under an industrial meat regime represents accumulation rooted in processes of concentration (of pigs, people, production, profit, and power), which are also processes of separation (of farming from agroecological specificity, of people from land and the means of production, of humans from nature). While many villagers continue to raise pigs, albeit for shorter durations and driven by the belief that grain-raised pork is not only tastier but also healthier, the ecological link between pigs and the land, once crucial for crop production, is weakening. As such, hybrid pigs have facilitated humans' abandonment of farming. The main pig breeders—*niangniangs*—now have new tasks in the urban area.

5.4 Pig Breeders, *Niangniang*s and Mobility

As mentioned earlier, pigs play a key role in diminishing the human-land connection. This includes the shorter pig farming durations, increased abandonment of farmland, rural depopulation, and the intimate intertwining of pigs with arable land and people's lives. Not only do the young people leave their land, but the middle-aged villagers have also become mobile, residing between rural and urban areas. Bum (2018) examines how the Ecological Migration Policy compels Tibetan pastoralists to "choose" resettlement in urban townships as their only viable option by neglecting and eliminating educational and healthcare facilities in rural areas. Similarly, given the migratory trend of the younger populace to urban centers for educational or vocational pursuits, middle-aged and elderly women increasingly leave the village to care for their grandchildren in townships and county seats. Thus, the transformation in pig breeds has precipitated the liberation of temporal and spatial dimensions, thereby fostering mobility.

Pigs tether labor to agrarian expanses and households. Considering the deployment of traditional agricultural methodologies, the villagers dedicate three seasons—spring, summer, and autumn—to their fields. Corn, potatoes, and radishes, sourced from the villagers' own fields comprise the principal dietary intake for the pigs. Subsequent to harvesting, corn necessitates manual threshing followed by mechanized milling. Potatoes, from the ground, necessitate steaming before integration with maize powder, finely chopped pigweed, and residual human fare. In the context of feeding pigs, laborers must harvest two big baskets of wild grass, subsequently reducing them into smaller segments for amalgamation with feed every day for two or three pigs. In the wintertime, corn flour must be stirred with boiling water. While I helped stir the corn flour, *Niangniang* Yangchen told me, "We used to boil the corn paste in a pot, but it was difficult to clean the pot. It is easier now, but people still feel tired…Similarly, our meals vary with the seasons; we feed the pigs cold and raw food in the summer and hot and cooked food in the winter." When I visited another household, the middle-aged hostess was preparing feed for the pigs and said, "If the heated cornmeal becomes cold, it cannot be fed to the pigs." Thus, rearing pigs necessitates, at a minimum, one laborer remaining at home.

Rural women have an integral role in the agricultural economy (Si, Zhang et al., 2021). Judd (1994) pointed out the "feminization of farming". In Sunshine Village too, *niangniang*s comprise the primary labor force for pig husbandry, and domestic duties as a whole. *Niangniang* Yangchen handles daily tasks such as tending to the crops, cows and pigs, cooking and childcare during summer holiday. Feeding pigs is embedded within the domain of domestic work, encompassing tasks such as farming, livestock rearing, childcare, and culinary responsibilities. Morning and evening are the busiest times for the women in the village as they tend to the pigs. When encountered during these times, they often hurry home, saying, "I have to go home to feed the pigs." Pigs are typically fed at least twice a day.

In recent years, they have undertaken a new role: accompanying students, an

extension of their caregiving duties. With the loss of young people and the declining student population, the only remaining preschool in Sunshine Village and the neighboring village's primary school had merged into the township's central school in 2021. During a car ride with the secretary of the neighboring village's committee, he mentioned:

> The young folks who leave for the city rarely return. Even if they don't pass the civil service exams or other establishment jobs, they opt not to come back and take on temporary jobs (*dagong*)...Last year (2021), our village primary school closed due to a lack of students. In the end, there were only six children. All students now study in the town; the younger ones rent rooms there, while the older ones board at the school.

The secretary had highlighted a new trend in the village: preschool and school-age children traveling to the town to study, living in rented apartments or rooms while being accompanied by their grandmothers. Families in Sunshine Village with children aged 4 to 10 rent homes in the county seat or township, and grandmothers shoulder the bulk of the responsibility of caring for them. They accompany their grandchildren to study in the township or county seat and care for their daily needs. They return to the village together on weekends and return to school together on Sunday afternoons or Monday mornings.

This trend had no precedent in 2009. At that juncture, children aged four to six participated in a preschool established by an NGO. Once they reached the elementary school age bracket (6-7 years old), they began boarding at the township's primary school, only returning to the village on weekends. A contingent of children inhabited the abodes of kin adjacent to a primary school within an adjacent village. Mothers and *niangniang*s invariably were immersed in domestic responsibilities. As a *niangniang* whose husband had a cadre position in the county government avowed: "In the past, our dwelling accommodated four to five related children. Today, all *niangniang*s reside alongside their grandchildren in rented accommodations within the county seat

or township."

Most *niangniang*s in Sunshine Village overseeing grandchildren aged four to ten reside in townships or county seats. Some rent lodging within townships, while others lease apartments in county seats, at monthly rents ranging from 200 to 800 yuan. Their role as companions to their grandchildren continues from age four until the conclusion of second-grade in elementary school, as boarding starts at the beginning of third grade. Most families have two children, which means that they may need to rent a room to accompany them for an even longer period. Actually, these *niangniang*s used to be the primary caretakers of the pigs in the household.

Niangniang Wangmo, Xue, and Chodron had secured accommodations in the same building facing the school's entrance in the township, allowing them to serve as guardians for their grandchildren. Their adult children were either tending to yaks in the village or engaging in temporary work, often after the caterpillar fungus season. When I inquired about why they were accompanying their grandchildren in the township, they responded, "It's what every family does nowadays." *Niangniang* Xue's family purchased whole pigs directly in 2022.

Niangniang Metok shared her concern that there was no longer a preschool in the village. Her twin grandchildren, age 4, had begun attending kindergarten in the county seat in September 2022. This decision had been made because Metok's oldest son, who was the children's father, had worked as a law enforcement officer in the county seat. Metok's husband was in frail health, and it was determined that the grandfather would move to the county seat to care for the children, while Metok assumed responsibility for domestic affairs. This included looking after the cattle and pigs, as well as fulfilling agricultural duties in the village. In 2022, she raised three pigs.

Mr. Ying, residing solitarily in the village, bemoans an analogous semblance to widowhood. His wife, *Niangniang* Ying, sojourns at the county seat to attend to their

daughter's children. Their daughter serves as a teacher in another county. Subsequently, *Niangniang* Ying only returns to the village during the summer and winter hiatuses, periods coinciding with her daughter's vacation. Mr. Ying expounds that his responsibilities encompass swine husbandry while remaining entrenched in the village. The modification in pig breeds necessitates fewer laborers tending to the household, and thus *Niangniang* Ying can stay in the county seat.

Niangniang Yeshe had to move to Kangding to care for her grandchildren because her daughter worked there. However, she expressed her dissatisfaction: "I am not used to life in the city, it is not as comfortable as in the village". *Niangniang* Yangchen shared similar sentiment. In 2020, she had also undertaken the responsibility of looking after her granddaughter in another county where her son was employed. This pattern is widespread among the village's *niangniang*s, aged between 50 and 60, who live in the city for varying durations or commute with their grandchildren between the village, county seat, and town every weekend based on their adult children's job locations.

The shift in pig breeds and shorter feeding times had created opportunities and freed up time for *niangniang*s to care for and accompany their grandchildren to school in the town or county seat. Tashi mentioned reducing their farmland by half due to the shorter pig-raising period. She recalled:

> Throughout the year, there was a continuous need to feed the pigs, which required a lot of work. In winter, with no "*zhucao* (several types of wild grasses that can be used as feed for pigs)", we had to cook turnips every day, keeping the fire burning. That was the past.

The change in pig breeds has brought about a reduction in pig rearing times, an increase in pig rearing efficiency, as well as a decline in the demand for labor. Consequently, the pigs' primary caregivers, *niangniang*s, now have more free time to travel to the city to be with their grandchildren, enhancing their mobility between

urban and rural areas. However, *niangniang*s also lamented the "boredom" of renting a room in the township and feeling unfamiliar with city life without companions or friends. *Niangniangs* have to adjust themselves to adapt to urban life, transitioning from a pig-centered domestic rural life to being caregivers in urban life. Donna Haraway (1994) has also argued that whether they are human or nonhuman, all entities take shape in encounters or in practices, and that any object or person can be reasonably thought of in terms of disassembly and reassembly. This in turn shows that their lives and consciousness have been, or will be, reassembled differently than they would have been in the village. This highlights how pigs' agency as mediators (Sayes, 2014) has liberated humans from their ties to agricultural land, drawing them into urbanization processes. Simultaneously, human lifestyles and social relations have been reassembled.

5.5 Conclusion

Li (2010) identified several factors contributing to household farmers giving up pig raising, including labor shortages, low cash returns, the disuse of pig manure due to the prevalence of chemical fertilizers, inadequate veterinary services, and policy failures. Building upon these findings, Schneider (2017) introduced the concept of the industrial meat regime to underscore the significance of scaling-up, industrialization, and the capitalization of production as key processes underlying these causes. This chapter discusses the changes small household farmers experienced raising pigs outside of the industrialization and capitalization processes, primarily for self-sufficiency. However, pigs still play a mediating role under state-driven urbanization.

This chapter highlighted the importance of nonhuman entities, specifically pigs, in the process of urbanization, and the reassembly of human life. It highlights how humans are shaped by the nonhuman entities they encounter in their daily lives. People's lives and production in rural areas previously revolved around a network of land-related relationships centered on pigs. The change in pig breed has facilitated people leaving their lands, disconnecting from rural life and integrating into urban

society. The transition from local Tibetan pigs to hybrid pigs, and then to market pork, represents a shift from rural to urban society, with pigs acting as mediators in this reassembling process. The change in pig breeds is intertwined the process of urbanization, often driven by the need for labor reduction in agricultural practices. Additionally, this transition in pig breeds contributes to the release of laborers from traditional agricultural activities, thereby facilitating China's urbanization and modernization efforts. Thus, humans have undergone the process of reassembly through their interactions with pigs.

Chapter 6 Following Mushrooms: Boundaries Clarified Within the Village and Expanded Beyond

In the world of mushrooms, there is no inherent concept of "boundary"; they can grow wherever ecological conditions are suitable, regardless of administrative divisions or territorial borders. This resonates with Anna Tsing's portrayal of unruly matsutake mushrooms, which resist domestication and control, thriving unpredictably in disturbed landscapes (Tsing, 2012; Tsing, 2015). However, through the process of commodification, the boundary-less nature of mushrooms has reshaped spatial and social boundaries within local economic practices.

Mushrooms in Sunshine Village grow in the forest and are a natural delicacy bestowed upon the residents. Sunny days following rain in summer are the best times to pick mushrooms. I vividly recall the summer of 2009 when, after classes, I joined the boys in venturing into the forests to gather Boletus mushrooms. Afterwards, I meticulously sliced and blanched them, adopting the techniques I had learned from villagers during my home visits. Following the villagers' recipe, I sautéed them with green peppers. It was delicious! Never before had I experienced such a bountiful and delectable array of fresh mushrooms, and the taste was unforgettable. To manage the surplus that I could not consume, I followed the villagers' advice to blanch and sun-dry the excess mushrooms for preservation, which I then sent to my family.

Upon my return to the village after 13 years, mushrooms had transcended their role as a mere food supplement; they had become a marketable commodity. Mushroom picking is no longer just a leisurely activity, but also a form of labor. The significance of mushrooms in the villagers' livelihoods had escalated due to their commercialization. New mushroom varieties, such as *shanmu jun* (杉木菌, *Lactarius*

deliciosus[21]) and *hong junzi* (红菌子, chicken of the woods), which I had never encountered in 2009, had gained popularity among the villagers due to their exchange value. Furthermore, villagers not only were harvesting mushrooms within the village, but also embarking on journeys to *Guanwai* to pick not only *shanmu jun,* but also matsutake mushrooms.

In the decade leading up to my fieldwork, mushrooms had transitioned from being a local food supply to becoming a significant commodity and source of cash income for villages. This chapter will explore how the commodification of mushrooms has made the boundaries of forest land and green policies visible within the village. The further questions guiding my research are: Why and how have villagers expanded their mushroom-related activities beyond the confines of the village's territory? Additionally, how does this expansion influence social relations?

6.1 From Nobody to Somebody: A New Livelihood Resource for Mushrooms

Mushrooms, known as "*junzi* (菌子, fungus)" by villagers, are a vital food resource in mountainous areas, especially during the winter when vegetables are scarce. Unlike other mountain resources, mushroom picking does not necessitate ascending to higher altitudes; instead, mushrooms grow around the village, particularly in the forests near the road. Picking mushrooms is a common daily and leisure activity during the summer, often passed down through generations, with children learning to identify various edible mushroom types. Gyatso's younger son, at the age of six in 2022, demonstrated a "professional" technique of mushroom harvesting by digging out complete fungi from the soil. During a fieldwork discussion about mushroom picking and Bon beliefs with the *Huofo*, whose temple is situated on a mountaintop between

[21] *Lactarius deliciosus* grows in a mycorrhizal relationship with coniferous trees, and in particular, pines and spruces. It is a popular edible ectomycorrhizal mushroom in many countries in the Northern Hemisphere. From Yun, W., Hall, I. R., Dixon, C., Hance-Halloy, M., Strong, G., & Brass, P. (2001, July). "The cultivation of Lactarius deliciosus (saffron milk cap) and Rhizopogon rubescens (shoro) in New Zealand." In *Proceedings of the second International Conference on Edible Mycorrhizal Mushrooms* (Vol. 3, p. 6).

Sunshine Village and a neighboring village, he explained:

> There is no conflict between mushroom picking and Bon beliefs. In the past, our *huofo* from previous lives also picked (mushrooms). They picked fern in the spring and dried them for winter food preparation. After spring, they then started picking up mushrooms and dried all of them. Lamas went to the place to chant sutras, people gave some buns. Lamas brought the leftover ones to dry. In winter, we cooked a handful of mushrooms, a handful of buns, and a handful of ferns on the fire and then ate them. That was how we lived. Think about it. Is there any conflict? We live like this; we don't do anything else. If you don't pick them (mushrooms), will they rot?... A previous *Huofo* in history consecrated the mushrooms on our mountain. "Please grow mushrooms and wild vegetables (such as fern) in this place; otherwise, our lama's life can't go on." He said it like this. This is the reason why the mushrooms and ferns on our mountain are quite good in this way.

From the *Huofo*'s perspective, mushrooms were a significant resource for the lamas' food during winter, similar to villagers. Harvesting mushrooms was not viewed as a means of cash income, but rather as a local source or supply of food. The villagers also agree that the mushrooms growing on the temple mountain are excellent and scramble to pick mushrooms on the temple mountain, which serves as a common area. These dried mushrooms not only served personal consumption, but also served as special gifts for villagers to share with outside relatives and friends, representing a food resource rather than cash income, until they transformed into a commodity.

The commodification of mushrooms occurred after my departure in 2009. Upon my return in 2022, I encountered a new term, "*shanmu jun* (杉木菌)", previously unfamiliar to villagers. Curious about this "new" mushroom, I discovered that it grew under *shanmu* trees (杉木, spruce trees), characterized by its orange color and small

size. Based on my photographs, I identified the scientific name of the mushroom as *Lactarius deliciosus* (松乳菇), commonly called “saffron milk cap”, “delicious milk cap” or “red pine mushroom” in English. The villagers related the mushroom’s name to the type of forest where it flourished. This raised the question: Why had the villagers not eaten this type of mushroom before?

In comparison to *Boletus Edulis* and other wild mushrooms, the majority of villagers expressed a dislike for the taste of *shanmu jun*, describing it as “crunchy.” I, too, shared this sentiment. Gyatso remarked, “This fungus is rarely consumed by people in our village, but when we were very young, we would pick it and eat it.” Gyatso’s knowledge of mushrooms surpassed that of other villagers, as she had learned from her great grandfather during her childhood. Her great grandfather had been a person of extensive knowledge, encompassing areas such as medicine and fortune-telling. Gyatso fondly recalled, “I remember my great grandfather roasting the fungus over the fire; the flavor was excellent, somewhat resembling pork. It was known as pork mushroom. However, during that time, it grew in the pine tree forest, and since pine trees were scarce, so were the mushrooms. It was similar to *shanmu jun*.” During my fieldwork, villagers would refer to these mushrooms as *shanmu jun* because they grow in the spruce forest (杉木林), directly associating the mushroom with the tree species planted through the Grain for Green policy.

Prompted by the devastating floods in the middle reaches of the Yangtze River during the summer of 1998, the Chinese Central Government initiated a nationwide cropland fallow program called Grain for Green. The aim of this program was to increase forest cover and mitigate soil erosion on sloped cropland (Uchida, Xu, & Rozelle, 2005). The Grain for Green policy had been piloted since 1999 in Gansu, Shaanxi, and Sichuan provinces and was implemented throughout Western China beginning in 2002 (Feng, Yang, Zhang, Zhang, & Li, 2005). Sunshine Village, located in this region, began its program around the year 2000.

Due to its adaptability to the local climate, *Picea asperat,*[22] a species native to these areas, has been extensively planted at altitudes ranging from 2,200 to 3,000 meters (Chao, Lin, & Bingzhen, 2017; Ye et al., 2003). *Picea asperat* is what the villagers call *shanmu* trees. Udrup recalled "There were fruit trees which could not adapt to our place, so we planted spruce trees." In Sunshine Village, more than 300 *mu* of arable land were fallowed and converted into spruce tree plantations, facilitated by government-supplied seedlings. On average, each household retired at least 6 *mu* of farmland and received a Certificate of Forest and Woodland Tenure Rights.

Figure 7: Comparison of fallowed areas in 2009 (left) and 2022 (right). The seedlings have grown into spruce forests.

China has integrated environmental concerns into its policy framework, marking its transformation into an environmental state (Yeh, 2009). Nevertheless, the unexpected emergence of *shanmu jun* might be not anticipated by policymakers. As Hathaway (2014) noted, diverse forms of environmental governance are influencing the structure of commodity chains, though not always promoting increased commodification. In Sunshine Village, the Grain for Green policy has facilitated the commodification of *shanmu jun.* This commercialization is based on its large-scale

[22] *Picea asperata* occurs in the alpine and canyon regions of Northwestern Sichuan province and Southeastern Gansu province, which are important water conservation regions. It is a prime reforestation species in Western China. From Wang, Y., Luo, J., Xue, X., Korpelainen, H., & Li, C. (2005). Diversity of microsatellite markers in the populations of *Picea asperata* originating from the mountains of China. *Plant Science*, *168*(3), 707-714.

cultivation within the village. The ecological conditions necessary for its growth—spruce forests—are a direct result of the village's extensive planting of spruce trees under the Grain for Green policy. Consequently, *shanmu jun* has the potential to become a significant source of cash income, rooted in the Grain for Green environmental policy. As Udrup explained:

> The state called for retiring farmland and provided seedlings to plant trees and grass. The seedlings were obtained from the nursery, including fruit trees that were not suitable for our region. Consequently, we planted spruce trees, and then this mushroom emerged. The mushrooms appeared when the spruce trees grew to about a meter high. Initially, we were unaware that they could be sold, and we did not appreciate their taste. In the past, we would trample them when they were spotted in the forest, as they were prone to worm infestation, and we did not consume them. It was only when an entrepreneur (*laoban*) began collecting them that we started to pick.

The significance of the *shanmu jun* was largely overlooked until 2016, when a mushroom entrepreneur visited the village to make purchases. Chemi distinctly recalls the year when the commodification of *shanmu jun* began, coinciding with the birth of her daughter that same year. She expressed, "The acquisition of the *shanmu jun* started in 2016. That was the year my daughter was born." The initial buyer hailed from a neighboring county, closer to the Han area than Sunshine Village, and had married a widow in Sunshine Village. Villagers commonly referred to him as "the mushroom boss" rather than by his name. During his purchases of *shanmu jun* in substantial quantities, he established a cold storage facility by the road at the village entrance. The mushroom entrepreneur explained, "Because the *shanmu jun* trade is all fresh, it needs to be kept fresh in the freezer, and those collected on the same day are shipped overnight."

Due to the elevated buying price and market demand, collecting *shanmu jun* has

emerged as a significant source of villagers' incomes. *Shanmu jun* commands a higher price than most other common wild mushrooms, although they are priced much lower than matsutakes. Typically, common wild mushrooms fetch around 5 *yuan* per kilogram, while *shanmu jun* are acquired at 10-15 *yuan* per kilogram. Moreover, there is considerable market demand for this particular mushroom. "Every year, I harvest ten or twenty thousand tons," affirmed the mushroom boss. Notably, his purchasing activities extend to a broader area beyond Sunshine Village.

In Sunshine Village, *shanmu jun* has evolved into the cornerstone of a new cash income resource among the villagers. Following the caterpillar fungus season, villagers turn their attention to mushroom hunting. The *shanmu jun* season spans from June to September, yielding substantial income, often amounting to thousands of yuan per household. Towards the end of June, I encountered Lhamo in front of her house, who mentioned, "Gyalpo, they are seeking mushrooms on the mountain today after coming down from the caterpillar fungus mountains. It is due to the bad harvest of caterpillar fungus." Villagers hope to augment their incomes by focusing on *shanmu jun* to compensate for the diminished caterpillar fungus earnings.

A villager could earn thousands of *yuan* by picking *shanmu jun*, Chemi's mother, *Niangniang* Xue, highlighted, "We used to pick mushrooms nearby and within our village, and we could earn five or six thousand yuan a season." The *shanmu jun* has emerged as a new resource contributing to the villagers' cash incomes post-caterpillar fungus season. Udrup emphasized:

> *Shanmu jun* are worth more than either one...we used to collect thousands of *yuan* from *shanmu jun* in the past. The ones being bought in large quantities are *shanmu jun* and matsutake mushrooms. Matsutake mushrooms are expensive but tasty, considered a type of medicine and delightful when stewed with chickens. The *shanmu jun* is considered less significant and prone to insects.

