China's Path in Developing Organic Agriculture: Opportunities and Implications for Small-scale Farmers and Rural Development

by

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Author's Declaration

This thesis consists of material all of which I authored or co-authored: see Co-author Statement included in the thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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1, "China's Path in Developing Organic Agriculture: Diversification of Ownership Structures and Strong Government Roles";
2, "Who Is Growing Organic Food? Three Models of Smallholder Inclusion in Organic Production in China";
3, "Rural Development Strategies and Government Roles in the Development of Farmers' Cooperatives in China",

of which I am a co-author, will form part of the PhD dissertation entitled *"Organic Agriculture and Rural Development in China: Linking Small-scale Farmers to Value-added Market"* by PhD candidate: **Aijuan Chen,** who made a major contribution to the work in both the research and the writing phases.

In particular, the candidate's contribution to the following items should be noted:

- Conceptualizing and designing the research
- Collecting and analyzing the data
- Writing the papers.

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Abstract

With the growing awareness of food safety and environmental sustainability, organic agriculture is developing rapidly worldwide. Previous studies on the issue of organic agriculture and small-scale farms have mainly focused on the feasibility and profitability of organic small-scale production in broad terms. The extent and type of involvement of small-scale farmers in organic farming and the implications for small-scale farmers have not been systematically examined. This study provides an empirically grounded analysis of these issues using the case of China's organic agriculture sector. In the Global North, organic agriculture was initiated by small-scale farmers and non-government organizations. Over time, the organic sector in some areas has been conventionalized, and has been criticized for eroding broad social and environmental values of organic farming as an alternative to conventional farming practices. China has shown a different path in developing organic agriculture. The initial development of certified organic agriculture in China was driven by the export market through contract farming. This is a common pattern for the development of organic agriculture in many countries of the Global South. With rising demand from middle class Chinese consumers for safe and high quality food since the 2000s, organic marketing channels for the domestic market have emerged. Meanwhile, models of farm ownership structure are diversifying. I argue that the diversification of ownership structure of organic farms provided more opportunities for small-scale farms to engage in and benefit from this sector.

Based on 66 in-depth interviews with stakeholders in China's organic sector, this dissertation addresses the following three issues. First, I characterize the development of the organic agriculture sector in China in terms of ownership structure and government roles. My research revealed a co-existence of diverse ownership structures in China's organic agriculture sector, including the contract farming model, the farmers' professional cooperative model, and the private company land-leasing model. The Chinese government has played a more facilitating role in the organic sector in the 2000s and more recently rather than intervening directly in this sector at the initial stage. I argue that the diversification of ownership structure in China's organic agriculture sector has been shaped by China's political economy in the 2000s, including a developed rural land rental market, agrarian transformation toward agro-industrialization and vertical integration, expansion of the domestic organic market, and an emerging civil society.

Second, this research examines the type and extent of involvement of small-scale farmers in China's organic agricultural sector to better understand to the social and economic impacts of organic

agriculture on small-scale farms. Based on the fieldwork, I characterize three major models of ownership structures in China's organic agriculture sector. Applying a three-tiered equity framework - equity in access, in decision-making, and in outcome - I examine the equity implications for small-scale farmers among these three models. I find that all these models have played important roles in linking family farms to value-added markets and increasing farmers' income. The results of my study, however, reveal that the independent farmers' cooperative model showed a stronger inclusion of small farming households in terms of participating in decision-making and providing them with more autonomy compared with the other two enterprise models. In addition, this research found that farmers in the cooperative model showed a better understanding of organic agriculture and a stronger commitment to environmental sustainable development in their daily operations than those in the enterprise models.

Third, this research further examined how and to what extent the independent farmers' cooperative model can benefit small farmers and contribute to rural development in China. I evaluated three farmers' cooperatives in China. Applying the "deepening-broadening-regrounding" typology proposed by van der Ploeg, Long, and Banks (2002), this research found that farmers' professional cooperatives have made make important economic, social, and environmental contributions to rural development by adopting alternative strategies and activities. At the same time, these cooperatives face significant challenges for further development, which explains why cooperatives are not more widespread in China. This study offers new insights into the roles of farmers' cooperatives and government in rural development.

This exploratory study contributes to our understanding of the complexity and diversity of the organic agricultural development within various socioeconomic contexts and sheds light on the potential trajectories for emerging economies in the Global South with a large and growing domestic market. This research provides insights regarding the future of small-scale farmers in China and strategies that link them to wider markets, especially value-added markets. This study also contributes to our understanding of agrarian transformation toward sustainable rural development by highlighting government roles in developing organic agriculture and supporting farmers' cooperatives.

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Chapter 1
Introduction

With the growing awareness of food safety and environmental sustainability, organic agriculture is developing rapidly worldwide. On the production side, approximately 37.5 million hectares of land was under or in conversion to organic production in 2012, among which one third of the certified land (10.8 million hectares) and over 80 percent (1.6 million) of the producers are in developing countries and emerging economies (Willer and Lernoud, 2014). On the demand side, global organic sales reached US$ 64 billion, mainly in the United States (around 44 percent of the global market) and European countries (around 41 percent of the global market) (Willer and Lernoud, 2014). Over the past decade, domestic markets for organic products have been growing in emerging economies, such as China, India and Brazil (Egelyng et al., 2010).

Organic farming has great potential to support small-scale farmers and contribute to the resilience and sustainability of agro-ecosystems and rural development. Development studies literature has examined the general contribution of organic agriculture to rural development in the Global South (e.g., Fan et al., 2000; Bacon, 2005; Giovannucci, 2005; Bolwig et al., 2009). There is also a substantial literature on the relation between small-scale farmers and organic agriculture, and much of the literature focuses on the feasibility and profitability of small-scale organic production in broad terms (cf. Gómez-Tovar et al., 2005; Blanc, 2009; Preißel and Reckling, 2010; Kleemann, 2011; Blackmore et al., 2012; Blanc and Kledal, 2012; Wang, 2012; Kleemann et al., 2014).

To date there have been no systematic studies analyzing the type and extent of involvement of small-scale farmers in the organic agriculture sector and the implications for small-scale farmers and rural development in the Global South. The main reason for the lack of research on these issues is that in the Global South contract farming has been the only option available to small-scale farmers who want to conduct certified organic agriculture for exports (Barrett et al. 2001; Bolwig et al. 2009). Over the past decade, growing domestic markets for organic products in the emerging economies are expected to provide more opportunities and options for small-scale farmers to farm organically. This research seeks to develop better understanding of the relationship between organic agriculture, small-scale producers, and rural development in the Global South in general, and emerging economies in particular. With the

involvement of a large number of small-scale farmers and the rapid growth of the organic agriculture sector (both in terms of production and consumption), China's organic agriculture sector provides an interesting setting in which to examine the type and extent of involvement of small-scale farmers and its implications for small-scale farmers and rural development.

Since the Household Responsibility Systems (HRS) was adopted in 1978, the household has been the predominant production unit for agriculture. The small-scale farming system, along with the urban bias of development policies[1] since the 1950s, has caused a series of challenges for rural development in China. These challenges are also known as 'three-dimensional rural issues'[2] – rural people, rural society and agricultural production. Rural poverty and the low living standards of small-scale farmers in the countryside could eventually lead to social instability in China. Strongly motivated by capturing the higher economic values, the Chinese government, especially local governments and other bureaucratic entities, has actively promoted and organized organic production. Organizing large-scale organic production via contract farming has been established as a regional economic development strategy by many local governments (Thiers, 2005). In 2012, there were approximately 1,900,000 hectares of land under organic agricultural production or in conversion in China (Willer and Lernoud, 2014). Given the high cost of organic certification and extensive requirements for documenting, managing, financing and marketing skills, no small farming households in China have done certified organic farming independently so far (Zong, 2002; Giovannucci, 2005).[3]

Under the agrarian transition toward industrialization, strategies of linking China's numerous small-scale farmers to the wider market and the power dynamics among different stakeholders have become critical issues for both small-scale farmers and the Chinese government. This study characterized different models of ownership structure in which small-scale farmers participate in China's organic sector, including contract farming with farmers' cooperatives model, independent farmers' cooperative model, and private enterprises leasing land

[1] Since the establishment of the People's Republic of China, the prices of agricultural products had been artificially lowered in relation to industrial goods to support industrialization, which is known as 'price scissors' (Long et al., 2009).

[2] Long-term unbalanced and uncoordinated urban-rural development has caused severe problems with low agricultural productivities, low rural household incomes and the poor rural areas, which is called "three-dimensional rural issues" (Long et al., 2011). This term was firstly proposed by an agricultural economist, Wen Tiejun, in the late 1980s, referring to 'peasants issues', 'rural society issues' and 'agricultural issues'. Wen argues that challenges facing rural development in China are a combination of these three issues rather than just agricultural development, and that these three issues must be treated holistically and systematically in order to create long-term development.

[3] This is confirmed by staff from organic certification agencies (e.g., the OFDC, COFCC and Eco-Cert) in Jiangsu and Beijing, various dates, 2010-2011.

model. By investigating the development of China's organic agriculture, this research examines the implications for the long-term viability of small-scale farmers in different models of ownership structure and the potential contribution to rural development.

1.1 Research objectives

To address the research gap in the literature regarding the type and extent of involvement of small-scale farmers in value-added food chains, the main goal of this study is to systematically investigate different types of ownership structure of organic farms by examining the institutional arrangements and changes in power relations between small-scale farmers, farmers' cooperatives, agribusiness enterprises, and government agencies in the organic agriculture sector in China. A variety of institutional arrangements have been adopted in different models of ownership structure to combine the assets of agro-business enterprises – capital, market networks, and technology – with those of small-scale producers – land, labour, and local knowledge to promote sustainable rural development.