Most villagers ascribe value to *shanmu jun* solely based on its exchange value on the market, as they lack a preference for this mushroom and are unaware of how outsiders consume it. When asked about how outsiders eat *shanmu jun* and why there is such high demand, most villagers expressed their lack of knowledge and interest. Chemi mentioned, "I don't know what outsiders do with *shanmu jun* outside the village." Even local entrepreneurs and traders are not well-versed in how *shanmu jun* are consumed outside the region. Xiaomei, who married into another village in Danba and is involved in the mushroom business, including in Sunshine Village, stated, "I don't know how they eat it; we don't even think it's good. I just know all *shanmu jun* are shipped to Changsha (the capital city of Hunan province)." Jigme and her husband, who are entrepreneurs from Sunshine Village, echoed a similar sentiment, "I don't know what they use (*shanmu jun*) for. There is so much demand. We don't know (why the demand is so high); we also don't ask. We just sell them and don't care (how they eat them)." However, Gyatso shared a different perspective, stating, "Villagers sell the *shanmu jun* with the umbrellas closed. They selectively pick out the umbrella-opened mushrooms without insects, which entrepreneurs do not collect, to consume themselves." In Gyatso's home, I frequently observed her slicing mushrooms that could not be sold into pieces and freezing them without blanching, preserving them for the Spring Festival.

This process mirrors Tsing's (2015) description of matsutake, where otherwise valueless mushrooms became capitalist commodities and then other forms of value. As such, *shanmu jun* have transitioned from being disregarded, to playing a vital role in the local villagers' livelihoods.

6.2 *Shanmu Jun*: Intensifying Boundaries within the Village

During one visit, I accompanied *Niangniang* Yangchen to her mother's residence in the highest village along the concrete road, leading to five villages scattered at high altitudes between 2,600 to 3,200 meters. The area is bordered by lush spruce woods. I observed an abundance of barbed wire in the woods on both sides of the road, a

feature not present in 2009. Curious, I speculated that it might be to prevent cattle from entering, and inquired about the fencing, “Why is there so much fencing? It wasn’t here before, right?” *Niangniang* Yangchen, walking beside me, explained, “This forest belongs to our neighbor, Udrup. Since the mushrooms have been traded, they don’t allow others to enter their forest to collect mushrooms.”

As mushroom picking has evolved into a new cash income resource for villagers, the ownership of forest land and the sense of boundaries have intensified among many households; villagers have erected net fences beyond the boundaries of forest land to demarcate their ownership. The realization of individual forest ownership became clear to me while returning from *Niangniang* Yangchen’s mother’s home, where we encountered Samten on the road. After *Niangniang* Yangchen explained, “We just picked up a few mushrooms on the way down the mountain from the top village,” Samten observed the mushrooms in our hands, gestured towards the mountains behind us, and invited us to their field to collect mushrooms. This prompted my inquiry into the ownership of forest lands. He clarified, “No, it used to be arable land. After the farmland returned to forest, the family was responsible for restoring the forest land.” The revelation of individual ownership of the forest on the road, as opposed to communal ownership, surprised me.

The Certificate of Forest and Woodland Tenure Rights has clarified that each household has the use right to their forest land for 70 years. Mushrooms have highlighted the impact of the Grain for Green policy on individual households’ “ownership” of forest land. This ownership refers to use rights, rather than full ownership rights (Dade et al., 2022). The commodification of mushrooms, particularly *shanmu jun*, had led villagers to install barbed wire beyond the boundaries of forest land. Lhamo, standing by the road, pointed to the forest behind and next to their house, remarking, “It turns out that all of these places were arable land or small forest groves. After Grain for Green, they closed up the forest on their own property to harvest mushrooms.” Gyatso emphasized the transformation, stating,

“It used to be that you could go anywhere (to pick mushrooms). Now, you can’t go to others’ forests, with or without the net fences. What’s yours is yours and what’s mine is mine.” Thus, the *shanmu jun* has become a vital livelihood resource, intensifying the boundaries between each household in Sunshine Village.

One morning in the middle of June, Gyatso mentioned that Jigme’s husband had commenced mushroom collection. At the time, there was not only a mushroom entrepreneur, but three to five households had also engaged in the mushroom business, buying mushrooms from villagers and subsequently dispatching them. Gyatso explained, “Once someone started to collect (buy) the mushrooms, we couldn’t pick everywhere. Each household picks in their forest.” This represents a new rule for mushroom collection which has emerged along with the marketization of the local economy. Any announcement of mushroom purchasing from a local buyer functions as a mandate for that particular year. From that day forward, villagers are restricted to collecting mushrooms solely from their own forest lands, as opposed to anywhere in the village. Thus, the acquisition announcement signified the implementation of a rule whereby villagers may only harvest mushrooms on their individual forest lands for the remainder of the season. This has heightened the sense of “ownership” specific to each household.

In addition to the individually-returned forest lands owned by each household, the village also has communal and state-owned forest lands. Mushroom growing in these areas is governed on a first-come, first-served basis, with whoever picks them deemed to have ownership. To harvest mushrooms in these communal and state-owned areas, villagers must initiate their search early to maximize their resource acquisition from public forests. Consequently, villagers monitor others’ mushroom-picking activities and frequently inquire about who is picking mushrooms and where. Thus, mushrooms have intensified competitive relations between villagers in communal and state-owned forest lands.

Compared to caterpillar fungus, which has a well-established system to regulate access, there are two main reasons why mushrooms have not followed similar rules. First, mushrooms were commodified much later than caterpillar fungus. For a long time, mushroom picking was a common daily and leisure activity for families, serving as a source of wild vegetables in their food supply. As previously mentioned, mushrooms only began to be commodified around 2016. As discussed in the following section, the availability of this fungal resource within the village has declined since 2022. In contrast, caterpillar fungus emerged as a commodity with significant exchange value as early as the mid-1980s, becoming closely tied to household cash income. As a result, villagers were more concerned with ensuring equitable access to caterpillar fungus. Second, the economic value of mushrooms is considerably lower. While caterpillar fungus can generate tens of thousands of yuan in income, mushrooms typically yield only a few thousand. Not every household has members participating in mushroom collection. Many villagers simply go mushroom picking when they happen to be at home and have free time, yet they still care about how much income others earn from the collective land.

Moreover, mushrooms have also shaped social boundaries between the villagers, particularly between those who have assumed roles as mushroom entrepreneurs or traders. Kinship traditionally served as the primary social bond among Sunshine Villagers, with each household having relatives in others. Closer kinship or geographical proximity with neighbors contributed to stronger relations (Brown & Ready, 2022). Human connections were established through mutual assistance during busy farming periods, or at the very least, with one member from each household contributing during funerals or participating in prayer chants. For example, when Gyatso and her husband were preparing to attend a funeral at Yang's home, *Niangniang* Yangchen emphasized, "In our countryside, we help each other. If you don't help others, no one will come to help you when something happens to your family." However, the economic interests associated with mushrooms have given rise to commercial relations beyond the confines of kinship. As Yeh (2011) notes, social

relations among family members have become increasingly monetized as herders participate in market activities. Market logic now shapes interactions even among relatives, indicating a deepening of calculative reasoning and the normalization of profit motives in everyday exchanges between kin and fellow villagers. In this way, family relations have been reduced to monetary relations.

Some villages have transitioned into the roles of mushroom entrepreneurs or traders. Consequently, the relationships between villagers are not only based on kinship, but also involve the dynamics of pickers and buyers. Thus, mushrooms have established specification (规格) as a dual relationship between the villagers and villager traders. Jigme and her husband have been involved in the mushroom business for seven or eight years. She explained:

> In previous years, matsutake mushrooms were purchased at a price of 70 to 90 yuan for 0.5 kg and sold for more than 100 yuan for 0.5 kg. The best quality had a purchase price reaching 90 yuan according to specifications. Mushroom trading revolves around specifications. *Shanmu jun* with a cap diameter of more than 3 centimeters are not easy to sell, but smaller ones are considered better quality; matsutake mushrooms need to be above 5 centimeters. All of mushrooms have specifications.

Another couple, Yangzom and her husband, were also involved in the mushroom business. During the autumn of 2022, Yangzom rode her little electric motorcycle on the mountain road to collect *shanmu jun*. She mentioned:

> I only collect mushrooms within our village. I could buy 15 or 20 kg a day. A person usually picks 1-1.5 kg/day. Yang's wife picked a lot that day. She and our sister-in-law, two people, picked 14 kg in a day…I assisted the entrepreneur from Xiaojin with collecting mushrooms. It was too cheap in our place, only 7.50-8 yuan per kg. There was a good price

in Bamei, reaching 10 yuan a kg. I did not go to faraway places…

Her husband added, “Collect *shanmu jun* as long as they are tiny, and you don’t want them if they grow open and large.” Even though the local trader dealt with relatives, they prioritized specifications and economic interests over kinship ties. Similarly, villagers could choose the buyer who offered a higher price, disregarding any familial connections. This exemplifies the emergence of commodity fetishism in the village, where the social relationships underlying production are increasingly perceived not as interactions between people, but as economic relationships mediated by the exchange of money and commodities in the market. Social relationships are often expressed through market relationships (Marx, 2024).

The transformation of mushrooms from a subsistence food source into market commodities has alienated them from local villagers, who have shifted from autonomous gatherers to participants in a market-driven supply chain, and no longer retain the authority to determine their value, including which ones taste good (Marx, 1972). This leads to a sense of powerlessness and disconnection, from both the mushrooms and the local traders; market logic has become integrated into kinship relations. Mushrooms have engaged people in the market standard and commercial relations, which coexist with kinship. These dual relationships interact, and traditional kinship is impacted by the commodification of mushrooms. The competition in the mushroom harvest has led to the strengthening of territorial boundaries between households and social boundaries of individualization. This is a process of alienating humans, species, nature, and kinship relationships.

6.3 Entrepreneurs Without Mushrooms: The Impact of Ecological Changes on Village Mushroom Resources

Whatmore and Hinchliffe (2003) explained that dwelling refers to the ways in which humans and other more-than-human actors establish a sense of home in the world through their ecological behaviors. The growth and health of mushrooms are

dependent on ecological conditions that are beyond human control. Seven years after its construction, the mushroom entrepreneur's cold storage facility in Sunshine Village was dismantled due to a decline in mushroom production.

One day, I met with Samten on the road. He had just finished assisting the mushroom entrepreneur in dismantling the cold storage and was heading home. *Niangniang* Yangchen expressed concern, stating, "Will no one collect (buy) mushrooms this year after the freezer is torn down?" Samten reassured her, saying, "People from the neighboring village will still collect (buy) mushrooms soon." In 2022, the cold storage built by the mushroom entrepreneur at the entrance of the village was dismantled. When I inquired about the reason for this decision during our journey from the county seat back to the village, he explained, "(Mushrooms are) not much more (in Sunshine Village), so (I) removed (the cold storage)." Additionally, he mentioned, "I have got several cold storage facilities somewhere else." The decline in *shanmu jun* production within Sunshine Village had compelled him to dismantle the cold storage.

Many villagers also lamented the scarcity of *shanmu jun* in their forests. Udrup expressed her concerns, stating, "There were a lot of mushrooms under those trees. But the entrepreneur came out and collected for one or two years, and (mushrooms) did not grow. In the past, we used to collect thousands of yuan from the mushrooms, but in the past two years, we only got hundreds of yuan." Chemi's mother shared similar sentiments, saying, "We used to pick up mushrooms nearby and within our village, and we could earn five or six thousand yuan a season. And this year, the mushrooms are not good." Why were the mushrooms not abundant in Sunshine Village in 2022? Some villagers attributed it to persistent rainfall, while others believed it was due to excessive drought.

Extreme weather conditions influenced the growth of mushrooms. June 2022 brought continuous rain in Sunshine Village. In the middle of the month, I

encountered my former student, Khedrup, who often hunted for mushrooms. She remarked, “This year, the weather is not good; it rains all the time. And it’s not easy to find mushrooms.” The rainy conditions not only made it challenging for people to seek mushrooms, but also accelerated the mushrooms’ spoilage. However, as July arrived, Sunshine Village experienced an almost rain-free period throughout July and August due to a heat wave and drought in Sichuan province. This period should have been the mushroom harvest season, but the lack of rain had hindered mushroom growth. The optimal condition for mushroom picking is a sunny day following rain. In 2022, the mushrooms were largely unproductive in the village. Villagers complained about the poor caterpillar fungus yields, and the mushroom harvest was also disappointing.

Furthermore, Jigme’s father, the former village head, provided additional insight into the decline of *shanmu jun*. He explained:

> Over the past two or three years, there were more *shanmu jun*, but now there are fewer because the spruce trees are too big. It doesn’t work if the trees are too big. The forest is too dense and too shady; the sun can’t penetrate into the forest. Some of the mushrooms have deteriorated. The mushrooms used to be very thick, but now some of the *shanmu jun* are small, thin, and have thin “legs (stem).” The entrepreneur could not offer a good price, and it does not work (the mushrooms would not sell well). In the past, the trees were short, and the mushrooms under the trees could get sunlight, so the mushrooms were big, thick, and had big “legs (stems).”

He attributed the decline in mushroom production to the entanglement of spruce trees and *shanmu jun*. In *What a Mushroom Lives For*, Hathaway (2022) employs the world-making approach to emphasize that mushrooms serve as a critical conduit between plants and the underground world, negotiating and building their own networks. According to local villagers, as the spruce trees grew taller and bigger, the

quality of the *shanmu jun* changed, leading to their devaluation in the market and affecting the villagers' cash incomes. This reveals how the changed micro ecological conditions of the spruce forest have influenced the quality of the mushrooms and the villagers' incomes, as noted by Jigme's father.

The dismantling of the cold storage revealed that a transition from resource commodification to decline had occurred within Sunshine Village over just seven years. In the process, market demand, climate change, and alterations in the ecological environment assembled the diminishing mushroom resources within the village. Thus, the villagers have started to expand their territory in search of mushrooms, not only *shanmu jun,* but also matsutake mushrooms.

6.4 Insiders Becoming Outsiders: The Expansion of Livelihood Boundaries

Hathaway (2022) has discussed how the liveliness of barley and yaks has played an important role in expanding Tibetan territories. *Shanmu jun*'s entanglement with the market has educated villagers about the mushrooms' value. With the decrease in mushroom production within the village, residents have started to venture beyond boundaries in following mushrooms, driven by the pursuit of higher incomes. The development of the motorway infrastructure under the Western Development policy and the rise in car ownership (Liang, 2011; Winkler, 2009; Yeh & Lama, 2013) have both made travel to other locations more convenient for villagers. Therefore, the practice of taking day-trips to *Guanwai* in their cars for mushroom hunting has become widespread among villagers, enhancing mobility within the region.

6.4.1 From shanmu jun to matsutake: political negotiation and local tension in resource gathering

After the caterpillar fungus season, which ends in June, villagers typically drive themselves or form groups, using their own or others' cars, to expand their livelihood territory for mushroom hunting in *Guanwai.* They start early in the morning, spend the day outside, and return to the village in the evening to pursue cash income.

The road to *Guanwai*[23] starts from the foot of the mountain in the village and traverses in the direction opposite the county seat. In the local Tibetan language, *Guanwai* is pronounced as "*stupia*," meaning Tibetan area (藏区). This description may be related to the location of the village and Danba. Jinba (2013) noted that the people of Gyalrong are situated on the periphery of the Tibetan ethnic group and are often not recognized as "authentic" Tibetans by many "mainstream" Tibetans.

Due to the mushrooms, villagers frequently travel to nearby counties in *Guanwai,* specifically Bamei, Xinduqiao and Yala Mountain, to search for various types of mushrooms, including matsutake. Yala Mountain has become a popular location for matsutake picking among villagers in recent years, influenced by local environmental governance. Yala Snow Mountain, located at the intersection of Danba, Daofu, and Kangding, falls under the administrative management of Daofu County and has long been a production area for matsutake. Udrup's husband, who has 30 years of experience picking matsutake in Yala Mountain, remarked, "The local people in Yala Valley originally did not allow others near Yala Snow Mountain, which is also a sacred mountain. Now, the government is engaging in tourism development, allowing people to approach the mountain." Techung, who started picking matsutake mushrooms in 2021, complained, "Yala Snow Mountain originally was part of our Danba's territory, and then it was managed by Daofu. Before, they did not allow us to go picking, and then Danba County and Daofu County negotiated. They began to let us dig beginning last year (2021)."

The local government may also recognize the significant contributions of mushrooms to both local livelihoods and the broader governance framework. In 2020, the Yala Snow Mountain scenic area officially opened, requiring tourists to purchase

[23] Villagers and local officials explain that all counties in Garze Tibetan Autonomous Prefecture, with the exception of Kangding, Luding, Danba, and Jiulong, are referred to as *Guanwai*.

tickets for entry. In local politics—intended as a market-based approach to combine conservation with community participation—national parks have become contested sites, as government units with divergent mandates compete for control and prestige (Yeh, 2016). After negotiations between the governments of the three counties, residents from Danba, Daofu, and Kangding were allowed to enter the scenic area to pick mushrooms without a ticket, beginning in 2021. Thereafter, the Sunshine Village committee issued certificates from the township government with the official seal to allow villagers to enter the Yala tourist area. Villagers from each household could obtain certificates based on the number of family members going to pick mushrooms. They could fill in their names, gender, and ID numbers on the certificates themselves and enter the scenic area via inspection at the entrance without purchasing tickets. A drive of more than ten minutes from the scenic area's entrance brought the villagers to the foothill areas to seek matsutake mushrooms, with a total drive time of around forty minutes from the village.

This local political negotiation promoted matsutake picking among villagers and motivated them. Most villagers had begun picking matsutake mushrooms in 2021 due to the issuance of certificates. Due to the availability of wild resources and market demand, villagers expanded their livelihood areas under administrative governance. Bebbington (1999) underscores that livelihoods are fundamentally influenced by power dynamics, resource access, and environmental governance. Sulek (2019) argued that the caterpillar fungus economy remains uncontrolled by the state because it benefits the public budget and alleviates the state's financial responsibilities in the production areas. Robinson (2016) also showed that establishing exclusionary boundaries at the forest edge almost surely has a negative impact on community profits from the forest. Conflicts over access revolve around entitlements and reciprocity (Yeh, 2000). The local political negotiation is a way to expand the villagers' local livelihoods.

Because the villagers were unfamiliar with the terrain of Yala Snow Mountain,

most of the daily harvest of matsutake mushrooms was minimal, relying on "luck (*peng yunqi)*." They envied Tsedol and Udrup's husband, who had more experience in harvesting matsutake mushrooms. Tsedol, who had begun foraging for mushrooms on Yala Mountain two years prior to most villagers, consistently emerged as the most successful matsutake hunter among the group from Sunshine Village. Gyatso and her husband discussed, "Tsedol picked matsutake mushrooms worth 430 *yuan* by herself. She bought water for everyone from Sunshine Village, each bottle costing 5 *yuan*. Tsedol is very skilled at picking matsutake mushrooms, earning seven to eight hundred yuan a day." Another skilled matsutake hunter is Udrup's husband, who mentioned, "I have been picking matsutake mushrooms for 30 years. I could earn two to three thousand yuan at most in a day or dozens of yuan at least. I sold them when I came down from the mountains, and the buyers were there." He went to secret places to pick matsutake mushrooms alone or with his son.

The negotiation was not only for Sunshine Villagers, but also for all people from the three counties. Villagers face competition not only among themselves and local residents, but also from individuals from other areas. At the end of July, I followed Gyatso and her husband to Yala Mountain to pick mushrooms, leaving home at 7:20 a.m., Niangiang *Yangchen* observed us preparing to leave and complained, "People leave early, at five or six o'clock, and we might be the latest." On the way to Yala Mountain, there were many cars and motorbikes. Gyatso's husband told me, "They are all going to Yala Mountain to pick mushrooms." On the mountain, while seeking mushrooms, I met a man from the township who told me there were more than 20 cars from the township that day and suggested I go in the opposite direction of the forest. He said, "More than ten people are in that forest; you should not expect to find matsutake." I also met people from Yajiang, the other county.

In the common area of *Guanwai,* the rule for mushroom picking is "first come, first served", and whatever is found belongs to whoever picks it. Therefore, villagers start early, worrying that the mushrooms will be picked by others. When going to pick

mushrooms, Udrup wakes around 5:00 a.m., does cleaning and cooking, feeds the pigs, and leaves the village around 7:00 a.m. with her husband. Udrup's husband said, "Now too many people pick matsutakes. Others are also familiar with this place; they arrived early and have picked them already. There might have been some secret places previously, but now too many people know about them." Tsewang's wife did not go to pick mushrooms as they had to herd yaks in the mountains. She explained, "I also did not go to pick *shanmu jun*. I used to go to Xinduqiao and Bamei. Now, many outsiders come to pick mushrooms, too many people. When I went there, people had already picked them. There were no outsiders picking mushrooms before, but now even people from *Guanwai* are picking them."

Moreover, as villagers venture beyond the boundaries of their village territory into *Guanwai,* they are apprehensive about encountering local resistance. Yeh (2000) observed that the opportunity to engage in the matsutake market has boosted local incomes and has led to conflicts over rights of access to forests where these lucrative mushrooms are found. When villagers venture beyond their usual territory, they also face restrictions imposed by local residents.

At the end of June, during a women's gathering after the caterpillar fungus season, Chemi and several other young women discussed going to *Guanwai*, specifically Xinduqiao, to pick *shanmu jun* the next day. When I suggested joining them, Chemi declined, expressing, "The local people might control (管, *guan*) and argue that you are an outsider. Your appearance still signals you as an outsider or a tourist, and when we encounter people from *Guanwai*, they won't let us pick the mushrooms either." They were concerned about local control due to the pervading sense of *dipan* (territory). Villagers are particularly attentive to their territory concerning natural resources. This leads to conflicts, such as those arising from the caterpillar fungus mountains and their boundaries between Sunshine Village and neighboring villages.

This restriction/control is not about property rights, as these areas are common areas where not only Sunshine Villagers, but also people from other areas, search for mushrooms. It is better understood as part of a process of access negotiation (Yeh, 2000). However, there is no negotiation between the various levels of government or village compacts over the right of access, resulting in a state of ambiguity. These areas fall within the administrative divisions of counties, townships, and villages, and are under the protection of natural resources in their respective areas. Local individuals may drive people away. Administratively or morally, Sunshine villagers lack legitimate claims when picking mushrooms on other people's land, and therefore they maintain a low profile as "outsiders" when picking mushrooms.