This dissertation has three objectives:

1. *To characterize the development path of China's organic sector, particularly in terms of the diversification of ownership structures of organic farms and strong government roles.*

2. *To analyze the equity implications of the main ownership structures in China's organic for small-scale producers.* This encompasses the following sub-questions: How are land, labour, and capital controlled by corporate and individual actors, and then organized into agricultural production in different models? Have small-scale producers been forced out of the market or have they managed to survive and upgrade their farms through engaging in different models of ownership structures? What kinds of integration strategies have been adopted? What are the power relationships among small-scale producers, farmers' cooperatives, and agribusiness enterprises in different models of ownership structure in China's organic sector?

3. *To evaluate the contributions of the farmers' cooperative model to rural development and its development challenges in China's organic agriculture sector.*

I[4] make three main arguments in this study. First, unlike the development path of organic agriculture from "organic movement" to a trend toward conventionalization in the Global North, I argue that certified organic agriculture in China has been moving in a different direction from the

[4] In this dissertation, the personal pronoun "I" is used in Introduction, Methods, and Conclusion Chapters. In three main chapters (manuscripts), "we" is used as these are co-authored papers.

dominance of large-trading/processing companies to become more diverse (i.e., co-existence of various ownership structures and production scales of organic farms) in the 2000s. By examining the political economic factors in the 2000s (e.g., the land tenure system, the government roles, civil society, and the middle and upper-middle class), I endeavor to explain how the characteristics of the development path of certified organic agriculture in China have been shaped since it began in the 1990s. The case study of China's organic agriculture sector can shed some light on the potential trajectories of emerging economies with large and growing domestic markets (e.g., Brazil and India). This study also contributes to our understanding of the opportunities and options for small-scale farmers to participate in and benefit from the organic agriculture sector in these countries.

Second, I argue that the state and local government agencies can play a pivotal role in developing the organic agriculture sector by working in close partnership with the private sector as we found in the case of China. Organic farming in the Global North developed as a reaction against conventional agriculture, with strong roles played by civil society (e.g., with the origin of organic certification) (Guthman, 1998; Michelsen, 2001; Egelyng et al., 2010). In the Global South, organic farming has been mainly driven by organic exporters, with an active role played by civil society organizations in helping access markets and providing organic farming training and technical support (Scialabba, 2000; Gómez-Tovar et al., 2005; Menon et al., 2010; Preißel and Reckling, 2010; Blanc and Kledal, 2012). Despite the roles in framing regulation and accreditation[5], the state overall has played a limited role in the organic sector (except some European countries where government authorities have provided strong policy support and subsidies). As a result, studies undertaken to date have had limited discussion about government roles in developing organic agriculture. This case study of China's organic sector reveals that the government has played a significant role in developing the organic sector, including developing a set of progressively more stringent production standards (hazard-free, green, and organic), implementing favorable policies, providing various subsidies and extension services, and helping establish market linkages. The roles of government agencies at local levels can be identified in various models of ownership structure. In the absence of a strong civil society, these government roles are important in developing organic agriculture and linking small-scale farmers to value-added food systems.

[5] By 2012, many countries still do not have national organic standards (Willer and Lernoud, 2014).

Third, I argue that, compared to the contract farming and private agribusiness models, the independent cooperative model has demonstrated a stronger inclusion of small-scale farmers in decision-making and provided them with greater autonomy. By analyzing the power relationships among small farming households, Chinese agribusiness companies, and farmers' cooperatives, this study aims to identify and characterize the main models of ownership structure in farms within China's organic agriculture sector in our study. The potential of the independent cooperative model to contribute to rural development has been further explored. The systematic examination of the ownership structures of organic farms reveals the extent and type of involvement of small-scale farmers and the implications for small-scale farmers and rural development.

1.2 Concepts of farmers and small-scale farming

In Chinese, the word *nongmin* refers to "peasant, farmer, and rural folk generally" (Broadbent, 1978). In addition to the connotation of occupation (i.e., farming), the use and meanings of *nongmin* also reflect its legal differences between rural and urban people due to the *hukou* system[6] (Zeuthen, 2012) and social and cultural perceptions in Chinese society (e.g., ignorance, backwardness, low quality, and underdevelopment) (Murphy 2004; Tamara, 2003). Peasants, according to Friedmann's definition (1980: 160), are "those agricultural producers who, first, use family labour - and thus the household as the unit of production – to produce mainly for subsistence and, second, depend on non-commoditized relations for the household's reproduction". The peasant form of agricultural production has two common denominators: household production and non-commoditized reproduction. In contrast, the term 'farmers' or 'professional farmers' often refers to producers in both household and non-household units who are involved in specialized agricultural production and who rely on commoditized relations – at least in product markets, but also often in land, labour and credit markets – for reproduction (Zhang, 2012). Correspondingly, agricultural production conducted by peasants is referred to as subsistence agriculture, whereas agricultural production conducted by farmers is referred to as commoditized agriculture or commodity production. Because theses concepts were commonly considered in the west and defined by western scholars, Zhang and Donaldson (2010) point out

[6] To regulate and control population mobility between urban and rural areas, the Chinese central government has established a household registration system, called the *hukou* system since 1958.
The *hukou* system officially divided the population into urban (e.i., agricultural *hukou*) and rural (e.i., non-agricultural *hukou*) residents, with associated social welfare benefits. Local urban *hukou* holders are granted more generous social welfare benefits (e.g., subsidied housing, health services and education) than those with rural *hukou,* who are often allocated a small piece of rural land in their hometowns (Cheng and Selden, 1994). The hukou of a household is inherited by the next generation.

that neither of these two conceptual types of peasants and farmers can accurately reflect the complex situation of the social class of *nongmin* in China's current agrarian transition.

Given the fact that agrarian transition in China is in progress and there is a co-existence of subsistence peasants and commercialized farmers in the Chinese context (Zhang and Donaldson, 2010), *nongmin,* as a social class in China, can be translated as both peasants and farmers in English, depending on the social and economic context. Some authors in Chinese agrarian studies, however, have used the terms peasants and farmers interchangeably without defining and differentiating (c.f. Ash, 1991; Pun and Lu, 2010). To better describe the social and economic status of small-scale farmers and the processes of China's agrarian transition, the terms peasant farmers, small farmers, family farmers, small farming households and poor farmers have been commonly used (Thiers, 2002, 2005 and 2010; Sanders, 2006; Huang, 2011). While acknowledging the complex situation of *nongmin* in China, in this study I use the term 'small-scale farmers' embodying the characteristics of Chinese farmers — small-scale, impoverished, and poorly educated (Schneider, 2014). I also use the term 'producers' in this study to refer loosely to actors in all types of agricultural production.

In terms of farm size, I recognize that there are huge differences in definitions and understandings of small-scale and large-scale farms in a western context compared to China. In this study, small-scale farming refers to most Chinese small farming households with an average size of less then 0.5 hectares per household, whereas large-scale farming refers to farm sizes over 1.3 hectares.[7]

1.3 Situating this study

The above research objectives originate from my long-term experiences as a social researcher participating in studies of China's small-scale producers and rural development, as well as a Chinese citizen living and growing up in the countryside and witnessing the agrarian changes over the past three decades. My master's thesis investigated China's large-scale rural-urban migration for higher economic returns and migrants' poor social integration in cities (Chen, 2005). Rural-urban migration has caused many social problems that attracted considerable attention recently, such as the huge loss of agricultural labour in the countryside, the 'left-behind'

[7] These numers emerged from my interviews. Farms with sizes over 20 mu (or 1.3 hectares) have been mentioned by a couple of cooperative leaders as large-scale farms during our interviews from 2010 to 2011. Some of these farms lease land from their relatives/neighbors who choose to work in non-agricultural sectors in cities; others lease undeveloped village land from rural collectives. The latter often have comparatively larger scales (e.g., over 50 mu or 3.3 hectares).

children and the aging population in rural areas (Chang et al., 2011; He et al., 2012), and the poor social integration of migrants in urban areas (Chen, 2005; Li, 2006).

Zhang and Song (2003) find that the rising income disparity between rural and urban areas has become the major driving force behind rural-urban migration in China. The disparity stems from the adoption of unbalanced and uncoordinated urban-rural development strategies and policies since the 1950s (Long et al., 2011). In the first three decades, China's development policies are characterized as a centrally planned economy and focused mainly on urban areas and heavy industry. Since 1978, the Chinese government has started to pay attention to economic balance and coordinate rural-urban economic development (Long et al., 2009; Long et al., 2011). The Chinese government has adopted various strategies to increase farmers' income and foster rural development in the 2000s; significant progress has been made in terms of reducing poverty and improving rural livelihoods (Rigg, 2006).

One strategy for potentially increasing farmers' income and enhancing rural development is developing ecological and organic agriculture. The positive implications of ecological and organic agriculture have been confirmed in many other countries (Pugliese, 2001; Banks and Marsden, 2001; Pretty et al., 2003; Darnhofer, 2005; Tregear et al., 2007; Lobley et al., 2009). Realizing the potential of ecological and organic agriculture to support farmers' livelihoods and enhance agro-ecosystems, the Chinese government has made significant efforts to promote the development of this sector. This development spurred my interest in finding out whether the development of ecological and organic agriculture offered an opportunity for rural development in China by linking small-scale farmers with value-added markets and providing them with a reasonable economic return for conducting farming. It is for this reason that I was drawn to examine small-scale farmers and their participation in the ecological and organic agriculture sector in this research.

This section presents an overview of China's rural development strategies since 1949 and China's ecological and organic agriculture sector as context for this study.

1.3.1 Changing strategies for rural development in China

The concept of rural development emerged through socio-political struggle and debate; there is no consensus on a definition to date (Clark et al., 1997). Rural development has long been criticized for its vagueness (Kassioumis et al., 2004). Rather than providing a generally accepted

definition, scholars argue that rural development is context specific and is a multi-level, multi-actor and multi-faceted process; it is important to understand a broad picture of the political and socio-economic situation, including the agricultural development model, the relationship between agriculture and society, the regional socio-economic structure and rural economic status, individual farm households and their behaviors, and local policies and institutions (van der Ploeg et al., 2000; Rizov, 2004). The purpose of this section is to outline China's rural development strategies and challenges, which in turn serve as a backdrop for the examination of various organizational structures linking small-scale farmers to the value-added agricultural production in this study.