In the process of picking mushrooms across the region, villagers also have to negotiate differences in religious beliefs. During a bus journey from Bamei to Sunshine Village, I encountered a *niangniang* from the Danba county seat who had known me since 2009. As we passed through mountains with forests, she shared that her relatives from Sunshine Village had come there in the summer to collect mushrooms, such as *shanmu hun*, but had been chased away by lamas. "The lamas believed that picking mushrooms would result in the death of the insects on the mushrooms, and hence, they chased people away," she said. This is different from the attitude of the *Huofo* at the Sunshine Village temple towards mushroom picking mentioned at the beginning. Jinba (2013) stated that a well-respected Buddhist master noted that the Gyalrongwa were "too practical" and too concerned about "secular stuff" and did not devote themselves to religious matters, as did many other Tibetans.

By following the mushrooms, villagers expanded their gathering territory from their own land to others'. Government permission would incentivize villagers to pick mushrooms in these areas, despite significant competition. More broadly, this situation reflects the ambiguous status of being an outsider harvesting mushrooms in someone else's territory. As Yeh (2000) notes, these struggles are significant not only

because they reveal how rural communities generate income and access natural resources, but also because they illustrate the influence of global markets and the complex social dynamics that shape environmental outcomes. None of this can be separated from the market-driven changes in the relationship between people and mushrooms.

6.4.2 Commercial expansion: villagers transitioning to mushroom hunters and entrepreneurs

In *The Mushroom at the End of the World*, Anna Tsing (2015) introduces the concept of salvage accumulation, describing the process through which capital is amassed by converting resources and labor that exist outside traditional capitalist production into capitalist commodities. The progression from villagers to mushroom hunters and eventually to "mushroom entrepreneurs" illustrates how rural individual labor becomes integrated into the market through mushrooms.

From picking to selling, the entire process increasingly occurs outside the village territory. When villagers leave the village to pick mushrooms, they no longer return the mushrooms to the village. Instead, they sell the mushrooms they pick that day to buyers along the road. These buyers not only wait at the foot of Yala Mountain, but also set up several camps along the road between Sunshine Village and Yala Mountain, to collect mushrooms from July to September.

Mushroom picking has transformed into a commercial activity. Unlike picking mushrooms within the village, which involves only labor costs, villagers now incur additional expenses such as transportation fares or gasoline when picking mushrooms in *Guanwai*. Villagers have to bear these costs during the activity.

Chemi and four other young friends had driven to Bamei and Xinduqiao to pick *shanmu jun* for the past three days when I met her in early July. In this scenario, a young couple drives several others to pick mushrooms, and the mushrooms collected

that day are pooled and sold collectively. The money earned from the mushrooms, minus the cost of gasoline, is then divided equally among the participants. Chemi said, “One day each person shared over a hundred yuan, one day each person shared over two hundred yuan, and one day, it was rainy, and we earned eighteen yuan each.” Similar to Hathaway’s (2022) observation in Yunnan, unlike working for hotels and restaurants, making money by picking mushrooms was a way to maintain autonomy and independence. Mushroom picking is more flexible than migrating for work, but the income is unstable.

On a day when I met Chemi at a funeral, she had picked around 0.25 kg, including mushrooms of various sizes. She mentioned, “There were a lot of people there to buy competitively. The purchase price was 180-200 yuan for 0.5 kg. Our four people picked more than 0.5 kg in total, leaving not much profit after covering the transportation costs.” Around the end of July, Gyatso and her husband had driven to the same place, Yala Mountain, and had earned some cash after three days of traveling. When they returned in the evening, Gyatso’s husband joked, “Sold for 72 yuan today! It was just enough for the fare, and we finally saw some money after three days! Today’s price dropped back to 180 yuan per 0.5 kg, which is more than 4 taels (*liang*). If the price had been 210 yuan per 0.5 kg like yesterday, it could have sold for 100 yuan”. Gyatso’s best day occurred a few days later when she went to Yala Mountain by herself, paying 20 yuan for the round-trip fare. She said, “I picked 7 taels of matsutake mushrooms for 140 yuan, and I earned 120 yuan after deducting the fare.” Due to the transportation costs, picking mushrooms, previously a leisurely activity, has become a stressful job for villagers.

The mushroom picking activity is dictated by the market; whether to go pick mushrooms or not is determined by the mushroom entrepreneurs, not the villagers themselves. When Gyatso responded to why the villagers had not gone to Yala Mountain to pick matsutake mushrooms, she said, “there were few buyers, so nobody went to pick them.” In the absence of buyers, villagers are unable to generate income

from mushroom harvesting. More buyers can lead to competitive pricing, providing higher purchase prices to villagers. Therefore, villagers prefer having more buyers waiting at the foot of the mountains or along the road. Sometimes, they complain if there is only one buyer who keeps the price low. One day, Gyatso and her husband drove three baskets of *Amanita Caesarea* (鹅蛋菌) home in the evening. Gyatso said, "The price is not good, only 8 yuan for 0.5 kg of *Amanita Caesarea* is charged on the road. Generally, it would be 15 yuan for 0.5 kg of the mushroom with the cap opened, and 20 yuan for 0.5 kg of them without the cap opened." I helped her cut them into small pieces and dry them in the sunshine. Gyatso would find a better price to sell the dry mushrooms instead of the fresh ones.

Whether the buyer is active also determines whether a villager will go to *Guanwai* to pick mushrooms. In the beginning of September, Udrup and her husband, along with three other villagers, had been picking mushrooms every day. But that morning when I met Udrup, she had just hung up the phone and said, "we will not go pick mushrooms today because the entrepreneurs will not go...it might be that the mushroom is not good these days with the rain, and the entrepreneurs will not buy." Hence, mushroom picking has undergone a transformation into a market-driven activity, dictated by the prevailing market demand, as opposed to retaining its traditional role as a routine and leisurely rural pursuit.

Although the introduction of market relations through caterpillar fungus has permeated Sunshine Village, gathering mushrooms within the village, like digging for caterpillar fungus, does not require any expenditure. As Hathaway (2022) noted, matsutake picking was a more equitable activity than tourism, as it demands little outlay of money. However, with the shift to gathering and selling mushrooms outside the village, villagers now face additional costs such as transportation. Economic pressures have transformed villagers' perception of mushrooms from subsistence food to market commodity—items expected to generate income and, ideally, profit.

Mushroom picking has thus come to resemble an extractive and economically motivated practice. In this context, villagers increasingly resemble non-institutional mushroom-gathering laborers, as described by Tsing (2015), whose labor is informal, ecologically contingent, and shaped by market forces despite being outside formal employment structures.

Moreover, some villagers have become mushroom entrepreneurs themselves, extending their influence beyond Sunshine Village into a wider area. Jigme and her husband are among the entrepreneurs of Sunshine Village. Jigme mentioned that they had visited Litang and collected mushrooms there, capitalizing on the enhanced mobility in the region and fostering communication with outsiders, including tourists and brokers in the mushroom chain. When asked about their mushroom sales, she explained, “Whoever’s price is appropriate (high price), we sell to them. We know an entrepreneur from Hunan who does the mushroom business. We sell most of the mushrooms we collect to him.” Regarding *shanmu jun*, she discussed the challenges faced due to the pandemic affecting exports, saying, “They could not be exported due to the pandemic, so we could not earn money from *shanmu jun*. In the past, they were exported to Japan, Korea...we do not know (whether it was turned into canned goods or something else).”

When discussing matsutake mushrooms, Jigme mentioned friends from different places, particularly those in Chongqing. She shared a story about friends from Chongqing expressing that the price of matsutake mushrooms in 2022 had become too high, making them unaffordable. “Many of these friends, including a university professor and teachers, found the current prices beyond their means. In previous years, they could easily afford one or one and a half hundred kilograms annually, sharing the abundance with others.” She mentioned. However, due to the high prices, they were unable to enjoy matsutake mushrooms as before.

Jigme also highlighted their interactions with individuals from Shenzhen and

Chongqing who typically visited Sunshine Village. She said:

> They did not come to the village this year, but they used to come every year. They are from Shenzhen. Due to the mushroom business, we have developed connections with people from various locations. On one occasion, when we were traveling to Xinduqiao to collect mushrooms, we encountered individuals from Shenzhen whose tire had burst on the road. My husband assisted them in unloading their tires, and we exchanged WeChat contacts to forge new connections. Additionally, people from Chongqing, introduced to our mushrooms, had expressed interest through WeChat, stating that their friends were fond of matsutake mushrooms. We were able to sell the mushrooms we had collected to them. All of these connections and interactions are attributed to our involvement in the mushroom trade.

As Tsing (2015) demonstrated, the growth and harvesting of matsutake mushrooms not only involves interactions between humans and nature, but also fosters cooperation and exchange among different groups of people. She describes how matsutake foragers from diverse backgrounds come together in shared spaces, creating new forms of sociality and economic exchange, such as collaborative networks and cultural exchange. In this research, villagers follow the mushrooms beyond their traditional territory, increasing their mobility and extending their perspectives and communication to distant areas such as Chongqing, Shenzhen, and Shanghai. This economic, social, and cultural exchange also influences the villagers' lifestyles within the village.

Building on Wang et al. (2013), who argue that mobility is deeply rooted in social contexts, this research further demonstrates that villagers' mobility is also shaped by ecological factors. The pursuit of mushrooms beyond traditional territories not only reflects the expansion of interpersonal and community networks, but also responds to the ecological distribution and unpredictability of mushroom resources. The

ecological context—specifically, the spatial and temporal variability of mushroom growth—drives villagers to extend their mobility and adapt their livelihood strategies. The transition from local mushroom pickers to external mushroom hunters has transformed mushroom picking from a daily and leisurely activity into a commercial endeavor driven by market demand and administrative governance. As such, villagers have gradually become integrated into the capitalist economy.

6.5 Conclusion

This chapter has explored the multifaceted entanglement of mushrooms with ecological policy, marketization, environmental conditions, spruce trees, territoriality, and human and social relations throughout the process of rural change. Hathaway (2022) noted that the matsutake's specific requirements and traits, along with its unique world-making qualities, have engaged with the lives of many rural Tibetans, thereby altering their interconnected worlds. The emergence of previously unpredicted mushrooms has reshaped the interconnected social worlds of people in Sunshine Village.

Mushrooms, through their intricate entanglement with political and market forces, have played a pivotal role in transforming human-land interactions and reshaping social relations. Due to the Grain for Green policy, mushroom production has increased, attracting commercialization in the village. This transformation has transformed mushroom picking from a leisure activity into an individualized, competitive market activity. In the mushroom world, there is no inherent concept of "boundary." However, as marketization turns mushrooms into a livelihood, these boundaries materialize, and the policy's impact becomes evident. Furthermore, the commodification of mushrooms has led to the coexistence of market standards and commercial relations with traditional kinship networks.

Due to the decline of mushrooms in the village caused by ecological factors, mushroom-related activities have driven greater mobility and deeper involvement of

the village in the market economy. Recognizing mushrooms' value, villagers have expanded their picking territory beyond the village boundaries, following the mushrooms. This expansion involves local government governance negotiations and ambiguous potential conflicts. The extension of mushroom picking territories has also led to further marketization and capitalization. Picking mushrooms in more distant areas also incurs costs such as transportation fees, as labor is no longer the sole requirement. This shift has transformed mushroom picking into a market-driven activity. Additionally, some villagers have become mushroom entrepreneurs, becoming part of the industry chain and connecting with others through this chain. This transformation has altered social relationships among Sunshine Villagers, with people in the region, and with the outside world.

This demonstrates the effects of global markets and the complex social processes through which environmental outcomes emerge in rural production areas (Yeh, 2000). This process also provides evidence of the complex interplay between local practices and global markets, where even activities outside formal capitalist structures contribute to capitalist accumulation (Tsing, 2015). This involves the entanglement of the characteristics of mushrooms, the power of policy, and changes in natural conditions.

Chapter 7 “The State Protects Wild Boars, Who Protects Us Farmers?”: Wild Boars’ Role in the Distrust of Local Governance

Wild boars usually invade the fields in Sunshine Village at night. This is why when night falls, especially near midnight, the previously dark and quiet mountain village would become noisy. The sound of firecrackers, dogs barking, thuds, people shouting, pigs squealing as they are slaughtered, and various musical noises, accompanied by the intermittent appearance and disappearance of fires, resonate throughout the darkened valleys—all efforts to disperse the wild boars.

When I arrived at the village on the first day in June, *Niangniang* Yangchen was busy in the field and explained, “This time in farming work should not be busy, however, the wild boar dug out these little potatoes, and I have to replant them…The wild boar comes every night and makes new work every day for me.” I went to the field following *Niangniang* Yangchen and saw the original patch of neatly farmland, in the middle of a mess; the land was arching, slanting downward with the potato seedlings becoming wilted. She pointed to the other side of the mulch crops to show me the holes in the mulch where the boar’s footprints were. *Niangniang* Yangchen picked up the fingernail-sized potatoes, and said, “Farmers suffer the most hardships. (We) spend so much time planting, only to have (our) crops dug up by wild boars. The crops have to be continually replanted. When the harvest is good, (we) can reap the rewards, but when things go wrong, it can be frustrating.” She was angry and helpless.

Figure 8: The potato field damaged by wild boars (2022)

Throughout my fieldwork, most villagers suffered from wild boars. They frequently complained that wild boars had come to ruin their crops. From June to August and September, the potatoes are regularly uprooted, and the ripening corn is gnawed. Thirty years ago, the presence of wild boars was not felt in the village.

Wild boars possess a formidable capacity to influence human life and agricultural production. The repeated intrusions of wild boars cannot be solely attributed to the animals themselves; rather, they arise from the complex interplay between social governance, ecological management, urbanization, and environmental conditions. This interconnectedness between policy and ecology is demonstrated by wild boars' behavior, which subsequently affects human livelihoods and agricultural production. This chapter explores several key questions: How have the capacities and relationships between humans and wild boars evolved or become entangled over the past thirty years? What role do wild boars play in the relationship between villagers and local governance?

7.1 The Effect of Wild Boars and the Ecological Factor

Research has shown that wild boars are increasingly ravaging crops in forest-agricultural landscapes worldwide (Cai et al., 2008; Lombardini et al., 2017; Rutten et

al., 2020; Siljander et al., 2020). There has also been a notable increase in wild boar destruction of crops over the past decade in Sunshine Village. Terraces, crops, and forests are typical features of the forest-agricultural landscape. The agricultural fields at the forest's edge are favored activity areas for wild boars, as they tend to feed close to edges to facilitate escape into the forest (Thurfjell et al., 2009). *Niangniang* Yangchen's house is situated in a clearing near the foot of the mountains, with her family's nine *mu* of land bordering the forests. Wild boars would come to the fields most nights. Every morning, the typical first communication between *Niangniang* Yangchen and me revolved around whether the wild boars had visited the previous night. The overturned earth between farm fields, fallen potato seedlings or corn stalks, and the footprints of wild boars were the signs of their visit. For breakfast and dinner, we and domestic pigs usually ate whatever had been left by the wild boar. We would steam the small potatoes, which resembled beans, that had been unearthed by the wild boars the previous night, and this would be the main dish for dinners in the beginning of July. *Niangniang* Yangchen remarked, "With potatoes this small, we wouldn't have dug them if the boar hadn't dug them out…Some little potatoes that have been bitten by wild boars are fed to the pigs." One early morning in August, *Niangniang* Yangchen returned with a basket of corn stalks and a few immature corn cobs from the farmland to the house. She lamented that the corn was still immature but had been destroyed by the wild boars, and then boiled the immature corn cobs for my breakfast.

Corn and potatoes are the preferred foods of wild boars. These are also the most commonly planted crops in the village, and as such, they suffer the most damage from wild boars. Wild boars are attracted to potatoes when they sprout in June, while the damage to corn starts after it has developed ears and is nearing maturity. "The wild boars have basically decimated all our potatoes." This same lament has been echoed by villagers across different villages. Only a few households with cultivated land in the middle of the field had their crops damaged less (or not at all) by wild boars. Chemi's land was one of the middle plots with less damage from wild boars. This aligns with research indicating that the wild boar damage coefficient is significantly

and negatively correlated with the distance between peasants' households and the forest's edge, as well as the area of cultivated land (Liu et al., 2019). Although Ngawang's family's potatoes suffered less damage from wild boars, his mother mentioned that the corn was not good: "(We) planted more than one *mu* of corn, and it was destroyed by wild boars. We should have harvested thirty baskets of corn, but more than ten baskets of corn were spoiled."

Wild boars not only destroyed the food supply for villagers and livestock, but also threatened the production of caterpillar fungus and other medicinal herbs, affecting villagers' cash incomes. Villagers shared their observation that wild boars are more common on the caterpillar fungus mountains. Mr. Lin recounted an incident: "We yelled at one of them and set off firecrackers again. All of villagers yelled together on the caterpillar fungus mountains." During a conversation about wild boars, Thubten mentioned their impact on caterpillar fungus: "The lack of caterpillar fungus has something to do with the wild boars. There are wild boars in the mountains, and they've been rooting all over the place. One year, I found a good plot of land with caterpillar fungus, but the wild boars took it over. There was no more caterpillar fungus on that plot of land. The wild boars did it, so there's no more caterpillar fungus." *Niangniang* Metok also worried about the *tianma* (天麻, *Gastrodiae rhizoma*) eaten by wild boar since they saw wild boars arching in the mountains where the *tianma* grows. Villagers were concerned that the increased presence and behavior of wild boars would impact the production of non-timber forest products (NTFPs) and, therefore, their incomes.

In fact, in the Garze region, there is a familiar saying: "Pigs first, bears second, and tigers third (一猪，二熊，三老虎)." Here, "pig" refers to the wild boar, and the ranking order reflects the ferocity of wild animals and the degree of harm and damage to people and their livelihoods. Wild boars are considered more troublesome than bears and tigers. This indicates that wild boars have been a persistent challenge in

people's lives for a long time. Despite the longstanding presence of wild boars, they are causing more frequent damage to villagers nowadays. While the perceived increase in conflicts between humans and wild animals is a global phenomenon (WWF, 2006; Yeo & Neo, 2010), questions have arisen as to what has led wild boars to become a species so widely denounced a decade later. Hill (2004) argued that farmers often overestimate the threat to their crops posed by wildlife. However, Giefer and An's (2020) model corroborates farmers' perceptions, aligning perceptions of crop raiding with actual boar populations. Considering farmers' perspectives is crucial (Hill, 2004), given their extensive experience interacting with wild boars. From their perspective, what factors have contributed to the increased frequency of wild boar invasions?

Both the presence and the behavior of wild boars in the village are interrelated with the fruiting of the *qinggang* trees (*Quercus aquifolioides*) on the mountains. Villagers have observed that when the *qinggang* fruit ripens in August and September and falls to the ground, wild boars are attracted to the mountains to feed on it. If the *qinggang* fruit is plentiful and available in the mountain forests, the wild boars are less likely to descend to the fields to forage on the crops.

During fieldwork, villagers frequently discuss the relationship between wild boar activity and the availability of *qinggang* fruit. For example, in early June, Mr. Lin remarked that the absence of *qinggang* fruit indicated that the wild boars may have descended to the fields to search for food. *Niangniang* Yangchen echoed this sentiment, noting:

> I'm sure there's no fruit in the *qinggang* forest, so the boars will be down there. Last year (2021) at this time, nothing happened. The corn was fine...The boars came the year before last, but not last year. They won't come if they have *qinggang* fruit to eat. *Qinggang* fruits are small, like chestnuts...The fruit of the *qinggang* tree only ripens in August and September, and the wild boars will eat it when it falls down, not now, the

potatoes were destroyed at this time last year, but the corn didn't suffer.

Rigzin also emphasized the importance of the *qinggang* fruit in deterring wild boars from invading the fields. He said: "They eat plants, like the *zhucao* we make for pigs to eat when raising pigs. Last year, we didn't suffer. If the fruit in the *qinggang* forest had been grown well and they had had something to eat, they wouldn't have come to the field. The corn was saved last year. I don't know about this year."

In autumn when the crops were harvested, the acorns were also harvested, so the wild boars rarely came to the crops. When I asked the same question about the wild boar at the beginning of winter, the villagers responded that wild boars had not caused much damage; the *qinggang* fruit should be harvestable. Tashi said:

> Wild boars have not been coming these days. The *qinggang* fruit on the mountains grew well, so they did not come down. They are content on the mountain. Last year, when the *qinggang* fruit didn't grow much, the wild boars came down. We could see them in the fields, searching for food on the ground. Some were even starving to death. They came this spring and destroyed all the potatoes in two nights.

The growth of *qinggang* fruit plays a crucial role in determining the frequency and intensity of wild boar incursions into the village fields. Depending on the availability of this fruit, villagers can anticipate whether wild boars will threaten their crops in different seasons throughout the year. Lombardini et al. (2017) also reported that damage events peak in summer and early autumn. However, in Sunshine Village, the peak can start from the spring if the *qinggang* fruit does not fruit well. For different crops, such as potatoes or corn, the harvest outcomes might vary.

Both the production *qiangang* fruit and the movement of wild boars could be influenced by the weather (Lemel et al., 2003). In 2022, Sunshine Village, as well as all of Sichuan province, experienced excessive dryness. These extreme weather

conditions could influence not only the villagers' incomes from NTFPs and agricultural production, but also the production of *qiangang* fruit and the wild boars' habits. During a brief conversation with *Niangniang* Metok at the end of 2023, she mentioned, "The crops are better this year; the wild boars did not come, and the *qinggang* trees are fruiting well." Many contemporary studies are concerned with the interaction between environmental factors and the species' spatial behaviors (Keuling et al., 2008; Morelle et al., 2014); whether wild boars invade the crop fields could be interconnected with ecological conditions. However, in addition to the ecological conditions, most villagers complained that they were unable to do anything to confront the challenge wild boars posed.

7.2 The Twisted Capacity: Humans and Wild Boars

Ecological conditions and climate change, which were factors contributing to the increased presence and crop damage by wild boars, were not the focus of the villagers' blame. Instead, the absence of guns, which was the most common complaint among villagers, had deprived them of the ability to hunt wild boars. Environmental programs like Grain for Green had also created more habitat for wild boars. Under ecological conversation regulations, rural people's ability to confront the challenges posed by wild boars diminished, while the wild boars themselves became more empowered. Jones (2006) noted that despite the emerging practices of biodiversity management and environmental governance in rural areas, these practices have received limited critical academic attention, while a variety of animal and nonhuman entities in complex networks are reshaping rural areas by linking ecology, politics, and science. Villagers were keenly aware of wild boars' agency.