1.3.1.1 China's rural development from 1949 to 1978

Since its establishment in 1949, the People's Republic of China had adopted a centrally planned economic system. Under this national economic system, agricultural production had been conducted collectively in the countryside and heavy industry was strongly promoted by the state in urban areas for three decades. During these three decades, the rural-urban economy relationship was very unbalanced with a great squeezing of agriculture to push forward industrialization, which is known as 'price scissors' (Knight, 1995; Long et al., 2009). As a result, the inequality between rural and urban areas has widened. On the one hand, agricultural productivity was low and peasants were all poor. Under the collectivization of agricultural production and the *hukou* system implemented in 1958, the rural population was tightly controlled with limited choice but to work in collective farming. Agricultural products were equally shared among farmers. On the other hand, the price scissors consistently favored the urban over the rural producers and artificially lowered the prices of agricultural products in relation to industrial goods (Oi, 1999; Long et al., 2009). During the first three decades of the People's Republic of China, the development of urban areas and industries were greatly promoted by the Chinese government, and rural development significantly lagged behind.

1.3.1.2 Rural reforms and rural development strategies in China since 1978

To promote agricultural growth and rural development, the Chinese state has made a series of fundamental reforms in the rural sector since 1978. Since the economic reforms were launched, China has undergone a rapid and radical transformation from the centrally planned economy to a market-based economy and from a traditional agricultural society to a society with rapidly expanding urban areas and industries (Long et al., 2011). China's rural development since

1978 is mainly attributable to four main macroeconomic development strategies[8]: the household responsibility system in the early 1980s, the township and village enterprises (TVEs) in the 1980s, the agricultural modernization program since the mid-1990s, and the 'building a new socialist countryside' program since 2005. Owing to these reform strategies, tremendous changes have occurred in rural livelihoods, employment structure, agricultural organizations, and rural industrial structure in rural China (Putterman, 1997; Xu and Tan, 2002; Zhang et al., 2001; Tilt, 2008; Long et al., 2010).

The household responsibility system: To increase producers' incentives and improve agricultural productivity, a household responsibility system (HRS) rapidly replaced the commune/collective farming system in the early 1980s. This rural institutional reform resulted in important changes in the land tenure system, which in the post-reform era is based on land use leasing for five-year terms, extended to 15 years in 1984 and 30 years in 1993. One distinctive feature of this land tenure system is the separation of land use rights and land ownership to prevent the land ownership from falling into the hands of a few and to support a stable social structure (Dong 1996, Wen, 2001, Kung 2002). Rural land in China is mainly owned and controlled de facto by 'rural collectives' that allocate and re-allocate land to each household according to the number of household members.[9] Individual households have the right to use, sub-lease and transfer land, but they do not own title to the land. This feature makes China unique both in terms of its land tenure system and small-scale farming structure when compared to other countries. The HRS significantly stimulated farmers' incentives for expanding production and resulted in accelerated agricultural productivity during the 1980s (Muldavin, 1996; CSSB, 2008). Economic liberalization under the HRS gave farmers autonomy over crop selection decisions. The decentralization of land use to the household level created powerful economic incentives for farmers and significantly raised agricultural productivity as farmers were able to sell their products on the market for profit after meeting basic grain procurement requirements set by the state (Selden, 1998; Oi, 1999).

The HRS, however, has also brought about great challenges that threaten the long-term viability of China's farming system and sustainable rural development. On the one hand, the limitations of the HRS have garnered attention recently with respect to small-scale farming and

[8] In China, provinces or municipalities are allowed and selected (in some cases) to experiment with new projects or strategies in a given area, and then the state learns from this and promotes these nationally.
[9] 'Land in the countryside and in suburban areas is under collective ownership unless the law stipulates that the land is state-owned' (National People's Congress 1982, Article 10).

the decline in investments in rural infrastructure and land (Zhang and Donaldson, 2013). Under the HRS, individual households are the basic units of farm production, with an average size of less than 0.5 hectares of land and predominantly dependent on family labour. As a result, there is little chance for small farms to participate in economies of scale on their own. Farmland investment involves a wide range of projects, such as transportation and irrigation systems, which are far beyond the capacity of individual households. On the other hand, with strong support from extension agents, Chinese farmers have pursued intensive farming practices that rely heavily on external inputs (e.g., agro-chemicals) to increase yields and ensure sufficient food to meet the demand of an enormous population since 1980. These farming practices have caused severe environmental problems: rapid erosion of topsoil, toxic chemical residue on food, water pollution, desertification, deforestation, loss of biodiversity, and so on (Chen 2007, Litchtenberg and Ding 2008, Smil 2008). Some scholars argue that the ambiguous property rights for land have made this situation worse because farmers often choose to benefit from increased yields in the short term when there is no guarantee of long-term tenure under this system (Tilt, 2008). In addition, China's economic development toward marketization, industrialization, urbanization and globalization has also put enormous pressure on China's small-scale farming system (Wen and Xiong, 2014).

In response to these challenges, the Chinese government, through the current land tenure regime, seeks to maintain a delicate balance between maintaining land ownership in the hands of the village collectives while at the same time allowing for the development of a market for land leasing to achieve economies of scale in agricultural production (Tilt, 2008; United Nations, 2010; Zhang and Donaldson, 2010). Although the buying and selling of rural land is still not allowed, fast growing rental markets have provided opportunities for the scaling-up of agricultural production. China's land tenure system provides small-scale producers with a source of economic income in the absence of a social security system for the countryside, improves their political bargaining power in interacting with agribusiness enterprises, and restricts the displacement of the vast rural population from the land.[10] This land tenure system has direct impacts on shaping interactions among various stakeholders in the ecological agriculture sector.

[10] Rural residents were restricted from migrating to urban areas for almost a quarter century until the late 1970s (Chan and Zhang, 1999). Even though the migration from rural to urban areas has been allowed and China has witnessed a large amount of rural-urban migration since the 1980s, the number of rural residents moving to the urban areas is still tightly controlled by the government (Chan and Buckingham, 2008; Afridi et al., 2012). A significant amount of migrants in China are still rural *hukou* holders and have been allocated rural land in their hometowns, so they are officially registered as farmers and are not eligible for urban social welfare benefits even though they live and work in cities.

Township and village enterprises: With the purpose of revenue growth and job creation, public enterprises owned by township and village authorities, popularly known as "township and village enterprises" (TVEs), were strongly promoted by local authorities in China since 1980. The rapid development of TVEs in China is viewed as one of the major successes of China's market reforms (Weitzman and Xu, 1994). The fiscal decentralization in the early 1980s was viewed as a major incentive for local authorities to participate in and promote TVEs (Jin and Qian, 1998; Jin, Qian and Weingast, 2005). But the success of the TVEs did not last long. In the early 1990s, the TVEs faced mounting problems in keeping their market competitiveness and maintaining economic vitality for reasons discussed in Kung and Lin (2007). As a result, the Chinese government removed political constraints on private ownership and gradually transformed the property rights arrangements of TVEs through privatizing and shareholding arrangement (Kung, 1999; Li and Rozelle, 2003; Kung and Lin, 2007). As a result, most enterprises were quickly privatized and taken over by individuals or partner groups by 1999 (Li and Rozelle, 2003).

Agricultural modernization program: In response to the challenges associated with China's household farming system, the Chinese government started to implement an agricultural modernization program in the mid-1990s, with the goal to transform China's household-based agricultural production into a scaled up, specialized, and market-oriented production of high-value agricultural products (Zhang and Donaldson, 2008). Rather than privatizing rural land ownership, the central government has sought to maintain the current land tenure regime and modernize and scale up agricultural production by developing the rural land leasing markets (Tilt, 2008; Zhang and Donaldson, 2010). In 2000 the Chinese central government initiated a second generation of reform policies designed to promote agricultural modernization and strengthen agricultural production and marketing through establishing the dragon-head company program and the farmer cooperative program (Zhang, 2012).

Large processing and trading companies in the agricultural sector, known as "dragon-head enterprises", have been chosen by the central government as the main tool to integrate small farming households into large-scale production and link them with wider markets, both domestic and global markets (Waldron, Brown and Longworth, 2006; Chan, 2009; Zhang, 2012). These dragon-head enterprises often work with small farms via contract farming (Niu, 2006; Huang, 2011). The Chinese central and local governments have provided strong support to these

companies through low-interest bank loans and tax deductions or exemptions (Waldron, Brown and Longworth, 2006; Chan, 2009; Guo et al. 2007).

Alongside the strong support for dragon-head enterprises, the Chinese government has started to promote farmers' cooperatives as an alternative model of vertically integrated agriculture since the mid-2000s (Huang, 2011). The Rural Professional Cooperative Law enacted in 2007 provides a legal status for cooperatives. The Chinese government at all levels has supported the development of farmers' cooperatives by providing grants and subsidies and tax exemptions (Deng et al., 2010). Although cooperatives have grown rapidly and shown potential to provide farmer members with better economic returns than selling through agribusiness enterprises (Niu, 2002; Huang, 2011), the dragon-head enterprises are still the highest priority for the Chinese government in promoting agricultural modernization since overall dragon-head enterprises are larger and more profitable than cooperatives (Huang, 2011).

Building a new socialist countryside program: Many cases indicated when industrialization and urbanization in a country reach a certain phase, rural development will often garner more attention resulting in the implementation of a series of favorable policies. For instance, South Korea initiated the 'New Village Movement' in the 1970s to build stronger rural communities by improving the living conditions of rural households (Choi et al., 2007). In the 1960s, Japan carried out a series of similar economic development plans and established the '55 years system' in favor of rural development. Both countries have made remarkable economic achievements resulting from these rural development initiatives (Choi et al., 2007; Long et al., 2010). Scholars argue that China has reached a turning point for rural development in the 2000s in terms of China's per capita gross domestic product (GDP), which was 1090 US dollars in 2003 (Long et al., 2009), and there are calls for learning from South Korea and Japan in building a new countryside in China (Long et al., 2010). The fast growing economy and stronger international position indicated that China was ready to broaden its development strategy and provide more support to agricultural and rural development (Long et al., 2010).