7.2.1 Humans' capacity: "there is nothing we can do"

Villagers emphasize that the main reason for the increased presence and fearlessness of wild boars is the absence of guns. They believe that the lack of guns has resulted in a surge in the wild animal population, as they are no longer deterred by the threat of being shot. Southwest China has historically been a major wildlife outflow region (Li

et al., 2000). In the Kham area, guns were previously considered crucial tools for self-protection and hunting (Wen, 2015b). In the past, every household in Sunshine Village owned at least one gun, and some households had multiple brothers each owning a gun. Tsewang, the former village head of a neighboring village for over 20 years, recalled, “There used to be hunters and hounds. Whenever a wild boar appeared on the ground at night, it would be hunted down the next day.”

The villagers who possessed hunting skills were able to track wildlife and engage in hunting activities. Xiaoling, a middle-aged woman, fondly recalled her childhood when hunting wild boars had been a common practice for her father’s generation. She mentioned that hunting expeditions were frequent, often referred to as “*dashan* (打山, hunting mountains)”. “It used to be all about money. Hunted bears, bear paws, and bear bile could be sold for profit, as well as argali. Hunting wild boars and argali was primarily for meat.” Xiaoling said. Tsewang also emphasized, “Hunting was a means of making money; the meat could be sold at a dozen *yuan* for half a kilogram.” Hunting and selling the meat and skin had been sources of livelihood for some villagers in the past.

The Law of the People’s Republic of China on the Administration of Firearms was implemented in 1996. However, there was still some leniency in the Sichuan Tibetan area regarding the use of guns (Yan & Zhang, 1996). According to Wen (2015a), after the Reform and Opening-up, and as the Sino-Vietnamese border war subsided, a large number of firearms from Vietnam flowed across the Yunnan border into the Tibetan areas of Sichuan. In addition to the historical use of open-fire guns, people could purchase guns and ammunition through various channels. Tsewang recalled: “people could own a gunpowder gun, and you needed to have a gun license, similar to the United States; you couldn’t have a military gun.”

There were two main reasons articulated in the state discourse for banning guns

in the region. The first was to protect wild animals. One of the motives behind the Law on the Administration of Firearms was the issue of illegal poaching of nationally protected wild animals using firearms, which was prevalent and serious (Yan & Zhang, 1996). From 1980 to 2013, there were over 1,300 documented cases of the hunting and killing of wild animals in the Garze Tibetan Autonomous Prefecture alone, involving more than 1,700 individuals and resulting in the deaths of more than 8,900 wild animals (Wen, 2015a). Villagers also believed that the government had confiscated the guns to safeguard the wild animals. Additionally, armed conflicts arising from personal grudges and disputes over access to wild resources were common. Incomplete statistics show that from 1980 to 2008, there were 98 recorded incidents of armed conflicts, resulting in over 200 casualties in Garze Prefecture. Tashi, a village cadre in Sunshine Village, cited "blood feuds" as the primary reason for the gun ban, noting, "The guns were collected around 2011 or 2014, mainly due to 'blood feuds,' which we do not have on our side (where we live). This happened in Bamei, where relatives often fought. One man sold all his yaks, bought a gun, and killed everyone in his family. Such incidents were frequent in the years prior. The guns were confiscated." Wen (2015a) reported that from August 1 to October 31, 2007, Garze Prefecture conducted a comprehensive anti-gun and anti-explosives campaign, during which the government confiscated a total of 1,967 firearms through financial incentives for reporting and voluntary surrender of firearms, creating a "harmony" in the collection of guns. It has also been revealed that from 2011 to 2015, the public security organs of Garze Prefecture had seized a significant quantity of firearms, bullets, explosives, and detonators, and cracked 998 cases involving firearms and explosives.[24]

In Sunshine Village, the government confiscated guns several times from the mid-2000s to 2022. According to the former village head's recollection of his tenure from 1988 to 2008, the government had confiscated guns two or three times. The villagers

[24] From *Guojizaixian* http://news.sina.com.cn/o/2015-09-02/doc-ifxhkpcu4961157.shtml

had handed over 50-60 guns. Tsewang mentioned, “The government started collecting guns in 2006. When you were here in 2009, people didn’t dare to show off their guns.” During my stay in 2009, I had been aware of sporadic incidents of villagers hunting wildlife with guns but had never seen any. Dorjee recalled, “The guns were taken away, that’s from the year you were here in 2009. Guns, detonators, all were collected.” Tashi mentioned gun collection again during 2011 or 2014. Another former village head mentioned, “There were wild boars, which haunted the area. Now there are just no guns; they were collected once again three or four years ago around 2018 and 2019.” Therefore, gun collection had continued from the mid-2000s to the end of the 2010s in Sunshine Village. Although wild boars have always been present, the frequent disturbance to crops started around 5-10 years ago, coinciding with the complete confiscation of firearms. As *Niangniang* Yang said, “Wild boars used to not go to the farmland, but in the past two years, (we) do not know what has happened to them, coming to the land. It should be because of animal protection. In the past, there were guns, but they have been collected. The wild boars must have known we can’t do anything.”

With the decline in hunting, the dog population in the village has decreased significantly. Tashi noted, “Nowadays, dogs are no longer as aggressive, and there are fewer of them in the village.” Previously, dogs were commonly kept for hunting purposes, but with hunting no longer prevalent, their role has diminished. Lhakpa stationed two dogs near their field to bark whenever wild boars approached. However, Lhakpa observed that the wild boars eventually grew accustomed to the dogs, and their crops were still damaged. Even the watchdogs, which are kept by only a few households, are becoming scarce. Since my host family’s old dog passed away in 2020, they have not kept any more dogs. Thus, with changes in dog ownership practices, their effectiveness in deterring wild boars has become inconsistent.

The former village head, Tsering, recalled how wild boars had been managed in the past, stating, “The habits of wildlife are not the same. The bear and wild boar

could travel far, perhaps from distant places, over the mountains. Wild boars could roam across three or four mountains, covering long distances…We used to make a group, working together and lining up in the woods to chase them away." However, villages are now becoming less organized in their efforts. Each household has developed its own methods to cope with wild boars, but these methods often prove ineffective (Cai et al., 2008).

Without guns, making noise was the most common method to scare wild boars away, as mentioned at the beginning of the chapter. At night, some villagers would set off firecrackers and place cans or broken pots around the fields, while others would beat gongs or shout in the fields. Most families purchased megaphones from online platforms like Taobao or Pinduoduo to station in the fields. After dark, these small megaphones would be scattered around the fields emitting barking dog sounds or popular music, some of them flashing red lights. At the beginning of August, Mr. Lin had purchased a new larger megaphone from the county seat, as their smaller one emitting dog barking sounds had stopped deterring wild boar invasions. The megaphone was equipped with Bluetooth, USB, and solar panels. Mr. Lin mentioned that this megaphone would play sounds simulating the slaughtering of pigs. When asked how he had imported the sound of slaughtering pigs, he explained that he could search for it directly on TikTok and then record it. He had found a short video depicting the slaughtering of pigs with the sound of pigs squealing, which he had recorded on the megaphone. Placing the megaphone in the middle of the field, the screams of the slaughtered pigs echoed through the night, deterring the boars. However, technical fixes have their limits (Nightingale et al., 2020; Rosner, 2013). After two or three days, the wild boars returned. Mr. Lin discovered that the megaphone had no power. Despite charging it during the day and using it again in the evening, the megaphone had gradually lost its effectiveness against the wild boars.

Figure 9: Alarms and megaphones set up at the edge of the cornfield to deter wild boars (2022)

Besides making noise, another common approach was to create smoke, repelling wild boars with both the smoke itself and the unpleasant odor. After dinner, as the sun set and night fell, *Niangniang* Yangchen would carry a basket of straw on her back and a charcoal brazier as she walked towards the center of the field. She would arrange the straw on the ground, along with some old rubber shoes and clothes, before placing charcoal on top and covering them with more straw. Burning the old rubber shoes and clothes would produce thick smoke and a foul odor intended to repel wild boars. *Niangniang* Yangchen explained that it was acceptable to use smoke to deter wild boars. One rationale for burning old shoes, aside from the odor, was that they could not start a major fire. Since starting fires was forbidden in May to reduce the risk of forest fires, the practice of smoking out wild boars could only commence in June. The People's Government of Garze Prefecture issued annual orders on forest and grassland fire protection, with forest and grassland fire prevention periods typically running from January 1 to June 30 and from October 1 to December 31 each year. The period from February 1 to May 10 was identified as having a high risk of forest and grassland fires (Office of the People's Government of Garze Prefecture, 2024). Villagers had high awareness of the policies and avoided offenses. In addition to *Niangniang* Yangchen, other households also employed similar methods of creating

smoke in their fields before nightfall. *Niangniang* Yangchen would often mention observing the house of her neighbor below Gyalpo, emitting smoke—yet wild boars still came. During visits to other households, I would frequently be asked whether my host family had also used smoke to deter wild boars. Faced with forest fire prevention policies, villagers frequently exchanged information on methods to repel wild boars, leading to the spread of the practice of lighting fires from one household to another, in order to collectively evade the regulations. In this way, the villagers played their role in the dynamic interaction between wild boars and local governance.

Diminishing autonomy, the absence of guns and dogs, and limited technical fixes are all factors that contribute to humans' diminishing and limited capacity to face the challenges presented by wild boars. In this way, wild boars' agency becomes more prominent in light of human limitations and the empowerment of environmental policies.

7.2.2 The agency of wild boars: being "jing (精)"

Wild boars have the ability to tune in to and learn from their environment. Rural animal dwellings also encompass relationality and agency, with more-than-human agents exercising spontaneous, improvised, and occasionally disruptive energies (Whatmore & Hinchliffe, 2003). Boonman-Berson et al. (2019) emphasize a mindset that recognizes a variety of animals, such as wild boars, as sentient, clever beings that are able to learn as individuals and as collectives, and that actively relate to particular landscapes. The villagers use the term "精 *(jing)"*, which means smart, shrewd, cunning and even connotes the quality of being a spirit, to describe wild boars' intelligence.

Aside from the lethal threat of a gun, the various methods, including warning sounds, leashed dogs, smoke, and scarecrows…proved ineffective after initially working. This highlights wild boars' agency as sentient and clever beings (Boonman-

Berson et al., 2019). Villagers were keenly aware of their agency. Techung complained when their potatoes were all destroyed by wild boars, saying, “There was nothing I could do! In the past, there was a gun, and once you shot them, they didn’t dare to come. Now we are not allowed to shoot them anymore, they also can’t be trapped, they are very smart (*jing de hen)*.” *Niangniang* Xue also remarked, “They can’t be trapped. They’re so smart (*jing de hen)*, they go around the traps.” Without guns, wild boars are cunning and difficult to handle. Wild boars are capable of learning both individually and collectively—whether in groups, populations, or even multispecies communities—and can actively engage with specific landscapes (Laurier et al., 2006).

Moreover, the reduction in cultivated land over a decade due to the Grain for Green policy and the declining youth population accompanying urbanization, have empowered the wild boar. Thus, the Grain for Green policy has created more space for wild animals, including wild boars. In Sunshine Village, over 300 *mu* of arable land were fallowed and converted into spruce tree plantations. On average, each household retired at least 6 mu of farmland, which amounted to approximately half of each household’s total farmland. With the implementation of the Grain for Green policy, forested areas in the village have expanded while cultivated land has decreased, providing more space for wild animals to roam freely. In mid-June, I met Jigme’s father (the former village head) for the first time during my return, in front of his gate. He pointed out the areas where wild boars were frequently spotted and remarked, “Nothing has changed, except for more wild animals after the implementation of the Grain for Green policy.” During the winter months, I revisited the issue of wild boars with him, and he expressed, “Wild boars come to the fields every day. Since the farmland was returned to the forest, the management of wild boars has become challenging. There is no effective way to deal with them.” Dorjee echoed this sentiment, stating, “Returning farmland to forests and protecting animals has created trouble for us farmers, with little to gain.” The changes in land use patterns are often correlated with the damage caused by wild boars (Cai et al., 2008;

Liu et al., 2019; Lombardini et al., 2017; Vijayan & Pati, 2002). Thus, the Grain for Green policy has led to an increase in forested areas, thereby expanding the habitat and space available for wild boars and other wildlife species.

Apart from the Grain for Green policy, the declining population, especially the decrease in young people due to urban migration, contributes to the reduction of farmland and increases the threats from the wild boar. As *Niangniang* Yang said, "Wild boars have always been around. In the past, when there were more young people, they would chase them away. Now, with only us older people left, wild boars have become bolder, and their numbers have increased." Walking along the way to her home and observing their fields, she added, "Nowadays, young people are not interested in farming, and it's mainly the older generation like us who continue to do it. Our daughter and son are ok, they come back to help with fertilizing and harvesting in the busy farming time." The absence of young people in the village reduces the deterrent to wild boars. This contrasts with earlier studies where increases in human-animal conflict have been attributed to population growth (Lamprey & Reid, 2004; McKee et al., 2004; Nyhus & Tilson, 2004; Vijayan & Pati, 2002). In this case, it is due to a *decrease* in population. In a similar location, after having dinner at Chemi's home, I took a walk with Chemi and her daughter along the road towards a vantage point where we could see their entire village. As one of the few young people in the village, she gestured towards the opposite terraces and remarked, "With fewer people, you can see the land lying idle, the forests expanding, and more wild boars. There were not so many wild boars." The diminishing labor force and the migration of young people to urban areas has resulted in expanding abandoned farmland in the village. Both policy changes and decreased labor contribute to the expansion of abandoned farmland, providing more habitat for wild boars.

The villagers have also developed imaginative perceptions of wild boars. Dorjee, who works as a chef in a hotel and interacts with many tourists, shared his thoughts when asked about the increase in wild boar sightings. He explained:

> The number of wild boars is increasing, and they are becoming bolder. There is no specific timeline mentioned, but this has been happening for the past 10 years. It's like with tourists, where one person comes and shares their experience "It is fun here", and then it spreads from one person to another. Tourists call out to each other. I believe these wild boars also have their language in communication, where they inform each other about places with no danger and available food. Without firearms, none of the usual methods work anymore, such as setting off fireworks or buying those devices online that imitate pig slaughtering sounds. They are all ineffective.

Even though the villagers' image is based on his experience and understanding of wild boars, it reflect an understanding of agency and subjectivity as dynamic and emergent, formed through practical learning and interactions among humans, wild animals, and the surrounding landscape (Boonman-Berson et al., 2019). Wild boars do not simply adhere to a universal and static mode of "being a boar" (Castree, 2003; Despret, 2004). Instead, they are capable of tuning in and learning from the interaction between humans, wild animals and the landscape. Villagers use the term "being *jing*" to express this ability.

"Being *jing*" also includes the meaning of supernaturality, which humans cannot control. Villagers uphold animistic traditions and veneration of mountain deities, a cosmological framework that may simultaneously fulfill spiritual and practical functions in their environmental interactions. Before the Dragon Boat Festival on the 5th day of the 5th month of the lunar calendar, which involves paying respects to the mountain deity, several villagers hang Tibetan Buddhist prayer flags on the sacred mountain. During these rituals, prayers are offered to beseech the mountain deity for protection and control over wildlife. Dorjee recalled how they had worshipped while hanging the flags and sprinkling barley, seeking protection for their crops and requesting that the mountain deity manage the wildlife. This belief underscores the

villagers' perception of the mountain deity as the guardian of their territory, responsible for overseeing both humans and wild animals. This reveals that wild boars have already surpassed the capabilities of people, once again emphasizing the concept of animism.

In an attempt to repel wild boars, villagers exert their agency, but these efforts prove ineffective against the boars, highlighting wild boars' own agency. Without the lethal force of guns, wild boars can learn and adapt as they interact with humans and the landscape, adjusting to deterrents like scarecrows, dogs, horns, and smoke. Wild boars have the capacity to impact both human livelihoods and agricultural productivity. Their persistent invasions cannot be attributed solely to the animals themselves; instead, they result from the interplay between social governance, ecological stewardship, urbanization, and the environment. Throughout this process, the capacities of both humans and nonhumans have become intertwined and altered. Interestingly, villagers express frustration not only with wild boars, but also with other wild animals like monkeys. Yet, why do wild boars elicit the most complaints? What is their role in these complaints?

7.3 The Wildlife Hierarchy: From Wild Boars' Protected to Unprotected Status

Pasang has a disability which hinders his ability to walk. However, he still contributes to his family's welfare by fulfilling tasks such as chasing monkeys from their land in his wheelchair. On the way back from the temple, I would often encounter him sitting on the side of the road below their village, overseeing the family's land from a high vantage point, to check for any infestation of monkeys or any other wildlife wreaking havoc. The increase in the monkey population residing in the nearby forest has regularly led to crop damage during the daytime. Gao et al. (2023) demonstrated that while factors such as gender, age, religious identity, and education level shape Tibetan attitudes towards wildlife, their influence differs depending on the specific attitude component and the target animal. Why do villagers have different attitudes toward monkeys and wild boars?

"Because wild boars are no longer protected animals," is what the villagers emphasized while complaining about the absence of guns. One day at *Niangniang* Yang's home, several relatives were sitting on the ground chatting. While discussing wild boars, Mr. Zhang mentioned: "A village secretary in Litang was killed by a wild boar, and since then, wild boars are no longer protected animals." I then searched for this news story:

> On May 10, 2021, in Litang County, Garze Tibetan Autonomous Prefecture, Sichuan Province, a village cadre died after being attacked by wild boars while conducting a fire prevention patrol in the mountains. This incident drew attention to the issue of local wild boar overpopulation. On June 1, there was news that Litang County had obtained approval to cull approximately 500 wild boars. However, a reporter contacted the Publicity Department of the Litang County Party Committee and the Forestry and Grassland Bureau, only to learn that there was currently no clear hunting plan for the county.[25] (*source: Pengpai News* and *Xinhua News*)

The plan's ambiguity had stemmed from wild boars' uncertain status as state-protected animals. The first legislation for wildlife conservation in China, known as the China Wildlife Protection Law (CWPL), was promulgated in November 1988 and went into effect on March 1, 1989. This law stipulated the List of State Key Protected Wild Animals (LSKPWA) which included two categories: Category I comprising 96 species and Category II comprising 161 species. The CWPL specifies, "wildlife resources belong to the state", and prohibits any hunting, selling, purchasing, or transporting of LSKPWA animals or their products. Wild boars were classified as LSKPWA Category II. With both the wild boar population and damage to agriculture increasing, the new adjusted LSKPWA in 2021 (National Forestry and Grassland

[25] From *Pengpai News* https://m.thepaper.cn/kuaibao_detail.jsp?contid=12903326&from=kuaibao and *Xinhua News* http://www.news.cn/politics/2023-07/07/c_1129737515.htm

Administration, 2021) no longer includes wild boars in either the first or second class of protection. Nevertheless, wild boars are still listed in "the List of Terrestrial Wildlife with Important Ecological, Scientific and Social Values," established by the National Forestry and Grassland Administration on August 1, 2000 (Jiang, 2019). Despite a draft proposal in 2021 suggesting removing wild boars from this list, as of 2022, they remained listed.[26]

At the same time, wild monkeys remained classified under Category II and are thus protected under the LSKPWA. Multiple villagers were aware of the contrasting treatment of monkeys and wild boars. Different wild animals hold different positions in national wildlife-related laws and regulations, shaping attitudes toward them. One villager remarked, "Monkeys are not to be harmed as they are Category II protected animals. Wild boars, on the other hand, are not protected, but there are no firearms available." Another villager echoed this sentiment, stating, "We handed in our guns, they are not afraid. We don't dare to shoot monkeys, as they're considered second class protected animals." This reveals how the hierarchy between wild animals is established by state laws and regulations, thus influencing villagers' perceptions.

Yeh (2014) demonstrated that while Western environmentalism often categorizes animals into hierarchical groups (such as first- and second-class protected species), contemporary Tibetan environmentalists tend to uphold a perspective of care for all sentient beings as forms of life, grounded in the Buddhist principle that all sentient beings should be regarded equally. However, this case illustrates how state-imposed classifications of wildlife have significantly shaped villagers' evolving attitudes toward wild boars and contributed to the contrasting perceptions of wild boars and monkeys. In this context, the principle that all species should be evaluated equally has been undermined, replaced by a stratified view of animal life informed by legal and

[26] On June 30, 2023, the State Forestry and Grassland Administration (SFA) announced the newly adjusted "List of Land Wildlife Protected by the State with Benefits or Important Economic and Scientific Research Value". The wild boar has been removed from the list. From: *Xinhua* News, http://www.news.cn/politics/2023-06/30/c_1129726656.htm

bureaucratic frameworks.

Wildlife management is shaped by intricate social, legal, political, and ecological contexts (Chrulew & Wadiwel, 2017; Ojalammi & Blomley, 2015). In Europe, the classification of nonhuman animals as wild, domestic, or feral is rooted in historical legal and ethical understandings of ownership, property rights, responsibility, and animal autonomy (Braverman, 2015; Donaldson & Kymlicka, 2011; Florence, 2014). European law typically categorizes animals as personal property (res propria), unowned (res nullius), state property (res communis), or feral (formerly owned but no longer under human control). These distinctions often dictate who is accountable for the animals' welfare and fate, as well as the manner in which this responsibility is exercised. Such classifications are central to socio-legal management systems, shaping perceptions of wild boars and, as will be discussed, determining the conditions under which they live or die (Von Essen et al., 2023).

In China, the CWPL specifies "wildlife resources belong to the state", and this includes wild boars. The CWPL (Ministry of Ecology and Environment, 2023) has also indicated that the quantity and utilization of wild boars after hunting should be regulated by local governments. According to the CWPL, hunting non-nationally protected wild animals requires a hunting license from the relevant wildlife protection department at or above the county level. Hunters must also adhere to regulations governing hunting quotas, including specified species, quantities, locations, tools, methods, and time limits stipulated in the hunting license. While wild boars are not classified as nationally protected animals, they cannot be hunted indiscriminately. Villagers are well aware of this. As such, villagers lack the authority to manage the wild boars themselves, and must go through local government channels.

By engaging with wild boars, villagers derive a deeper understanding of the concrete ramifications of policy choices. Wild boars' shifting legal status exemplifies how policy frames them, and how the species are managed through socio-legal

assemblages. Wild boars' ambiguous role in the law gives villagers room to complain. The absence of firearms, a major complaint among villagers, does not directly affect wild boar management, as indiscriminate hunting is not permitted. The state has delegated wild boar management authority to local governments.

7.4 Wild Boars: Increased Distrust in Local Governance

The section will delve into how wild boars have evolved into influential actors in the relationship between local governance and farmers. Wild boars possess agency, exploiting their uncertain legal status, and thereby influencing the dynamics between the state, local governance, and farmers. As mentioned previously, the state delegates authority for managing wild boar hunting to local governments. However, due to the lack of cohesive legal regulations governing the control of wild boar overpopulation, direct and effective measures such as compensation for losses and hunting methods have proven ineffective within the current local governance framework (Wang & Mao, 2022). This has amplified villagers' distrust of the local government and their pessimism toward the future.

The township police officers carry firearms and bear the responsibility for managing the wild boar population, yet they are unable to fulfill this duty. A county official elaborated:

> Each township is allocated an annual quota for culling wild boars, and the police stations are equipped with firearms for this purpose. But no one likes to go, particularly in mountainous areas. I once accompanied a police officer to a village for a wild boar hunt. The village secretary informed everyone about the hunting operation, but the boars were very smart (*jing de hen*) and might have heard the news. We took the gun squatting all night, and the boars did not come. When we came down from the mountain village, the secretary called us and told us the boar had come and asked us to turn back. We did not…It has also been mentioned in the County People's Congress, but there was no result.

The cadre had acknowledged wild boars' intelligence and used the same term "*jing*", like the farmers, to explain the challenges faced in wild boar hunting. This is not an excuse; hunting wild boars poses a significant challenge for these young cadres, many of whom may have become accustomed to urban life during their study periods. A senior officer with many years of experience in environmental NGOs highlighted the complexity of the wild boar issue and suggested, "The forest police can't hit them at all. You have to seek out the old, seasoned hunters and engage in guerrilla warfare with the wild boars."

Smith (2010) has observed that rural township governments have undergone intensive streamlining and rationalization programs, resulting in their transformation into "hollow shells." While these governments have been restructured from extractive entities into "service-oriented" agencies, their capacity has been further weakened by village amalgamations and the abolition of agricultural taxes and fees. These structural changes may underlie their diminished capacity and effectiveness when confronted with challenges such as wild boar management, resulting in a loss of agency in addressing such issues.

Villagers expressed skepticism not only about the effectiveness of the police in hunting wild boars, but also about their own duty. One villager remarked, "The police station is useless. In the past, whenever we had a serious problem with badgers, the police station promised to intervene, but they were ineffective. They came briefly and then left." Another villager echoed these sentiments, stating:

> Wildlife is too troublesome. We don't dare to confront them because we lack the means to fight back, such as firearms. Claiming that wild boars can be hunted implies calling the police station for assistance. But what can the police station do? They mainly patrol the highways, where wild boars are not found. Wild boars are in the forested mountain areas where they do not go.

Villagers not only doubted the police's abilities, but also distrusted them. They voiced criticism of the local bureaucratic system and detailed the local police department's efforts in managing wild boars as "*zouguochang* (走过场, cursory or going through the motions)". Villagers also expressed their disappointment with the "*buzuowei* (不作为, dereliction of duty)" of local governance regarding wild boar control. During conversations with two villagers, one remarked:

> Even though everyone knows that wild boars are causing significant damage to crops, and we spend nights on this mountain trying to drive them away with all kinds of noisy sounds, how can this situation persist for so long? The village committee should assess the amount of corn and potatoes lost by each household. But perhaps they fear offending their superiors? The town mayor assigns tasks to the village committee, but they seem to spend their days idly. It's an easy job. They either pass examinations or rely on *guanxi* (关系, connections) to obtain their positions. Each level of authority is afraid to speak out, and the county fails to hear the voice of the people. Wild boars are a scourge to our community, yet nobody seems to care.

In "*In the Land of the Eastern Queendom*," Jinba (2013) analyzed the relations between the state, local authority, and the *Danbawa* (Danba people) through the lens of a tourism project. He highlights the distrust between cadres and villagers in Danba. Cadres would occasionally refer to villagers as "rogue civilians" (*diaomin*), while villagers accused cadres of being lazy, selfish, irresponsible, corrupt, and bureaucratic (Jinba, 2013, p.73). Rural residents continue to encounter a level of government that perceives them primarily as problems to be managed, rather than as citizens to be served (Smith, 2010).In this context, wild boars act as a catalyst for increasing distrust. Thus, villagers' frustration with wild boars' behavior has devolved into a perception of dereliction of duty by local governance and subsequent accusations of

corruption against local authorities.

Edin (2003) noted that the failure to implement certain policies is often attributed more to the conflicting priorities and policies of the central government than to the inadequate control over local leaders. Gao (1999) also emphasizes the differences, which may arise as a result of policy implementation, even within the same region. Due to the informal, personal, and centralized nature of Communist Party governance, the individual traits and preferences of a province's top leader can lead to significantly different policy outcomes (Gao, 1999). The state's discourses on rural development emphasizes both productivist and environmental logics (Chen et al., 2017), but local officials, driven by the pursuit of economic development and social stability in the context of urbanization (Heberer & Schubert, 2017; Qi & Zhang, 2014), prioritize initiatives that align with these objectives. Consequently, subsistence mountain agricultural production, including wild boar hunting, may not be deemed essential for their performance metrics. Furthermore, the lack of clarity regarding regulations for wild boar management reflects the national focus on environmental protection in rural areas. All of these factors contribute to the *buzuowei* in wild boar control by local governance.

Another villager added to the conversation, "The only thing we can do is talk to the village secretary." The first villager then addressed me directly, saying, "Could you help me write an article? Wild boars are causing harm to agricultural production, and yet the village, township, and county government show no concern. I'll title it 'Wild Boars Harm Agricultural Production, and the Village, Township, County Government Shows No Concern,' and I'll submit it to *People's Daily* online." In the face of the wild boar issue, villagers feel isolated.

Not only did one villager request me to write more about wild boars when I mentioned I was working on my dissertation, but they expected to communicate their suffering to the central government; they held the "great" policies and "purity" of the

central government in high regard, while attributing irresponsibility and corruption to local state officials (Jinba, 2013). Palden, a former village head, remarked, “The wild boars have been causing trouble for seven or eight years now, and farmers are struggling for nothing.” Upon learning that I was conducting doctoral research, he urged me to focus on the plight of farmers due to wild boar damage and the lack of state subsidies. Villagers hoped to receive government subsidies to alleviate the effects of wild boars on their livelihoods. Namgyal expressed frustration, stating, “The state lets us live in harmony with nature, but the wild boars are wreaking havoc on us peasants.” Many villagers lamented, “While the government protects wild animals, who is protecting us?” They hope the central state could provide subsidies. One villager echoed the need for advocacy for government support to offset the losses caused by wildlife. He said:

> Nowadays, the state must implement a policy that ensures funds are allocated for our protection after ecological and wildlife conservation efforts. Otherwise, while we protect, wild animals cause us suffering, making it impossible for local life to continue. With only houses in the forest, how can life persist? Vegetables cannot be grown, and wildlife destroys crops. Forestry loans cannot be secured, with only the salaries of village cadres increasing. How are the majority of people supposed to eat?

Then he mentioned the reduction in subsides for the Green for Grain policy. He noted:

> The state provides management fees for villages and state-owned forest land. Forest subsidies and grass subsidies were initiated through the Tianbao project (NFPP) during the administration of Zhu Rongji.[27] The forestry subsidy is substantial, totaling more than 600 yuan per person per year, while the grassland subsidy exceeds 300 yuan, amounting to a total of nearly 1,000 yuan. The Grain for Green policy, which commenced around 2000, initially provided noodles and rice for the first

[27] Zhu Rongji served as the 5th premier of China from 1998 to 2003.

> four or five years. Subsequently, monetary compensation was introduced, amounting to 260 yuan per mu for 16 years. Initially set for an eight-year duration, this timeframe had later been extended to 16 years. However, upon the end of this period, compensation was no longer provided. Currently, there is a subsidy of 20 yuan per mu for fallow land.

The reduction in subsidies for fallow land in recent years prompted villagers to link the issue of wild boars with government initiatives like the Grain for Green policy, hoping to secure additional financial assistance. Whether it is the demand for articles and information to disseminate, or the need to highlight the impact of animal protection measures or the Grain for Green policy, villagers have a clear expectation of subsidies. Ku (2003) mentioned that in the contractual relationship between villagers and the state, reciprocity and mutual exchanges are based on the notion of *zeren,* or mutual obligation, responsibilities, and duties, especially in the age of reform. He emphasizes that these *zeren*, however, are not rigidly defined, but are shaped by the villagers, who may selectively (and sometimes deceptively) present information to serve their own interests and support their perspectives. This parallels Jinba's (2013) argument that county and township cadres often lamented that the abundance of preferential policies for local villagers had led them to become reliant on "free subsidies." In the absence of continuous financial or material assistance, villagers would hold the county or township accountable for negligence, accusing them of dereliction of duty, or even corruption.

Moreover, the damage caused by wild boars is intertwined with the fundamental livelihood and motivation to farm. Several studies have highlighted the importance of implementing fair compensation schemes or alternative economic measures to mitigate crop damage (Hill, 2004; Liu et al., 2019; Pandey et al., 2016). The CWPL (Ministry of Ecology and Environment, 2023) also stipulates that in cases where the protection of wild animals under the provisions of this Law leads to injury or death to persons, or loss of crops or other property, the local people's government shall

provide compensation. Therefore, in Sunshine Village, villagers expected to receive compensation for wild boar damage. However, as mentioned by Driessen (2018), many shrinking remote communities have been allowed to "die" because local governments have withdrawn subsidies from programs.

The relentless destruction of crops by wild boars and the lack of effective control measures have compelled some villagers to abandon portions of their fields. Yangzom recounted, "We used to have 18 mu of land, but we returned 9 mu for reforestation. Now, we only cultivate 6 mu. The remaining 3 mu on the edge of the land is not planted, all of the wildlife would come, so it's useless to plant it." Similarly, Dawa lamented, "Despite planting seven to eight mu of land, we cannot harvest anything. We may abandon some fields next year due to the abundance of wildlife. Previously, the situation wasn't as severe, but now it's dire. Our main crops, like corn, are essential for feeding our livestock. If we cannot harvest them, we'll struggle to feed our animals." When the potatoes of a few families had been arched by the wild boar, *Niangniang* Yangchen said, "Maybe nobody will grow potatoes next year." The wild boars had destroyed their crops, and this has intensified the feeling of hopeless and facilitated the abandonment of farmland, releasing labor from it.

Rigzin, expressing his frustration, proposed imaginative solutions:

> Perhaps the government could pay us a management fee for planting trees upstream of the Yangtze River. This would provide income for the elderly, while young people could seek employment opportunities elsewhere. Our arable land is within the red line. The clothing we wear and the food we consume, including rice, flour, and noodles, are all sourced from outside of the Qinghai-Tibet plateau. If agricultural production decreases outside of the Qinghai-Tibet plateau, we may face food shortages on the plateau. Take a look at my land over there; the potatoes have been completely devoured by wild boars. Once fields covered the opposite hillside, but now it's all forest due to the Grain for

Green policy. Alternatively, why doesn't the government relocate us elsewhere?

The villagers' sense of hopelessness is compounded by the relentless scourge of wild boars. When asked about changes in the village, Rigzin lamented, "There's been a drastic change! But we're running out of ways to make a living, and our efforts go unrewarded. Wild boars, bears, and monkeys are wreaking havoc everywhere, every day." Ngawang added, "There's no hope left in our area. With the Grain for Green policy, we've lost our land and state subsidies, and wildlife continues to increase, leaving us with minimal income." Tsewang, the former village head of a neighboring village, expressed concern: "Wildlife populations are exploding. Eighty percent of our crops are destroyed by wild animals, and we have no solution. Medicinal herbs and caterpillar fungus are also disappearing rapidly." The feeling has also been promoted by the state's discursive context of "rural" and "the countryside" as overlaid by "ineffective" and "useless" with normative concerns over modernity and urbanization (Driessen, 2018).

Wild boars play a crucial role in the dynamics between the state, local governance, and peasants. Their uncertain legal status, the irresponsibility of local governance, and the lack of damage subsidies exacerbate villagers' feelings of being harmed by these animals, which in turn deepens the long-standing distrust in the local government (Jinba, 2013). However, wild boars damage the villagers' fundamental livelihoods and their connection to their homeland, intensifying feelings of powerlessness and despair. This has further strained relations with the local government. This distrust is not only rooted in the mutual perceptions of villagers and local cadres based on economic interests and social relations (Jinba, 2013), but also in their broader distrust of the local governance system and hopelessness with the land. Wild boars influenced the interplay between state policy, local governance, agricultural livelihoods, and villagers' perceptions. These challenges highlight the complex interplay between ecological and local governance policies, which intersect

and exert a profound influence on villagers' lives.

7.5 Conclusion

Niangniang Yangchen made the decision to harvest corn in August 2022, much earlier than usual, due to concerns about potential damage caused by wild boars. Wild boars play a crucial role in villagers' agricultural practices. To protect their crops from them, the villagers continued to employ various methods. However, these methods' underscore wild boars' agency.

The case of the wild boar exemplifies the inherent tensions between productivist and environmental logics in Chinese state policy toward rural regions. As Chen et al. (2017) argue, these dual logics permeate state discourses on rural development, offering valuable analytical lenses for understanding contemporary rural transformation in China. Within this framework, the wild boar issue underscores the prioritization of environmental objectives in frontier areas dominated by subsistence mountain agriculture—often at the cost of villagers' livelihoods and welfare, and frequently without sufficient compensation. However, this environmental emphasis does not fully align with the state's broader discourse of economic development, thereby further marginalizing these already peripheral communities.

Furthermore, the wild boar case reveals the dynamics of state power and the diminished capacity of local governance at both the township and village levels. "Hollow shell" township governments (Smith, 2010), in conjunction with ecological policies, have created ecological and political spaces that enable wild boars to thrive. Neither township nor village authorities are able to exercise meaningful agency in addressing the issue. Simultaneously, although there is ongoing interaction between formal systems and the informal institutions embedded within rural communities (Li, 2009), these informal institutions continue to be weakened by state governance and policies. Rural residents, lacking effective horizontal social networks, are unable to defend their interests (Shou, 2015). With the prohibition of firearms and the

diminishing local autonomy in wildlife management, local governance's control of wild boars is often unsatisfactory, further undermining villagers' trust in local authority.

This case also demonstrates the process of "rural void" (Driessen, 2018), wherein nonhuman entities are actively involved. Wild boars, through their entanglement with ecological conditions, urbanization, ecological policies, legal frameworks, and weakened local governance, contribute significantly to the villagers' sense of despair. The escalating threat posed by wild boars intensifies villagers' feelings of helplessness toward their land, prompting some to contemplate abandoning farming and rural life altogether.

Chapter 8 Conclusion

Nonhuman actors have continuously reshaped the rural landscape and participated in the transformation of Sunshine Village. These entities, ranging from natural resources to wildlife, play a crucial role in the community's socio-economic dynamics.

The caterpillar fungus has driven people to move to higher mountains every spring, becoming a routine that attracts migrant workers back to the village, especially in the 2000s. While the caterpillar fungus has continually contributed to young people's education and engagement in urban life, it has gradually lost its appeal to them.

Additionally, local Tibetan pigs have disappeared from the landscape of the village. As of my fieldwork, pigs were rarely seen in the village, and the pigpens remained empty most of the year. It was common to see the *niangniang*s, who were once primarily responsible for raising pigs, traveling back and forth between the county seat or township and the village, accompanying their grandchildren to school.

Wire fences have also proliferated along the roadside forest areas because mushrooms can be sold for money, and the fences prevent others from entering each household's forest land to pick mushrooms. Thus, mushroom picking is no longer a leisure activity for subsistence; it has become a daily commercial activity from July to September. Every morning, people drive in groups to join the mushroom-hunting "army" outside of the village.

Additionally, the mountain village is no longer peaceful after nightfall due to wild boar invasions. The valley is filled with the sounds of gongs, electronic dog barks, and the cries of pigs being slaughtered, all played in loops, along with smoke rising from the fields. Wild boars have been destroying crops daily, causing people to lose

hope for the land. In the terraced fields cultivated along the mountains in the village, more and more lands are becoming abandoned.

As my fieldwork shows, nonhuman entities continue to play a significant role in the past, present, and future, reconstructing rural change and the landscape. Their influence underscores the interconnectedness between human and more-than-human actors in shaping the transformation of Sunshine Village.

8.1 Rural Transformation through Multispecies Entanglement

Nonhuman entities are deeply entangled with structural forces such as urbanization, marketization, and state intervention, collectively shaping livelihood strategies, land use patterns, and social relations throughout the process of rural transformation. As Hathaway (2022) discussed matsutake for Yunnanese Tibetans, nonhuman entities' specific requirements and traits, along with their unique world-making qualities, have deeply engaged the lives of many rural people, thereby altering their interconnected worlds.

Nonhuman entities are not merely supplementary elements illustrating urbanization and marketization; they are pivotal actors that alter the pace and direction of these processes. Nonhuman actors influence the direction of marketization, shaping how rural livelihoods are integrated into broader economic systems. Caterpillar fungus and mushrooms mediate commodification and marketization to rural areas and transforms villagers into commodity producers (Chen & Jiao, 2024). Existing research highlights the centrality of commodification and marketization in rural change (Huang, 2022; Zhang & Wu, 2024), particularly in agricultural production and land use. Unlike most regions in rural China, nonhuman entities in Sunshine Village guide local people to engage with distinct product attributes and value chains. As sources of livelihood and undomesticated resources, nonhuman actors determine how humans organize daily life and adapt to nature and reality. Unlike caterpillar fungus digging, mushroom picking outside of the village

requires monetary investment, such as transportation fees, which further integrates villagers into the market process. Thus, rural "left behind" labor, which originally functioned outside the capitalist system, has been drawn into capital accumulation through mushrooms (Tsing, 2015). However, due to the inherent characteristics and uncontrollable nature of wild production, capital intervention in the commodity relations of Sunshine Village remains limited. While villagers experience a sense of freedom through activities such as digging caterpillar fungus and mushroom picking, they also face the challenge of identifying new livelihood directions within the market economy. Moreover, different species accelerate or slow down the pace of urbanization depending on their ecological and economic characteristics. For instance, caterpillar fungus initially slowed the migration process by enabling villagers to remain on their land, but later contributed to urban engagement through wealth accumulation. In contrast, the proliferation of wild boars disrupted agricultural activities and prompted villagers to abandon their land.

The entanglement of nonhuman entities and marketization also shapes the trajectory of rural–urban migration and various forms of mobility. The case of caterpillar fungus, for instance, has altered the trajectory of rural–urban migration by enabling the first generation to escape poverty and accumulate wealth within their homeland, without the need to migrate to urban areas as laborers. In Sunshine Village, most young people engage with urban life primarily through education, resulting in significant generational differences in perceptions of rural life and the role of natural resources in shaping future aspirations. Furthermore, nonhuman entities facilitate diverse forms of mobility. The mushroom case demonstrates that mobility is not limited to rural–urban flows, as seen with caterpillar fungus and pig breed change, but also includes rural-to-rural migration within the region. This highlights how "left-behind" rural residents continue to seek livelihoods beyond their immediate villages. It also demonstrates that mobility is not solely a political, economic, or social process, but is also shaped by biological factors. Thus, nonhuman entities generate interaction effects during urbanization, contributing to urbanization while simultaneously

transforming the rural landscape.

The dynamics of species' biological traits regulate the relationship between market and kinship systems coexisting within the community. Yeh (2011) observed that as herders engage in market activities, their social interactions with family members become increasingly monetized. This market logic extends to relationships between relatives, emphasizing calculative thinking and profit motives, which become ingrained in everyday interactions between kin and villagers, reducing family relations to monetary relations. Compared to kinship relations, the mushroom trade emphasizes market standards and commercial activities, while the harvesting of caterpillar fungus highlights cooperation based on mutual benefit. Within the context of caterpillar fungus gathering, collaborative efforts prioritize the maximization of benefits over kinship considerations. However, the biological dynamics of these nonhuman entities can recalibrate kinship relations. For example, when caterpillar fungus yields are low, land transfer fees may become negotiable based on kinship ties, making these relationships more visible.

Nonhuman entities are also entangled in state–society relations. Numerous studies have explored the interactions between the state and peasants amid social, economic, and political transformations (Ku, 2003; Li, 2009; Yan, 2003). Yan (2003) contends that the state's intrusion during the collective period and its retreat in the post-collective era have exerted significant effects on the private lives of individual villagers, fostering ultra-utilitarian individualism in a context where traditional culture, radical socialism, and global capitalism compete. The division of caterpillar fungus land and the strengthening of forest boundaries due to *shanmu jun* both exemplify this ultra-utilitarian individualism. However, declining yields and resource limitations have reshaped social relations, prompting villagers to collaborate in seeking caterpillar fungus or to travel together in search of mushrooms. These dynamics illustrate how ecological constraints can reconfigure social relations and collective action. These dynamics illustrate how ecological constraints can

reconfigure social relations and collective action.

Nevertheless, nonhuman entities can also exacerbate tensions between villages and governance structures. Rural transformation in China has been shaped by the state's evolving modernist approach to environmental management (Chen et al., 2017; Yeh, 2023). On the one hand, *Shanmu jun* could not thrive without the spruce forests established by the Grain for Green policy and create the new livelihood for villagers. Local governments have also incorporated natural resources into governance, negotiating to allow villagers access to scenic areas for mushroom picking to support their livelihoods. The entanglement of mushrooms, forests and the market has enabled these programs to produce a win-win scenario of economic growth and environmental improvement.

On the other hand, the case of wild boars reveals the contradictions inherent in conservation policies. The growth of wild boar herds has been facilitated by wildlife protection laws and environmental policies. Although their activities threaten agricultural production, there are no active policies to manage these threats and protect human life and livelihoods. Wild boars' agency underscores the gap between national policy and local governance, thereby increasing villagers' distrust of local authorities. The intrusion of wild boars has provided a channel for expressing grievances about policy subsidies for Grain for Green. The case of wild boars reflects the prioritization of environmental conservation in frontier areas, often at the expense of local agricultural activities and in tension with dominant economic development discourses. Moreover, Li (2009) suggests that peasant behavior was not merely a result of state-imposed organizations and policies, but rather an outcome of the interaction between formal systems and informal institutions embedded in rural communities. However, the wild boar case also demonstrates that the power of informal institutions can be weakened under state governance and policy. Local villagers' agency in collectively managing wild boar threats has diminished.