Realizing the importance of rural development, the Chinese central government launched a new socialist countryside program in 2005 in response to the widening rural-urban income disparity and three-dimensional rural issues (Long et al., 2010). The program of "building a new socialist countryside" was officially incorporated into political discourse on rural development by the National People's Congress and written into the 11th Five-Year-Plan in 2006. This plan

signals that the Chinese government has started to shift its focus from urbanization and industrialization to rural development, providing 'an atmosphere in which industries support agriculture and cities support the countryside' (*gongye fanbu nongye, chengshi zhichi nongcun*) (China Daily, 2006). A vast range of initiatives related to rural life has been covered such as the provision of public goods (e.g., transport infrastructure, basic education, social welfare) (Wen et al., 2012).

The new socialist countryside program aims to improve general living conditions of peasant farmers through reallocating massive financial resources from the urban areas to the countryside. This program combines three objectives of rural development at the local level: agricultural modernization, rural governance innovation, and fiscal reform. Its overall objectives are summarized as '20 characters', which have been quoted in every official document related to agricultural and rural development. They are 'advanced production (*shengchan fazhan*), comfortable livelihood (*shenghuo kuanyu*), a civilized lifestyle (*xiangfeng wenming*), clean and tidy villages (*cunrong zhengjie*), and democratic administration (*guanli minzhu*)' (State Council, 2006).

Building a new socialist countryside program can be viewed as a central policy framework put in place in response to the three-dimensional rural issues. Almost all policies that aim to improve rural development come under the umbrella of this program, such as the Farmers' Professional Cooperative Law implemented in 2007 and the latest initiatives of liberalizing the rural land market[11] (Xinhua, 2008). By implementing this program, financial resources are expected to be reallocated from cities to rural areas, farmer incomes are expected to rise, and rural development is expected to be stimulated (Ahlers and Schubert, 2009). The program not only addresses agricultural production but social and environmental objectives are also included (Long et al., 2010). As a result, China's agricultural policy and practices have shifted the emphasis away from increasing agricultural productivity toward creating a more sustainable countryside, as detailed in the next section.

With the purposes to alleviate the rural-urban income disparity and solve three-dimensional rural issues, the Chinese government has promoted a series of activities, including consolidating farmers' residences and arable land, and promoting ecological farming and agri-

[11] Liberalizing the rural land market was stated in the Decision of the Central State on Major Issues Concerning the Advancement of Rural Reform and Development.

tourism. Meanwhile, local entrepreneurs are encouraged to engage in modern agricultural production and processing. This would enable a strategic adjustment of the agricultural structure by optimizing the industrial structure, the product structure and the regional distribution of agriculture, while also providing more job opportunities at the local rural level (Long et al., 2009). Promoting ecological and organic agriculture is a part of this vision.

1.3.2 Ecological agriculture in China

China has a centuries-long history of ecological farming as described in FH King's work (1912). Traditional Chinese farming emphasized the balance between natural environment and human society. Since the establishment of the People's Republic of China in 1949, to produce sufficient food has become the priority of the government to sustain its huge population. Agricultural productivity in China has been increased dramatically by adopting a series of strategies, such as expanding farming land, introducing high yielding varieties, and increasing the application of chemicals (Zhu and Chen, 2002). For example, the application of chemical fertilizer in China increased dramatically from 8.8 tons in 1978 to 51.1m tons in 2007 (China Statistical Yearbooks, 1992, 2008).

The extensive use of chemicals has severely polluted the rural environment and has also raised food safety concerns in the 2000s due to high chemical residues and the illegal use of food additives. Since the late 1980s, much attention has been paid to the negative effects of utilizing such high amounts of chemicals, such as severe environmental degradation, farmer and consumer health compromises, and international resistance to 'made in China' food (Sanders and Xiao, 2010). Various scandals regarding the overuse of agro-chemicals have occurred and been reported in the past two decades such as 'poisoned food' (Zong, 2002, p. 55), farmer deaths from pesticide poisoning (Giovannucci, 2005), consumer deaths from consuming farm produce (McKinna, 2006), and the ban of exporting Chinese-grown tomatoes to Japanese markets (Latner and Lei, 2006).

In response to the severely degraded environment and increasing demand for safer food, the Chinese government has, since the late 1980s, sought ways to promote a more environmentally sustainable agricultural system. This effort can be traced back to the Chinese Ecological Agriculture (CEA) initiatives in the 1980s that had three main goals — food security, employment and income generation, and natural resource conservation and environmental protection (Sanders, 2000; Shi, 2002). Approximately 1200 eco-villages, or 'pilot ecological

agriculture villages', were established in China by 1990 (Zong, 2002, 54). As an initiative to achieve sustainable agriculture, CEA has made the concept of ecological agriculture widely recognized in China (Zhao et al., 2008). Major achievements of CEA include higher productivity with less external inputs, farm systems with higher stability during disasters, and improved rural landscapes (Shi, 2002). Although CEA is no longer being promoted in China due to many challenges, such as a lack of knowledge of CEA among farmers, driven and dominated by village leaders in decision-making, low incentives due to no applied premium on the products (see Sanders, 2000; Brandt et al., 2004 for details), as an initiative to achieve sustainable agriculture, it has made the concept of ecological agriculture widely recognized in China (Zhao et al., 2008).