Within broader discourses of urbanization and development, nonhuman entities consistently contribute to the realization of state objectives. Hathaway (2022) examined a significant political force that altered the interactions between matsutake mushrooms, trees, yaks, and people. This political shift not only influenced human activities, but also worked in relation to these organisms' unique properties and interactions, leading people to transition from trees cutting and yaks herding to matsutake hunting. Similarly, in Sunshine Village, the abandonment of logging in the 1990s due to environmental policies led to caterpillar fungus becoming the primary source of cash income. Yet, nonhuman actors continue to play a significant role in advancing state development, as the presence of caterpillar fungus enables residents to remain on their land and accumulate wealth, thereby supporting the education and urban engagement of the younger generation. The emergence of mushroom commodification has further supplemented the livelihoods of "left-behind" villagers. Subsequently, changes in pig breed and the proliferation of wild boars have reduced labor demands, prompting many to abandon farming and migrate to urban areas for employment. Despite their unpredictable and unruly nature, nonhuman actors remain integral to the processes of state development.

In the process, Climate change could not be ignored. These more-than-human species interact within the ecosystem, and consequently, human activities. it influenced the production of caterpillar fungus, mushrooms, and *qinggang* fruit. For instance, if *qinggang* trees produce sufficient fruit, wild boars will have enough food and will not invade villagers' crops to eat corn and potatoes. The caterpillar fungus yield is closely tied to the annual climate, particularly the amount of snowfall in winter. spruce trees grow condition impact on the yields and poorer quality of *shanmu jun*. Therefore, rural transformation must address the challenges of the Anthropocene, where nonhuman actors mediate ecological and climatic effects on human livelihoods and activities.

It calls for a rethinking of rurality—one that recognizes the indispensable role of

nonhuman actors and understands rurality as emerging through their entanglement with political, economic, and social relations. Nonhuman actors entangle marketization, urbanization, state policies, the environment, land, and social relations into a dynamic network in rural transformation. As Jones (2006) noted, considering the roles and presences of nonhumans is essential as networks in rural areas become denser, more complex, and varied. This research engages nonhuman actors in rural transformation and highlights the material realities of these presences within the flows of human agency and social construction that permeate rural networks. By examining the intricate interplay between human and nonhuman entities, this study underscores the multifaceted nature of rural transformation. It emphasizes that rural transformation is not solely driven by human actors, such as individuals, state agencies, and market forces, but also by the participation of more-than-human actors, including animals, plants, and other ecological elements. In this way, it challenges the scholarship of rural transformation which highlights the human relations of farm work.

Through the lens of multispecies entanglement, this research reveals how nonhuman actors mediate power relations in processes of rural transformation.While most more-than-human research emphasizes non-human actors in the commodity chain (Liang, 2011; Tsing, 2015; Yeh, 2013), human-non-human relationships (Govindrajan, 2019; Haraway, 2008), ecological conservation (Chen et al., 2016; Gao & Clark, 2024), and the interaction of cosmology (Escobar, 2020; Kohn, 2013), this study takes a broader view. Focusing on the past decade, this research traces the entanglements of fungi and pigs within processes of marketization, urbanization, governance, and the broader impacts of climate change on land use and social relations. These multispecies entanglements illuminate the multiple dimensions of power that structure rural transformation in contemporary China. This research examines how the marginality of Sunshine Village arises as a provisional outcome of the ongoing entanglements between local species and a wide range of human and nonhuman actors. In doing so, this research not only contributes to the understanding of rural transformation but also expands the scope of multispecies ethnography by

situating more-than-human entanglements at the core of social transformation processes.

8.2 What is the Future of Sunshine Village?

This research illustrates the process of rural void as conceptualized by Driessen (2018), highlighting the active participation of nonhuman entities. These entities have both delayed and accelerated the unfolding of rural void, demonstrating their complex role in shaping rural transformation. The population of young people who remain in the village is decreasing, and there are more and more empty houses; wild animals are becoming more numerous, and the cultivated land on the mountains is becoming increasingly desolate; the yields of caterpillar fungus and mushrooms are also becoming more unstable, and more middle-aged and young people are leaving the village to work during the winter.

Whether Sunshine Village will ultimately become a "void village" remains uncertain. To gain a deeper understanding of the villagers' expectations for the village's future, I engaged with them to gather their perspectives. While bending over to prepare food for the pigs, and discussing the future, 64-year-old *Niangniang* Yangchen said:

> Many young women from our village have gone out (of the village) to work, and there are few people left at home. In the future, when we are too old to work, they will still be working in the county seat, they won't be raising pigs or cattle anymore; they'll just buy them directly from the county market. It's cheaper and less tiring.

Rigzin is in his 60s, and the former village head:

> Now, the village is also experiencing aging. There are 31 people over the age of 65 in the village, out of a total population of 262. If you exclude those who have moved away but still have their *hukou* here, the actual population is about 240. Some people even changed their age when they

were younger, so although their *hukou* or ID card says they are 63 or 64, they are actually already 65. You see, the aging rate in the village is quite high...Why doesn't the state let us all plant trees in the upper and middle reaches of the Yangtze River and give us some management fees? The young people can go out (of the village) to earn money while we older folks receive management fees for planting of the trees…Look over there at my land, all the potatoes on the edge have been uprooted by wild boars…Why doesn't the state relocate us somewhere else?... If it's possible, there's no other way. Another solution I mentioned is planting trees.

Kunkyi, in his forties, was once a key figure in the village who even managed a chicken farm during the poverty alleviation campaign. He now resides in a neighboring county after getting married and only returns to the village during the caterpillar fungus season or for significant events such as weddings and funerals. During my fieldwork, he was constructing a house along the main street in the neighboring county seat, hoping to rent it out upon completion to support their retirement. He comments:

> We have not experienced much development here. In the past, we relied on the mountains for our livelihood (*kaoshan chishan*). If the caterpillar fungus disappears, we will have to seek work elsewhere.

Tsewang, in his forties, had served as the village head in the neighboring village for over 20 years. He started driving around 2000, first running a shuttle bus, then a truck. In 2008, he sold his vehicle and began contracting projects. He had already purchased a house in the county seat. Now, his oldest daughter has just passed the civil service exam, and his younger son is preparing for the college entrance exam. He comments:

> The wild animals have developed too quickly. Currently, the proliferation of wild animals has rendered the situation unmanageable. There is no

development here. Medicinal herbs and caterpillar fungus are becoming scarcer and will soon be completely depleted. I am uncertain about the future here; I'm very afraid that there will be no people left, and it will be empty. But for the next ten or twenty years, it should be fine. Our parents definitely won't go anywhere else; they wish to stay here for their retirement.

Ngawang, a middle-aged villager, sits idly in the prayer wheel pavilion, a bottle of alcohol by his side. His wife left the village many years ago, taking their younger daughter with her, while their older son is now in college. The family's five *mu* of land have all been rented out at 1,000 yuan per *mu* annually, providing an income of 5,000 yuan a year. This is just enough to cover their staple food expenses. With nothing to occupy his time in the village, Ngawang often finds work at construction sites outside the village. He says:

There is nothing much to do in this place anymore. Due to the Grain for Green policy, we have lost our agricultural land, and the state subsidies have ceased. The population of wild animals is increasing. There is no income to be made… We depend on medicinal herbs, yet they are becoming scarcer, and their yields are declining sharply. With less caterpillar fungus available, we have turned to mushroom picking. Young people have no prospects staying here.

The secretary from a neighboring village's committee who is around thirty years old discussed the situation on the way to the county seat while I rode in his car:

What can we develop here? Tourism is not good in our area. The yield of medicinal materials and caterpillar fungus is low. Last year was even worse, though this year has seen some improvement. *Qianghuo* is also being harvested less and less. What can we develop? The village isn't very big. Those who are young go to the cities and don't return. If they can't pass the civil service exam, they just find work.

At around 30 years old, Chemi was one of the youngest villagers, and had inherited the house and become the head of the family. She looked at her four-year-old daughter and added:

> I had never thought of leaving here...I should also pursue 9+3 education to get a job, otherwise, I would remain a farmer for life… The children will definitely leave in the future… Now, in the village, apart from Tsedol, who is the same age as me, there are no young people left.

Palkyi was my former student, who was preparing to take the college entrance exam the ensuing year (2023). He usually attends high school in the county seat and only returns to the village during holidays. He says, "I want to become a policeman in the future and develop my career outside. I aim to get a bachelor's degree."

Most villagers' future has nothing to do with the village. Within their context, development is primarily understood as the enhancement of cash income, and subsequently, the advancement of local industries within the framework of state discourse. Relying on the mountains for livelihood remains the way of life and production for the middle-aged and elderly in the village. More-than-human entities have strengthened the bond between the people and the land. However, as these NTFPs diminish and wild animals proliferate, people are losing hope in this land. With young people leaving the countryside for education and work, the means of both production and living are being uprooted, weakening their connection to the land. As Tsewang's older daughter said, "There might be more caterpillar fungus in the future. Our generation doesn't even know where the caterpillar fungus mountains are, so surely no one will be harvesting it."

Some villagers have started to graze yaks on the caterpillar fungus mountains. As of my fieldwork, there were about five households in the village that grazed yaks on the mountain (in the meadow area). In addition to the three or four households that

have been grazing yaks since the production team disbanded, Tsewang had just bought yaks in the spring of 2022 and started grazing them on the mountain. The main purpose of raising yaks in the village is to sell them for slaughter and meat. The former village head, Tsring, believes that the development of the area still depends on raising yaks. He stated, "As long as the mountains can support it, we can do it. They can graze on the mountain grass without needing grain. In the past, you had to pay a pasture fee of 10 yuan, but now you don't have to; you just need to provide some salt in the spring." However, Jigme shared her concerns:

> Now some people are feeding yaks and developing through yak farming. But if all villagers start raising yaks, what will the yaks eat? There is not enough grass on the mountains. If you buy 10 yaks, he buys 10 yaks, and around 60 families buy yaks to feed, the yaks will not have enough to eat. Only a few families can manage with enough food. If there are too many yaks, the grassland will not be sufficient.

Villagers often complain about the increasing dust on the mountains nowadays. The shifting interrelations between species persist in this manner. In the past, major households sold the yaks allocated by the production team and relied on collecting caterpillar fungus and mushrooms. However, the number of households engaged in yak grazing has now increased once again. Throughout this ongoing process, the relationships between species, the entire ecosystem, and the humans are continually evolving. People are persistently testing the carrying capacity of nature.

Many villagers believe that tourism could brighten the future of Sunshine Village, aligning with state policies and the mainstream rural transformation strategy (Wu et al., 2024). With the opening of hotels and guesthouses in the highest village, and the expansion of roadside guesthouses, more and more tourists are entering the village. *Huofo* described the area as "a green treasure land, a red hot land[28], and a religious

[28] *Huofuo* built a Red Army Long March Memorial Hall within the temple to showcase various artifacts he has collected over the past decades. These items were either left behind by or related to the Red

holy place," suggesting that developing tourism there would be ideal. Tsedol's husband, the deputy village chief, noted, "We can only rely on tourism. There are more tourists this year than ever before." This perception may be shaped by the tourism development in Danba County and the broader Western Sichuan region.

However, some villagers believe that tourism development requires support from the local government. While Danba has become a nationally acclaimed tourist destination in China—promoted through gendered narratives such as the "Valley of Beauties" and the "Eastern Queendom" (Jinba, 2013)—tourism development remains concentrated in areas near the county seat, including Jiaju, Zhonglu, and Suopo. In contrast, Sunshine Village is located far from the main tourism routes and outside the narrative of the Eastern Queendom. Tsewang supported tourism development, stating, "We should develop tourism here; otherwise, there will be no people left. But tourism still needs the support of the county government. The infrastructure is not good now. First of all, the roads and communications—tourists dare not drive up. How can you develop tourism if you don't have a (cell phone) signal here? It needs to be planned and scaled according to local customs." Although the village's homestay and tourism industries have seen some growth in recent years through personal investment, villagers perceive themselves as lagging behind the government-promoted tourist villages near the county seat. When *Niangniang* Metok showed me around her house, she said, "Can you help us find an entrepreneur to rent our house? Then we wouldn't have to take care of it, and we could move to the city. My husband says that tourism is developing in Zhonglu and Jiaju,[29] and many entrepreneurs rent houses to run guesthouses."

At the same time, differences in the locations of villagers' homes, such as proximity to the roadside, and unequal access to external resources have contributed to income gaps within the community through tourism. Accommodations located

Army when they passed through this area during the Long March in the mid-1930s.

[29] The famous tourism villages in Danba.

along the roadside and at the top of the mountain are hotel-scale operations and have established employment relationships with local villagers. The homestay next to the hotel at the mountain's summit is also a dedicated building. Some villagers hope to turn their homes into guesthouses, and some already have a bit of experience in hospitality. Yangjian, Gyatso's youngest brother, wanted to convert their house into a guesthouse. "This is the best view in the village," he said. Villagers remain engaged in exploring tourism development opportunities as a means to enhance their livelihoods. Since the summer of 2024, several women had set up a coffee camp on the road at the foot of the mountain, catering to passing travelers.

Villagers also mentioned that the nearby Tibetan area attracted many tourists because of the wild marmots. When I returned to the village for the first time in ten years in 2019, unaware of the damage wild animals had caused to crops, I was curious about the large groups of monkeys in the farmland. These wild animals that damage crops might attract tourists. A Shanghai businessman, Lao Li, who is involved in paragliding and cooperatives in the village, is optimistic about Sunshine Village's tourism development. He hopes to turn Sunshine Village into a "Disneyland" where visitors can have an immersive travel experience, enjoying both thrilling outdoor activities and the local culture and lifestyle.

While writing my thesis, I often dreamed of returning to Sunshine Village. One particular vision stood out: it was an afternoon sunset, and the setting sun had turned the snow-capped mountains opposite the village into a golden orange. Against the backdrop of the sunlit mountains were rows of modern buildings of varying heights and the shadow of a cable car line running to the mountain's summit. I stood on the viewing platform, a traditional Chinese structure facing the snow mountain, which also served as a bustling gathering place for tourists. Tour guides, holding small flags, led groups of visitors back and forth. In the center of the platform, there was a pot of self-service food, featuring Guangdong-style beef rice noodles.

This vision made me ponder: Is the future of rural areas solely a matter of meeting urban consumption demands?

Figure 10: One of sacred mountains in Sunshine Village (2009)

References

Anagnost, A. (2004). The corporeal politics of quality (suzhi). *Public Culture*, *16*(2), 189-208.

Apffel-Marglin, F. (1996). Introduction: Rationality and the World. In F. Apffel-Marglin & S. A. Marglin (Eds.), *Decolonizing knowledge: From development to dialogue* (pp. 1-39). Clarendon Press.

Appadurai, A. (1988). Introduction: Place and voice in anthropological theory. *Cultural anthropology*, *3*(1), 16-20.

Bate, T. (2022). Domesticating Women, Animals, the Environment, and Spiritual Entities: Navigating Boundaries in the Pastoral Community of Limi, Nepal. *Religions*, *13*(6), 495.

Bebbington, A. (1997). Social capital and rural intensification: local organizations and islands of sustainability in the rural Andes. *Geographical journal*, 189-197.

Bebbington, A. (1999). Capitals and capabilities: a framework for analyzing peasant viability, rural livelihoods and poverty. *World development*, *27*(12), 2021-2044.

Bebbington, A. (2000). Reencountering development: Livelihood transitions and place transformations in the Andes. *Annals of the association of american geographers*, *90*(3), 495-520.

Bennett, M. T. (2008). China's sloping land conversion program: institutional innovation or business as usual? *Ecological Economics*, *65*(4), 699-711.

Berdegué, J. A., Rosada, T., & Bebbington, A. J. (2013). Rural transformation.

Blanchette, A. (2015). Herding species: Biosecurity, posthuman labor, and the American industrial pig. *Cultural anthropology*, *30*(4), 640-669.

Boonman-Berson, S., Driessen, C., & Turnhout, E. (2019). Managing wild minds: From control by numbers to a multinatural approach in wild boar management in the Veluwe, the Netherlands. *Transactions of the Institute of British Geographers*, *44*(1), 2-15.

Boonman-Berson, S., & van Bommel, S. (2023). How to do multispecies-ethnographies when exploring human-(wild) animal interactions: Affect, multisensory communication and materiality. In *Methods in Human-Animal Studies* (pp. 133-153). Routledge.

Braverman, I. (2015). *Animals, biopolitics, law: lively legalities*. Routledge. c

Brown, M., & Ready, E. (2022). Market integration and cooperative resource harvesting among kin, clan, and neighbors in rural China. *Ecology and Society*, *27*(4).

Bryman, A. (2016). *Social research methods*. Oxford university press.

Bulag, U. (2002). From Yeke-juu league to Ordos municipality: settler colonialism and alter/native urbanization in Inner Mongolia. *Provincial China*, *7*(2), 196-234.

Buller, H. (2015). Animal geographies II: methods. *Progress in Human Geography*, *39*(3), 374-384.

Bum, T. (2018). Translating ecological migration policy: A conjunctural analysis of

Tibetan pastoralist resettlement in China. *Critical Asian Studies*, *50*(4), 518-536.

Bum, T., & Cheng, S. (2025). Multispecies placemaking: Tibetan pastoralist perceptions of the COVID-19 pandemic. *Area*, e70034.

Burnett, D. (2014). *Rgyalrong conservation and change: Social change on the margins of Tibet*. Lulu. com.

Caibei. (2014). Trading Patterns of Cordyceps Sinensis in Tibetan Regions——Take" Floating" Cordyceps Sinensis of Guoluo Tibetan Prefecture of Qinghai as Example [J]. *Qinghai Journal of Ethnology*.

Cai, J., Jiang, Z., Zeng, Y., Li, C., & Bravery, B. D. (2008). Factors affecting crop damage by wild boar and methods of mitigation in a giant panda reserve. *European Journal of Wildlife Research*, *54*, 723-728.

Cartier, C. (2003). Symbolic city/regions and gendered identity formation in south China. *Provincial China*, *8*(1), 60-77.

Castree, N. (2003). A post-environmental ethics? *Ethics, Place & Environment*, *6*(1), 3-12.

Cencetti, E. (2011). Tibetan plateau grassland protection: Tibetan Herders' ecological conception versus state policies. *HIMALAYA, the Journal of the Association for Nepal and Himalayan Studies*, *30*(1), 12.

Chauhan, A., Patel, B., Maurya, R., Kumar, S., Shukla, S., & Kumar, S. (2016). Pig production system as a source of livelihood in Indian scenario: An overview. International Journal of Science, *Environment and Technology*, 5(4), 2089-2096.

Chan, A., Madsen, R., & Unger, J. (2009). *Chen village: Revolution to globalization*. Univ of California Press.

Chan, K. W. (1992). Economic growth strategy and urbanization policies in China, 1949–1982. *International Journal of Urban and Regional Research*, *16*(2), 275-305.

Chan, K. W. (2010). The household registration system and migrant labor in China: Notes on a debate. *Population and development review*, *36*(2), 357-364.

Chan, K. W. (2018). China's urbanization 2020: a new blueprint and direction. In *Urbanization with Chinese Characteristics: The Hukou System and Migration* (pp. 210-218). Routledge.

Chan, K. W. (2021). Internal migration in China: Integrating migration with urbanization policies and hukou reform. *KNOMAD—Policy Note*, *16*, 2022-2001.

Chan, K. W., & Buckingham, W. (2008). Is China abolishing the hukou system? *The China Quarterly*, *195*, 582-606.

Chan, K. W., & Zhang, L. (1999). The hukou system and rural-urban migration in China: Processes and changes. *The China Quarterly*, *160*, 818-855.

Chao, W., Lin, Z., & Bingzhen, D. (2017). Assessment of the impact of China's Sloping Land Conservation Program on regional development in a typical hilly region of the loess plateau—a case study in Guyuan. *Environmental Development, 21*, 66-76.

Chen, M., Liu, W., Lu, D., Chen, H., & Ye, C. (2018). Progress of China's new-type urbanization construction since 2014: A preliminary assessment. *Cities*, *78*, 180-193.

Chen, J.-C., Zinda, J. A., & Yeh, E. T. (2017). Recasting the rural: State, society and environment in contemporary China. In (Vol. 78, pp. 83-88): Elsevier.

Chen, P., Gao, Y., Lee, A. T., Cering, L., Shi, K., & Clark, S. G. (2016). Human–carnivore coexistence in Qomolangma (Mt. Everest) nature reserve, China: patterns and compensation. *Biological Conservation*, *197*, 18-26.

Chen, Y., & Jiao, C. (2024). How agricultural contracting services are reshaping small-scale household farming in China. *The Journal of Peasant Studies*, *51*(2), 339-357.

Cheng, P. (1985). *Livestock breeds of China*.

Chio, J. (2011). The appearance of the rural in China's tourism. *Provincial China*, *3*(1).

Chio, J. (2017). Rendering rural modernity: Spectacle and power in a Chinese ethnic tourism village. *Critique of Anthropology*, *37*(4), 418-439.

Chrulew, M., & Wadiwel, D. J. (2017). *Foucault and animals*. Brill Leiden.

Cloke, P. (2006). Conceptualizing rurality. *Handbook of rural studies*, *18*, 18-28.

Coggins, C. (2019). Sacred Watersheds and the fate of the village body politic in Tibetan and han communities under China's ecological civilization. *Religions*, *10*(11), 600.

Cook, G. (2015). "'A pig is a person'or 'You can love a fox and hunt it': Innovation and tradition in the discursive representation of animals." *Discourse & Society* 26(5): 587-607.

Costello, S. (2008). The flow of wealth in Golok pastoralist society: Towards an assessment of local financial resources for economic development. In *Proceedings of the Tenth Seminar of the IATS, 2003. Volume 11: Tibetan Modernities* (pp. 73-112). Brill.

Council, T. S. (2014). *National New Urbanization Plan (2014-2020)*. Xinhua News Agency Retrieved from https://www.gov.cn/zhengce/2014-03/16/content_2640075.htm

Cunningham, A., & Long, X. (2019). Linking resource supplies and price drivers: Lessons from Traditional Chinese Medicine (TCM) price volatility and change, 2002–2017. *Journal of ethnopharmacology*, *229*, 205-214.

Danba County Annals Compilation Committee (Ed.). (1996). *Danba Xianzhi [Damba County Annals]*. In. Beijing: Publishing House of Minority Nationalities.

Danba County Annals Compilation Committee (Ed.). (2009). *Danba Xianzhi: (1989-2005) [Damba County Annals: (1989-2005)]*. Sichuan Science and Technology Press.

Dai, Y., Hacker, C. E., Zhang, Y., Li, Y., Li, J., Xue, Y., & Li, D. (2020). Conflicts of human with the Tibetan brown bear (Ursus arctos pruinosus) in the Sanjiangyuan region, China. *Global Ecology and Conservation*, *22*, e01039.

Dade, M. C., Bennett, E. M., & Robinson, B. E. (2022). Property rights play a pivotal role in the distribution of ecosystem services among beneficiaries. *Ecosystems*

and People, *18*(1), 131-145.
Despret, V. (2004). The body we care for: Figures of anthropo-zoo-genesis. *Body & society*, *10*(2-3), 111-134.
Dmu Dge, B. G. (1997). *Maoergai Sangmudan quanji disanjuan [Collections of Dmu Dge Bsam Gtsan: Volume 3]*. Qinghai Minzu Chubanshe.
Donaldson, S., & Kymlicka, W. (2011). *Zoopolis: A political theory of animal rights*. Oxford University Press, USA.
Driessen, M. (2018). Rural voids. *Public Culture*, *30*(1), 61-84.
Duggan, C., & Peeren, E. (2020). Making up the British countryside: a posthuman critique of Country Life's narratives of rural resilience and conservation. *Journal of Rural Studies*, 80, 350-359.
Duojie, C. (2022). Beyond sustainable livelihoods: A diverse economies approach to rural peasant livelihoods in China's Qinghai Province. *Asia Pacific Viewpoint*, *63*(1), 12-24.
Duojie, C., & Scobie, M. (2023). Rural livelihoods and caterpillar fungus collection: Diverse economies of surplus for dignified labour. *Asia Pacific Viewpoint*.
Edin, M. (2003). State capacity and local agent control in China: CCP cadre management from a township perspective. *The China Quarterly*, *173*, 35-52.
Ellis, F. (2000). *Rural livelihoods and diversity in developing countries*. Oxford university press.
Escobar, A. (2020). *Territories of difference: place, movements, life, redes*. Duke University Press.
Fei, X. (1980). Guanyu woguo minzu de shibie wenti [On the identification of our nationalities]. *Chinese Academy of Social Sciences*(1), 147-162.
Fei, X. (1989). Zhonghua Minzu de Duoyuan Yiti Geju [Configuration of Plurality and Unity of the Chinese Nation]. *Zhonghua Minzu Duoyuan Yiti Geju*, 1-36.
Feng, Z., Yang, Y., Zhang, Y., Zhang, P., & Li, Y. (2005). Grain-for-green policy and its impacts on grain supply in West China. *Land Use Policy*, *22*(4), 301-312.
Fischer, A. M. (2011). The great transformation of Tibet? Rapid labor transitions in times of rapid growth in the Tibet Autonomous Region. *HIMALAYA, the Journal of the Association for Nepal and Himalayan Studies*, *30*(1), 14.
Florence, L. R. (2014). When ferae naturae attack: Public policy implications and concerns for the public and state regarding the classification of indigenous wildlife as interpreted under state immunity statutes. *Hamline J. Pub. L. & Pol'y*, *35*, i.
Frantz, L., Meijaard, E., Gongora, J., Haile, J., Groenen, M. A., & Larson, G. (2016). The evolution of Suidae. *Annual review of animal biosciences*, *4*, 61-85.
Fuentes, A. (2010). Naturalcultural encounters in Bali: Monkeys, temples, tourists, and ethnoprimatology. *Cultural anthropology*, *25*(4), 600-624.
Galipeau, B. A. (2021). Free in the mountains or home in the vineyard: Institutional changes in agriculture and negotiating between contract farm labour and valuable fungi collection in Tibet. *Journal of Agrarian Change*, *21*(1), 143-159.
Galvin, S. S. (2018). Interspecies relations and agrarian worlds. *Annual Review of*

Anthropology, *47*(1), 233-249.
Gao, M. C. (1999). *Gao village: A portrait of rural life in modern China*. Hong Kong University Press.
Gao, Y., & Clark, S. G. (2024). A practical guide to understanding the context of human-wildlife coexistence. *Journal of Environmental Studies and Sciences*, 1-12.
Gao, Y., Wang, Y., Lee, A. T., Liu, Y., Luo, Y., Orrick, K., Alexander, J. S., Sangpo, J. T., & Clark, S. G. (2023). Contextualizing sociodemographic differences in Tibetan attitudes toward large carnivores. *Conservation Science and Practice*, *5*(12), e13049.
Geertz, C. (1973). *The interpretation of cultures* (Vol. 5019). Basic books.
Gelek, & Li, T. (1996). Rural Urbanization in China's Tibetan Region—Duilongdeqing County as a Typical Example. *Chinese Sociology & Anthropology*, *28*(4), 34-56.
Giddens, A. (1992). Modernity and Self-Identity: Self and Society in the Late Modem Age. In: HeinOnline.
Gillen, J. (2016). Bringing the countryside to the city: Practices and imaginations of the rural in Ho Chi Minh City, Vietnam. *Urban Studies*, *53*(2), 324-337.
Garcia, B. C. (2011). *Small town China: Rural labour and social inclusion*. Taylor & Francis.
Govindrajan, R. (2019). *Animal intimacies: Interspecies relatedness in India's central Himalayas*. University of Chicago Press.
Groom, B., Grosjean, P., Kontoleon, A., Swanson, T., & Zhang, S. (2010). Relaxing rural constraints: a 'win-win'policy for poverty and environment in China? *Oxford Economic Papers*, *62*(1), 132-156.
Gu, C., Kesteloot, C., & Cook, I. G. (2015). Theorising Chinese urbanisation: A multi-layered perspective. *Urban Studies*, *52*(14), 2564-2580.
Halfacree, K. (2017). Rethinking 'rurality'. In *New forms of urbanization* (pp. 285-304). Routledge.
Han, J. (2020). Prioritizing agricultural, rural development and implementing the rural revitalization strategy. *China Agricultural Economic Review*, *12*(1), 14-19.
Hammersley, M. (2018). *What's wrong with ethnography?: Methodological explorations*: Routledge.
Hammersley, M., & Atkinson, P. (2007). *Ethnography: Principles in practice*. Routledge.
Han, J. (2020). Prioritizing agricultural, rural development and implementing the rural revitalization strategy. *China Agricultural Economic Review*, *12*(1), 14-19.
Haraway, D.(1994). A game of cat's cradle: science studies, feminist theory, cultural studies. *Configurations*, *2*(1), 59-71.
Haraway, D. (2008). When species meet. *U of Minnesota P*, *20*.
Haraway, D. (2010). When species meet: Staying with the trouble. *Environment and Planning D: Society and Space*, *28*(1), 53-55.
Haraway, D. J. (2020). *Staying with the trouble: Making kin in the Chthulucene*. Duke University Press.

Harwood, R. (2009). Negotiating modernity at China's periphery: development and policy interventions in Nujiang Prefecture. In *China's Governmentalities* (pp. 75-99). Routledge.

Hathaway, M. (2014). Wild commodities and environmental governance: transforming lives and markets in China and Japan. *Conservation and Society*, *12*(4), 398-407.

Hathaway, M. J. (2022). *What a Mushroom Lives For: Matsutake and the worlds they make*. Princeton University Press.

He, Z., & Zuo, Q. (2016). Yige 'bianyuan' zuqun de wenhua he shenghuo: 'Jiarong zangqu shehuishi yanjiu' pingjia [The Culture and Life of a 'Marginal' Ethnic Group: A Study of 'the Social History of the Jiarong Tibetan Region']. *China Tibetology*(1), 216-219.

Heberer, T., & Schubert, G. (2017). County and township cadres as a strategic group. A new approach to political agency in China's local state. In *Critical Readings on the Communist Party of China (4 Vols. Set)* (pp. 1141-1177). Brill.

Hill, C. M. (2004). Farmers' perspectives of conflict at the wildlife–agriculture boundary: some lessons learned from African subsistence farmers. *Human dimensions of wildlife*, *9*(4), 279-286.

Hodgetts, T., & Lorimer, J. (2015). Methodologies for animals' geographies: Cultures, communication and genomics. *Cultural geographies*, *22*(2), 285-295.

Holliday, J., & Cleaver, M. P. (2008). Medicinal value of the caterpillar fungi species of the genus Cordyceps (Fr.) Link (Ascomycetes). A review. *International Journal of Medicinal Mushrooms*, *10*(3).

Hopping, K. A., Chignell, S. M., & Lambin, E. F. (2018). The demise of caterpillar fungus in the Himalayan region due to climate change and overharvesting. *Proceedings of the National Academy of Sciences*, *115*(45), 11489-11494.

Hu, X. (2004). *The little shops of Lhasa, Tibet: Migrant businesses and the formation of markets in a transitional economy*. Harvard University.

Huang, J. (2022). China's rural transformation and policies: Past experience and future directions. *Engineering*, *18*, 21-26.

Huang, P. C. (1990). *The peasant family and rural development in the Yangzi Delta, 1350-1988*. Stanford University Press.

Huber, F. K., Yang, Y., Weckerle, C. S., & Seeland, K. (2014). Diversification of livelihoods in a society in transition: A case study of Tibetan communities in Southwest China. *Society & Natural Resources*, *27*(7), 706-723.

Hyvärinen, P. (2019). Beekeeping expertise as situated knowing in precarious multispecies livelihoods. *Sosiologia*, *56*(4), 365–381-365–381.

Ilbery, B. (2014). *The geography of rural change*. Routledge.

themselves at home in the world. In *Shifting contexts* (pp. 57-80). Routledge.

Ingold, T. (1980). Hunters, pastoralists, and ranchers: reindeer economies and their transformations. *(No Title)*.

Ingold, T. (2006). Rethinking the animate, re-animating thought. *Ethnos*, *71*(1), 9-20.

Ingold, T. (2021). *The perception of the environment: essays on livelihood, dwelling and skill*. routledge.

Institution, B. (2015). *Policy Forum on China's urbanization and hukou reform* Alexandria, VA https://www.brookings.edu/events/chinas-urbanization-and-hukou-reform/

Jankowiak, W. (2004). Market Reforms, Nationalism, And The Expansion Of Urban China's Moral Horizon. *Urban Anthropology and Studies of Cultural Systems and World Economic Development*, 167-210.

Jian, J. (2021). Bianzhengxue shiyexia de Xizang lama yu tusi [Tibetan Lama and Tusi in the Perspective of Border Politics]. In M. Wang & K. Huang (Eds.), *Yincang de renqun: Jindai zhongguo de zuqun yu bianjie [Modern China : Minority nationalities]*. Showwe Information Co., Ltd.

Jiang, Z. (2019). China's key protected species lists, their criteria and management. *Biodiversity Science*, 27(6), 698.

Jinba, T. (2013). *In the land of the Eastern Queendom: The politics of gender and ethnicity on the Sino-Tibetan border*. University of Washington Press.

Jinba, T. (2017). Seeing like borders: convergence zone as a post-Zomian model. *Current Anthropology*, 58(5), 551-575

Jing, Z., Yu, Y., Wang, Y., Su, X., Qiu, X., Yang, X., & Xu, Y. (2024). Study on the mechanism of livelihood behavior decision of rural residents in ethnic tourism villages in Western Sichuan. *Ecological Indicators*, *166*, 112250.

Jones, O. (2006). Non-human rural studies. *Handbook of rural studies*, 185-200.

Jones, O., & Cloke, P. (2008). Non-human agencies: trees in place and time. In *Material agency: Towards a non-anthropocentric approach* (pp. 79-96). Springer.

Judd, E. R. (1994). *Gender and power in rural North China*. Stanford University Press.

Keuling, O., Stier, N., & Roth, M. (2008). How does hunting influence activity and spatial usage in wild boar Sus scrofa L.? *European Journal of Wildlife Research*, *54*, 729-737.

Kipnis, A. B. (1997). *Producing guanxi: Sentiment, self, and subculture in a north China village*. Duke University Press.

Kipnis, A. B. (2016). *From village to city: Social transformation in a Chinese county seat*. Univ of California Press.

Kipnis, A. B. (2019). *Governing educational desire: Culture, politics, and schooling in China*. University of Chicago Press.

Kirksey, S. E., & Helmreich, S. (2010). The emergence of multispecies ethnography. *Cultural anthropology*, *25*(4), 545-576.

Kohn, E. (2007). How dogs dream: Amazonian natures and the politics of transspecies engagement. *American Ethnologist*, *34*(1), 3-24.

Kohn, E. (2013). *How forests think: Toward an anthropology beyond the human*. Univ of California Press.

Ku, H. B. (2003). *Moral politics in a south Chinese village: Responsibility, reciprocity, and resistance*. Rowman & Littlefield.

Kung, J. K.-s. (2002). Off-farm labor markets and the emergence of land rental markets in rural China. *Journal of comparative Economics*, *30*(2), 395-414.

Kvaerne, P. (1995). *The Bon religion of Tibet: the iconography of a living tradition*. Serindia Publications.

Lacour, C., & Puissant, S. (2007). Re-urbanity: urbanising the rural and ruralising the urban. *Environment and Planning A*, *39*(3), 728-747.

Lamprey, R. H., & Reid, R. S. (2004). Expansion of human settlement in Kenya's Maasai Mara: what future for pastoralism and wildlife? *Journal of Biogeography*, *31*(6), 997-1032.

Lander, B., Schneider, M., & Brunson, K. (2020). A history of pigs in China: From curious omnivores to industrial pork. *The Journal of Asian Studies*, *79*(4), 865-889.

Lean, C. H., & Jones, C. J. (2023). The evolution of multispecies populations: a multilevel selection perspective. *Biology & Philosophy*, *38*(5), 40.

Lemel, J., Truvé, J., & Söderberg, B. (2003). Variation in ranging and activity behaviour of European wild boar Sus scrofa in Sweden. *Wildlife Biology*, *9*, 29-36.

Lha, B., Khrims, N. D. T., & Mianying, Z. (1994). "Jiarong zangxi de lishi yuanyuan ji yishu tezheng" [Historical origin and artistic features of Gyarong Tibetan Opera]. *Sichuan Xiju [Sichuan Opera]*, *1*.

Li, H. (2009). *Village China under socialism and reform: a micro-history, 1948-2008*. Stanford University Press.

Li, J. (2017). *Jiawu he Gyarong shehui jiegou* [Houses and social structure of Jiarong (Gyarong) Tibetans]. Zhongguo shehui kexue wenxian chubanshe (Social Science Academic Press).

Li, J. (2019). House Names and Gyarong House-Based Tibetan Society. *Thinking*, *45*(5), 18-24.

Li, L. (2007). *Xunzhao wenhua shenfen: yige jiarong zangzu cunluo de zongjiao minzuzhi [In Search of Cultural Identity: A Religious Ethnography of a Jajong Tibetan Village]*. Yunnan University Press.

Li, Y.-M., Gao, Z., Li, X., Wang, S., & Jari, N. (2000). Illegal wildlife trade in the Himalayan region of China. *Biodiversity & Conservation*, *9*, 901-918.

Li, Y.-j., Yu, H., Chen, T., Hu, J., & Cui, H.-y. (2016). Livelihood changes and evolution of upland ethnic communities driven by tourism: a case study in Guizhou Province, southwest China. *Journal of Mountain Science*, *13*, 1313-1332.

Li, Y., Wang, X.-L., Jiao, L., Jiang, Y., Li, H., Jiang, S.-P., Lhosumtseiring, N., Fu, S.-Z., Dong, C.-H., & Zhan, Y. (2011). A survey of the geographic distribution of Ophiocordyceps sinensis. *The Journal of Microbiology*, *49*(6), 913-919.

Liang, Y. (2011). Making gold: commodification and consumption of the medicinal fungus chongcao in Guangdong and Hong Kong. *Hong Kong Anthropologist*, *5*, 1-17.

Lin, J. (2006). Danbaxian yuyan wenhua ziyuan diaocha [Investigation of language and cultural resources of Danba County]. *Kangding Minzu Shifan Gaodeng Zhuanke Xuexiao Xuebao [Journal of Kangding Nationality Teachers'College]*, *15(5)*.

Lin, Y. (1948). *ChuanKang Jiarong de jiazu yu hunyin [Family and Marriage of Jiarong in Chuankang]*. Yanjing University.
Linke, J. (2016). 4 Re-shaping ‘soft gold'. *Biological Economies: Experimentation and the politics of agri-food frontiers*.
Liu, C., Wang, S., Liu, H., & Zhu, W. (2013). The impact of China's Priority Forest Programs on rural households’ income mobility. *Land Use Policy*, *31*, 237-248.
Liu, J., Li, S., Ouyang, Z., Tam, C., & Chen, X. (2008). Ecological and socioeconomic effects of China's policies for ecosystem services. *Proceedings of the National Academy of Sciences*, *105*(28), 9477-9482.
Liu, Q., Yan, K., Lu, Y.-f., Li, M., & Yan, Y.-y. (2019). Conflict between wild boars (Sus scrofa) and farmers: distribution, impacts, and suggestions for management of wild boars in the Three Gorges Reservoir Area. *Journal of Mountain Science*, *16*(10), 2404-2416.
Liu, Y., Liu, Y., Chen, Y., & Long, H. (2010). The process and driving forces of rural hollowing in China under rapid urbanization. *Journal of Geographical Sciences*, *20*, 876-888.
Lombardini, M., Meriggi, A., & Fozzi, A. (2017). Factors influencing wild boar damage to agricultural crops in Sardinia (Italy). *Current Zoology*, *63*(5), 507-514.
Long, H., Zou, J., Pykett, J., & Li, Y. (2011). Analysis of rural transformation development in China since the turn of the new millennium. *Applied Geography*, *31*(3), 1094-1105.
Luo, B. (2018). *Study on the image of Rgyalrong-Dmurdo in Multiple expression* Sichuan Normal University].
Ma, C. (1944). Jiarong Minzu shehui shi [Social History of the Jiarong Ethnic Group]. *Minzuxue yanjiu jikan [Collected Journal of Ethnographic Studies]*, *4*, 61-78.
Ma, L. J. (2005). Urban administrative restructuring, changing scale relations and local economic development in China. *Political Geography*, *24*(4), 477-497.
Makley, C. E. (2013). The politics of presence: voice, deity possession, and dilemmas of development among Tibetans in the People's Republic of China. *Comparative Studies in Society and History*, *55*(3), 665-700.
Makley, C. (2018). *The battle for fortune: State-led development, personhood, and power among Tibetans in China*. Cornell University Press.
Malcolmson, R., & Mastoris, S. (1998). *The English pig: A history*. A&C Black.
Mao, S., Qiu, S., Li, T., & Tang, M. (2020). Rural households’ livelihood strategy choice and livelihood diversity of main ethnic minorities in Chongqing, China. *Sustainability*, *12*(19), 8166.
Marks, R. B. (2017). *China: An environmental history*. Rowman & Littlefield.
Marx, K. (1972). *The marx-engels reader (Vol. 4)*: Norton New York.
Marx, K. (2024). *Capital: Critique of Political Economy, Volume 1*. Princeton University Press.
McIntyre-Mills, J., & Corcoran-Nantes, Y. (2021). *From Polarisation to Multispecies Relationships*. Springer.

McKee, J. K., Sciulli, P. W., Fooce, C. D., & Waite, T. A. (2004). Forecasting global biodiversity threats associated with human population growth. *Biological Conservation*, *115*(1), 161-164.

McOrist, S., et al. (2011). Modern pig farming in the People's Republic of China: growth and veterinary challenges. *Revue Scientifique et Technique-OIE* 30(3): 961.

Ministry of Ecology and Environment (2023). *Wildlife Protection Law of the People's Republic of China*. Retrieved from https://www.mee.gov.cn/ywgz/fgbz/fl/202302/t20230220_1016885.shtml

Mitchell, J. P. (2007). Ethnogtaphy. In W. Outhwaite & S. P. Turner (Eds.), *The SAGE handbook of social science methodology* (pp. 55-66). Los Angeles; London: SAGE.

Morelle, K., Lehaire, F., & Lejeune, P. (2014). Is wild boar heading towards movement ecology? A review of trends and gaps. *Wildlife Biology*, *20*(4), 196-205.

National Forestry and Grassland Administration (2021). *The newly adjusted "List of Key Protected Wild Animals in China" has been announced*. Retrieved from https://www.gov.cn/xinwen/2021-02/09/content_5586227.htm

Negri, A., Hardt, M., & Camfield, D. (2005). Multitude: war and democracy in the age of empire. *Labour*(56), 359.

Nemeth, D. J. (2017). Space, Time and Pig. *Ecology, Conservation and Management of Wild Pigs and Peccaries*. E. Meijaard and M. Melletti. Cambridge, Cambridge University Press**:** 49-58.

Nightingale, A. J., Eriksen, S., Taylor, M., Forsyth, T., Pelling, M., Newsham, A., Boyd, E., Brown, K., Harvey, B., & Jones, L. (2020). Beyond technical fixes: Climate solutions and the great derangement. *Climate and development*, *12*(4), 343-352.

Nyhus, P., & Tilson, R. (2004). Agroforestry, elephants, and tigers: balancing conservation theory and practice in human-dominated landscapes of Southeast Asia. *Agriculture, ecosystems & environment*, *104*(1), 87-97.

Nyima, T. (2011). Development discourses on the Tibetan plateau: Urbanization and expropriation of farmland in Dartsedo. *HIMALAYA, the Journal of the Association for Nepal and Himalayan Studies*, *30*(1), 16.

Oakes, T. (1997). Ethnic tourism in rural Guizhou: Sense of place and the commerce of authenticity. *Tourism, ethnicity, and the state in Asian and Pacific societies*, 35-70.

Oakes, T. (2005). *Tourism and modernity in China*. Routledge.

Office of the People's Government of Garza Prefecture (2024). *Policy Interpretation of the Forest and Grassland Fire Prevention Order 2024 of the People's Government of Garze Tibetan Autonomous Prefecture*. Retrieved from https://www.gzz.gov.cn/gzz_zcjd_wjjd/article/567723

Ogden, L. A., Hall, B., & Tanita, K. (2013). Animals, plants, people, and things: A review of multispecies ethnography. *Environment and society*, *4*(1), 5-24.

Ojalammi, S., & Blomley, N. (2015). Dancing with wolves: Making legal territory in

a more-than-human world. *Geoforum*, *62*, 51-60.
Pant, B., Rai, R. K., Wallrapp, C., Ghate, R., Shrestha, U. B., & Ram, A. (2017). Horizontal integration of multiple institutions: solution for Yarsagumba related conflicts in the Himalayan Region of Nepal? *International Journal of the Commons*, *11*(1), 464-486.
Pearson, C. (2015). Beyond 'resistance': rethinking nonhuman agency for a 'more-than-human'world. *European Review of History: Revue européenne d'histoire*, *22*(5), 709-725.
Peng, W., Robinson, B. E., Zheng, H., Li, C., Wang, F., & Li, R. (2019). Telecoupled sustainable livelihoods in an era of rural–urban dynamics: The case of China. *Sustainability*, *11*(9), 2716.
Peng, W., Robinson, B. E., Zheng, H., Li, C., Wang, F., & Li, R. (2022). The limits of livelihood diversification and sustainable household well-being, evidence from China. *Environmental Development*, *43*, 100736.
Polanyi, K. (1944). The great transformation. *Boston: Beacon*.
Pun, N. (2005). *Made in China: Women factory workers in a global workplace*. Duke University Press.
Qi, Y., & Zhang, L. (2014). Local environmental enforcement constrained by central–local relations in China. *Environmental Policy and Governance*, *24*(3), 216-232.
Qiu, H. (2023). Achieving the target set in the 14th Five-Year Plan ahead of schedule - exceeding 65%, urbanization enters the "second half of the game". *People's Daily Overseas Edition*. http://paper.people.com.cn/rmrbhwb/html/2023-03/29/content_25972874.htm
Qiu, X. (2009). *A Study on the Change of Behavior of Faith in the villages of Sichuan Tibetan Areas* [Doctoral dissertation, Sichuan University].
Ren, N. (1990). Sichuan dishiliuqu minzu zhi fenbu [Distribution of ethnic groups in the sixteenth district of Sichuan]. In *Ren naiqiang minzu yanjiu wenji [Essays on Ethnic Studies by Ren Naiqiang]*. The Ethnic Publishing Housing.
Ren, X. (2013). *Urban China*. John Wiley & Sons.
Robinson, B. E. (2016). Conservation vs. livelihoods: spatial management of non-timber forest product harvests in a two-dimensional model. *Ecological applications*, *26*(4), 1170-1185.
Rofel, L. (1999). *Other modernities: Gendered yearnings in China after socialism*. Univ of California Press.
Rosner, L. (2013). *The technological fix: how people use technology to create and solve problems*. Routledge.
Rutten, A., Casaer, J., Strubbe, D., & Leirs, H. (2020). Agricultural and landscape factors related to increasing wild boar agricultural damage in a highly anthropogenic landscape. *Wildlife Biology*, *2020*(1), 1-11.
Sayes, E. (2014). Actor–Network Theory and methodology: Just what does it mean to say that nonhumans have agency? *Social studies of science*, *44*(1), 134-149.
Seale, C. (2012). *Researching society and culture* (3 ed.). Thousand Oaks, CA:: SAGE Publications.

Schmalzer, S. (2002). Breeding a better China: pigs, practices, and place in a Chinese county, 1929–1937. *Geographical Review*, *92*(1), 1-22.
Schneider, M. (2011). *Feeding China's pigs: implications for the environment, China's smallholder farmers and food security.*
Schneider, M. (2017). Wasting the rural: Meat, manure, and the politics of agro-industrialization in contemporary China. *Geoforum*, *78*, 89-97.
Scoones, I. (2013). Livelihoods perspectives and rural development. In *Critical perspectives in rural development studies* (pp. 159-184). Routledge.
Scoones, I. (2015). *Sustainable livelihoods and rural development*. Practical Action Publishing.
Shen, J. (2006). Understanding dual-track urbanisation in post-reform China: conceptual framework and empirical analysis. *Population, Space and Place*, *12*(6), 497-516.
Shou, H. (2015). Between the formal and informal: Institutions and village governance in rural China. *China: An International Journal*, *13*(2), 24-44.
Shrestha, U. B., & Bawa, K. S. (2013). Trade, harvest, and conservation of caterpillar fungus (Ophiocordyceps sinensis) in the Himalayas. *Biological Conservation*, *159*, 514-520.
Smits, F., & Martín, R. I. (2019). 'The Village'as a Site for Multispecies Innovation. *Etnofoor*, *31*(2), 67-86.
Smith, G. (2010). The hollow state: rural governance in China. *The China Quarterly*, *203*, 601-618.
Siljander, M., Kuronen, T., Johansson, T., Munyao, M. N., & Pellikka, P. K. (2020). Primates on the farm–spatial patterns of human–wildlife conflict in forest-agricultural landscape mosaic in Taita Hills, Kenya. *Applied Geography*, *117*, 102185.
Simon, S. (2015). Real people, real dogs, and pigs for the ancestors: the moral universe of "domestication" in indigenous Taiwan. *American Anthropologist*, *117*(4), 693-709.
State Council. (2020). Notice on Resolutely Stopping the "Non-agriculturalization" of Cultivated Land. http://www.gov.cn/zhengce/content/2020-09/15/content_5543645.htm
Stengers, I., Braun, B., & Whatmore, S. J. (2010). Including nonhumans in political theory: opening the pandora's box? *Political matter*, 3-33.
Stewart, M. O. (2014). Constructing and Deconstructing the Commons. *Mapping Shangrila: Contested Landscapes in the Sino-Tibetan Borderlands*, 175.
Su, M. M., Wall, G., Wang, Y., & Jin, M. (2019). Livelihood sustainability in a rural tourism destination-Hetu Town, Anhui Province, China. *Tourism Management*, *71*, 272-281.
Sulek, E. (2010). Disappearing sheep: The unexpected consequences of the emergence of the caterpillar fungus economy in Golok, Qinghai, China. *Himalaya*, *30*(1&2), 9-22.
Sulek, E. R. (2019). *Trading caterpillar fungus in Tibet*. Amsterdam University Press.

Tan, G. (2013). An ethnography of life and changes among Tibetan nomads of Minyag Dora Karmo, Ganzi Tibetan Autonomous Prefecture, Sichuan Province. *Études mongoles et sibériennes, centrasiatiques et tibétaines*(43-44).
Tian, Q., Guo, L., & Zheng, L. (2016). Urbanization and rural livelihoods: A case study from Jiangxi Province, China. *Journal of rural studies*, *47*, 577-587.
Thurfjell, H., Ball, J. P., Åhlén, P.-A., Kornacher, P., Dettki, H., & Sjöberg, K. (2009). Habitat use and spatial patterns of wild boar Sus scrofa (L.): agricultural fields and edges. *European Journal of Wildlife Research*, *55*, 517-523.
Toponym Leading Group of Danba County, S. P. (1987). Toponym List of Danba County, Garzê Tibetan Autonomous Prefecture, Sichuan Province. In: Toponym Leading Group of Danba County, Sichuan Province.
Torri, D. (2015). The Animated Landscape: Human and non-human communities in the Buddhist Himalayas. *Rivista degli studi orientali: LXXXVIII, supplemento 2, 2015*, 251-268.
Tsering, T. (2022). Toponymic Explanation. *China Tibetology*, *2*.
Tsing, A. (2012). Unruly edges: mushrooms as companion species: for Donna Haraway. *Environmental humanities*, *1*(1), 141-154.
Tsing, A. (2013a). Sorting out commodities: How capitalist value is made through gifts. *HAU: Journal of Ethnographic Theory*, *3*(1), 21-43.
Tsing, A. (2013b). More-than-human sociality: a call for critical description. In Anthropology and nature (pp. 27-42). Routledge.
Tsing, A. L. (1994). From the margins. *Cultural anthropology*, *9*(3), 279-297.
Tsing, A. L. (2015). *The Mushroom at the End of the World*. Princeton University Press.
Tsing, A., Satsuka, S., & Group, M. W. R. (2008). Diverging understandings of forest management in matsutake science. *Economic Botany*, *62*, 244-253.
Tsomu, Y. (2016). Guozhuang Trading Houses and Tibetan Middlemen in Dartsedo, the" Shanghai of Tibet". *Cross-Currents: East Asian History and Culture Review*, *5*(2), 291-349.
Turton, A. (2013). Patrolling the Middle-Ground: Methodological Perspectives on 'Everyday Peasant Resistance'. In *Everyday forms of peasant resistance in South-East Asia* (pp. 36-48). Routledge.
Uchida, E., Xu, J., & Rozelle, S. (2005). Grain for green: Cost-effectiveness and sustainability of China's conservation set-aside program. *Land Economics*, *81*(2), 247-264.
Uchida, E., Xu, J., Xu, Z., & Rozelle, S. (2007). Are the poor benefiting from China's land conservation program? *Environment and development economics*, *12*(4), 593-620.
Van Dooren, T., Kirksey, E., & Münster, U. (2016). Multispecies studies: Cultivating arts of attentiveness.
Veeck, A., Yu, H., & Veeck, G. (2017). The transformation of pig feasts in rural Northeast China. *Gastronomica*, 17(3), 58-67.
Vehrs, H.-P., Lacan, L., & Bollig, M. (2024). Conclusion: Situating multispecies relations in Southern Africa in their local historical and political contexts. In

(Vol. 47, pp. 268-273): Taylor & Francis.
Vijayan, S., & Pati, B. (2002). Impact of changing cropping patterns on man-animal conflicts around Gir Protected Area with specific reference to Talala Sub-District, Gujarat, India. *Population and environment*, *23*(6), 541-559.
Von Essen, E., O'mahony, K., Szczygielska, M., Gieser, T., Vaté, V., Arregui, A., & Broz, L. (2023). The many boar identities: understanding difference and change in the geographies of European wild boar management. *Journal of Environmental Planning and Management*, 1-23.
Walsh, D., & Seale, C. (2018). Doing ethnography. In C. Seale (Ed.), *Researching society and culture* (4th edition.. ed.). London: Sage.
Wang, C., & Mao, F. (2022). Legal Control of Wild Boar Overflow. *JOURNAL OF HUBEI POLYTECHNIC INSTITUTE*, *25*(3).
Wang, C., Tang, Z., & Nan, Z. (2018). The caterpillar fungus boom on the Tibetan Plateau: Curse or blessing? *China Economic Review*, *47*, 65-76.
Wang, C., Yang, Y., & Zhang, Y. (2011). Economic development, rural livelihoods, and ecological restoration: Evidence from China. *Ambio*, *40*, 78-87.
Wang, X. (2020). *Blockchain chicken farm: And other stories of tech in China's countryside*. FSG Originals.
Wang, X.-R., Hui, E. C.-M., Choguill, C., & Jia, S.-H. (2015). The new urbanization policy in China: Which way forward? *Habitat international*, *47*, 279-284.
Wang, Y. (2004). Zangxue Gailun [Introduction to Tibetology]. In: Taiyuan: Shanxi Education Publishing House.
Wang, Y., Kusakabe, K., Lund, R., Panda, S. M., & Zhao, Q. (2013). Mobile livelihoods among ethnic minorities in China: Insights from Yunnan. *Norsk Geografisk Tidsskrift-Norwegian Journal of Geography*, *67*(4), 187-199.
Wang, Z. (2020). *Tourism Livelihood in Ethnic Rural Communities: The Case of China* The Chinese University of Hong Kong (Hong Kong)].
Wen, Y. (2015a). A Study of Guns in Northwest Sichuan in Modern Times. *Qinghai Journal of Ethnology*(3), 7-11.
Wen, Y. (2015b). A study of the problems of private firearms in modern Kham area. *Journal of Yunnan Minzu University (Social Sciences)*, *32*(5).
Wengmu, G. (2019). *Sichuan Daofu Ergong (China Endangered Languages)*. The Commercial Press.
Wei, Y., Zhang, L., Wang, J., Wang, W., Niyati, N., Guo, Y., & Wang, X. (2021). Chinese caterpillar fungus (Ophiocordyceps sinensis) in China: current distribution, trading, and futures under climate change and overexploitation. *Science of The Total Environment*, *755*, 142548.
Weins, N. W., Zhu, A. L., Qian, J., Barbi Seleguim, F., & da Costa Ferreira, L. (2023). Ecological Civilization in the making: The 'construction'of China's climate-forestry nexus. *Environmental Sociology*, *9*(1), 6-19.
West, P. (2012). *From modern production to imagined primitive: The social world of coffee from Papua New Guinea*. Duke University Press.
Whatmore, S., & Hinchliffe, S. (2003). Living cities: making space for urban nature. *SOUNDINGS-LONDON-LAWRENCE AND WISHART-*, 37-50.

Winkler, D. (2008). Yartsa Gunbu (Cordyceps sinensis) and the fungal commodification of Tibet's rural economy. *Economic botany*, *62*(3), 291-305.
Winkler, D. (2009). Caterpillar fungus (Ophiocordyceps sinensis) production and sustainability on the Tibetan Plateau and in the Himalayas. *Asian Medicine*, *5*(2), 291-316.
Winkler, D. (2013). Steps towards sustainable harvest of Yartsa Gunbu (caterpillar fungus, Ophiocordyceps sinensis). In *Proceedings of the 7th International Medicinal Mushroom Conference* (pp. 635-644).
Wolfe, C. (2019). *Before the law: Humans and other animals in a biopolitical frame*. University of Chicago Press.
Woodhouse, E., Mills, M. A., McGowan, P. J., & Milner-Gulland, E. J. (2015). Religious relationships with the environment in a Tibetan rural community: Interactions and contrasts with popular notions of indigenous environmentalism. *Human Ecology*, *43*(2), 295-307.
Woods, M. (2010). *Rural.* Routledge.
Worster, D. (2017). The good muck: Toward an excremental history of China. *RCC Perspectives*(5), 1-54.
Wu, M., Zhang, Q. F., & Donaldson, J. (2024). Post-productivism and rural revitalization in China: Drivers and outcomes. *Journal of Rural Studies*, *110*, 103382.
Wu, Q., Xu, Y., Pei, F., & Lim, N. (2023). Strength and resilience for kinship caregivers raising children: A scoping review. *Societies*, *13*(12), 249.
WWF (2006). *Factsheet: Human-Animal Conflict. World Wide Fund for Nature International, Switzerland.* Retrieved from http://wwf.panda.org/wwf_news/?62900/Factsheet-Human-Animal-Conflict
Xie, L. (2016). Environmental governance and public participation in rural China. *China Information*, *30*(2), 188-208.
Xie, S., & Chen, J. (2022). Housing and identity expression among in-situ urbanised rural residents in China. *Population, Space and Place*, *28*(5), e2548.
Xu, A., Xie, X., Liu, W., Xia, Y., & Liu, D. (2007). Chinese family strengths and resiliency. *Marriage & family review*, *41*(1-2), 143-164.
Xu, J., Ma, E. T., Tashi, D., Fu, Y., Lu, Z., & Melick, D. (2005). Integrating sacred knowledge for conservation: cultures and landscapes in southwest China. *Ecology and Society*, *10*(2).
Xu, J., Katsigris, E., & White, T. A. (2002). *Implementing the natural forest protection program and the sloping land conversion program: lessons and policy recommendations*. China Forestry Publishing House.
Xu, J., Yin, R., Li, Z., & Liu, C. (2006). China's ecological rehabilitation: Unprecedented efforts, dramatic impacts, and requisite policies. *Ecological Economics*, *57*(4), 595-607.
Yan, H. (2003a). Neoliberal governmentality and neohumanism: Organizing suzhi/value flow through labor recruitment networks. *Cultural anthropology*,

18(4), 493-523.
Yan, H. (2003b). Specialization of the rural: Reinterpreting the labor mobility of rural young women in post-Mao China. *American Ethnologist*, *30*(4), 578-596.
Yan, H. (2008). *New masters, new servants: Migration, development, and women workers in China*. Duke University Press.
Yan, Y. (1996). *The flow of gifts: reciprocity and social networks in a Chinese village*. Harvard University.
Yan, Y. (2003). *Private life under socialism: Love, intimacy, and family change in a Chinese village, 1949-1999*. Stanford University Press.
Yan, Y. (2009). *The individualization of Chinese society* (English ed.). Berg.
Yan, Y. (2018). Neo-familism and the state in contemporary China. *Urban Anthropology and Studies of Cultural Systems and World Economic Development*, 181-224.
Yan, Z., & Zhang, L. (1996). China's First Law to Comprehensively Strengthen the Management of Firearms - The Law of the People's Republic of China on the Management of Firearms Introduction *China National People's Congress*(19), 24-27.
Yang, B., & Wangden, P. (2025). 'They Are Properties of the Deity, Not Sentient': Unfolding the Tibetan Buddhist Concept of Plant-Hood. *Religions*, *16*(3), 373.
Yang, H. (2013). Livestock development in China: animal production, consumption and genetic resources. *Journal of Animal Breeding & Genetics*, *130*(4).
Yang, J., Yang, R., Chen, M.-H., Su, C.-H. J., Zhi, Y., & Xi, J. (2021). Effects of rural revitalization on rural tourism. *Journal of Hospitality and Tourism Management*, *47*, 35-45.
Yang, S., & Ding, H. (2008). *Chinese Ethnography*. The China Minzu University Press.
Yang, X., & Chan, K. W. (2025a). Forever young: China's migration regime and age patterns. *Eurasian Geography and Economics*, *66*(4-5), 469-496.
Yang, X., & Chan, K. W. (2025b). Have China's internal migrants been more settled since 2010? A contribution based on migrants' age profiles. *Eurasian Geography and Economics*, *66*(4-5), 497-506.
Yang, X., Wilkes, A., Yang, Y., Xu, J., Geslani, C. S., Yang, X., Gao, F., Yang, J., & Robinson, B. (2009). Common and privatized: conditions for wise management of matsutake mushrooms in Northwest Yunnan province, China. *Ecology and Society*, *14*(2).
Yang, R., & Loopmans, M. (2023). Land dispossession, rural gentrification and displacement: Blurring the rural-urban boundary in Chengdu, China. *Journal of rural studies*, *97*, 22-33.
Ye, J., Wang, C., Wu, H., He, C., & Liu, J. (2013). Internal migration and left-behind populations in China. *Journal of Peasant Studies*, *40*(6), 1119-1146.
Ye, Y.-q., Chen, G.-j., & Fan, H. (2003). Impacts of the "Grain for Green" project on rural communities in the Upper Min River Basin, Sichuan, China. *Mountain Research and Development*, *23*(4), 345-352.
Yeh, A., Xu, J., & Yi, H. (2006). Fourth wave of urbanization in China.*Urban*

Planniing.
Yeh, E. T. (2000). Forest claims, conflicts and commodification: The political ecology of Tibetan mushroom-harvesting villages in Yunnan Province, China. *The China Quarterly*, *161*, 264-278.
Yeh, E. T. (2009). Greening western China: A critical view. *Geoforum*, *40*(5), 884-894.
Yeh, E. T. (2011). Tibetan pastoralism in neoliberalising China: continuity and change in Gouli. *Area*, *43*(2), 165-172.
Yeh, E. T. (2014). Reverse environmentalism: Contemporary articulations of Tibetan culture, Buddhism and environmental protection. In *Religion and ecological sustainability in China* (pp. 194-219). Routledge.
Yeh, E. T. (2016). The politics of conservation in contemporary rural China. *Rural Politics in Contemporary China*, 258-281.
Yeh, E. T. (2017). Political Ecology, Critique, and Multiple Ontologies: Musings on the Post-human and Other Environmental Turns. *English Language Notes*, *55*(1-2), 143-152.
Yeh, E. T. (2019). *Taming Tibet: Landscape transformation and the gift of Chinese development*. Cornell University Press.
Yeh, E. T. (2023). The making of natural infrastructure in China's era of ecological civilization. *The China Quarterly*, *255*, 611-627.
Yeh, E. T., & Coggins, C. R. (2014). *Mapping Shangrila: contested landscapes in the Sino-Tibetan borderlands*. University of Washington Press.
Yeh, E. T., & Gaerrang. (2021). Pests, keystone species, and hungry ghosts: the Gesar epic and human-pika relations on the Tibetan Plateau. *cultural geographies*, *28*(3), 461-478.
Yeh, E. T., & Lama, K. T. (2013). Following the caterpillar fungus: nature, commodity chains, and the place of Tibet in China's uneven geographies. *Social & Cultural Geography*, *14*(3), 318-340.
Yeh, E. T., & Makley, C. (2019). Urbanization, education, and the politics of space on the Tibetan Plateau. *Critical Asian Studies*, *51*(1), 1-11.
Yeo, J. H., & Neo, H. (2010). Monkey business: Human–animal conflicts in urban Singapore. *Social & Cultural Geography, 11,* 681–699. https://doi.org/10.1080/14649365.2010.508565
Yi, W., Zhao, Y., & Zhong, R. (2018). Geographical Investigation of Gyalrong Tibetan Costume Culture: between Nationality anf Modernity. *Collections*, *2*, 40-50.
Yin, R., Yin, G., & Li, L. (2010). Assessing China's ecological restoration programs: what's been done and what remains to be done? *Environmental Management*, *45*, 442-453.
Yue, Z., Li, S., Feldman, M. W., & Du, H. (2010). Floating choices: A generational perspective on intentions of rural–urban migrants in China. *Environment and Planning A*, *42*(3), 545-562.
Zhan, Y. (2018). The urbanisation of rural migrants and the making of urban villages in contemporary China. *Urban Studies*, *55*(7), 1525-1540.
Zhang, K. H. (2002). What explains China's rising urbanisation in the reform era?

Urban studies, *39*(12), 2301-2315.
Zhang, Q. F., & Donaldson, J. A. (2013). China's Agrarian Reform and the Privatization of Land: a contrarian view. *Journal of contemporary China*, *22*(80), 255-272.
Zhang, Q. F., & Wu, J. (2017). Political dynamics in land commodification: Commodifying rural land development rights in Chengdu, China. *Geoforum*, *78*, 98-109.
Zhang, Q. F., & Wu, M. (2024). The decline and transformation of smallholders in Chinese agriculture: national trends. *The Journal of Peasant Studies*, 1-28.
Zhao, L., Liu, S., & Zhang, W. (2018). New trends in internal migration in China: Profiles of the New-generation migrants. *China & World Economy*, *26*(1), 18-41.
Zhaxi, D. (2020). *Tibetan farmers in transition: Urbanization, development, and labor migration in Amdo* PhD dissertation, University of Colorado Boulder].
Zheng, S. (2016). *Kangding Native Chieftains between the Han Chinese and Tibetans—A Life History of the Last Mingzheng Tusi*. SDX Joint Publishing Company.
Zhou, Y. (2023). Raising Dogs that Bite: How Pastoralists and Breeders Care for Tibetan Mastiffs. *The China Quarterly*, *254*, 340-353.