Promoting sustainable and ecological agriculture has been highlighted in the national sustainable development strategy (e.g. China's Agenda 21) and China's No. 1 Central Documents (Zhao et al., 2008; Liu et al., 2013). To deal with severe environmental degradation and various food safety issues, a system of progressively stringent food quality production standards has been in place in China since the 1990s to meet various demands for domestic and international markets, including green food, hazard-free food, and organic agriculture. Compared with the organic production standards, green food and hazard-free food quality standards are lower food quality standards, which were created by the Chinese government based on China's situations (e.g., heavily polluted environment and poorly educated farmers) (Paull, 2008). Through introducing eco-labeling, the Chinese government expects to increase consumer confidence in food safety, reduce negative environmental impacts, and improve farmers' incomes (Giovannucci, 2005). These initiatives shape China's path to achieve the greening of agriculture in practice.

Green food: In 1990, the Ministry of Agriculture (MoA) created a Green Food Program in response to increasing concerns regarding both environmental degradation and unsafe food (Sanders, 2006). The China Green Food Development Centre (CGFDC), founded in 1993, is directly under the authority of the MoA and is responsible for international cooperation, technical promotion and quality control of green food (Sanders, 2006). The Centre became a member of the International Federation of Organic Agricultural Movements (IFOAM) in the same year in an attempt to gain international acceptance of green food, which has proven to be naive (Thiers, 2006). To target international organic markets without abandoning what has been accomplished domestically, the center formulated two types of green food standards in 1995: "A" and "AA" grades (Zong, 2002); and the latter is comparable with organic standards (Thiers, 2006; Lin et al.,

2010). Most references to green food are mainly to the Grade A standard. Green food production was predominantly conducted on state farms[12] where land is farmed on a large scale (Sanders, 2006). Based on the HRS, most green food farming outside state farms has been operated in cooperatives instead of individual households (Sanders, 2006). Earning a higher income is the primary incentive for most farmers converting to green certified production (Sanders, 2006).

Chinese government agencies have played important roles in initiating and stimulating green food development. Nationwide, 42 provincial and municipal branch agencies have been established to certify and manage green food at the local level. In addition, 38 quality inspection stations and 71 environmental monitoring branches have been established with authorization from the national office to ensure compliance with green food standards. Many farmers were initially encouraged by government officials at local levels to convert to green food production (Sanders, 2006). This green food program has become a remarkably successful eco-labeling innovation because of its rapid growth rate in past decades, its similarities to organics, and subsequent contributions to China's organic revolution (Giovannucci, 2005; Mei et al., 2006; Paull, 2006).

Hazard-free food: Eleven years after the green food program was launched, the MoA launched a Hazard-free Food Action Plan in 2001 to address the expanding food safety crisis and high agro-chemical contamination issues. Compared to green food standards, the hazard-free standards, also known as "pollution-free" quality standards, permit a wider range of agro-chemicals. Table 1 outlines the differences among green, organic and hazard-free quality standards.

Rationales for establishing a hazard-free food program are twofold: on the one hand, China needed to establish basic food standards for food sold in mainstream value chains; on the other hand, green and organic food quality standards were considered to be too stringent to be widely adopted in China given the huge population, limited farmland and severely polluted environment (i.e., the land couldn't get approved for organic production) (Jia et al., 2002). The long-term plan of developing the hazard-free certification standards is to make it as a minimum requirement for agro-food production to ensure food safety.[13]

[12] In China, state farms are owned by the state and operated directly under the Ministry of Agriculture rather than allocated to individual rural householders. There are around 2000 state farms (operating in 30 provinces, covering 39 million hectares of land – 4% of China's total rural land), in which all assets, including land, buildings, machines and farm animals, are owned by the state (Zhang, 2010).

[13] Personal interviews with government officials and staff from the China Organic Food Certification Center (COFCC) in Beijing, multiple dates, in 2011.

Table 1. Comparison of Organic Agriculture, Green Food and Hazard-free Food

	Organic agriculture *(youji shipin)*	**Green food** *(lüse shipin)*	**Hazard-free food** *(wu gonghai shipin)*
Year established	1994 (national standards passed in 2005)	1990	2001
Regulatory body	Jointly overseen by the MoA and the Ministry of Environmental Protection	The MoA	The MoA
Permits genetically modified organisms?[14]	No	Yes	Yes
Permits synthetic fertilizer and pesticides?	No	Yes (only some kinds of chemical applications are permitted & amounts are regulated)	Yes (a wider range of agro-chemicals are allowed than for green food)
Residue testing	Yes	Yes	Yes
Initial force	Gov. & large agribusinesses for exports	Government & market	Government initiated
Certifiers and certification costs	Third party certification; RMB 20-40,000 (before new regulations in 2012)	MoA—Green Food Development Centre; RMB 10,000	MoA—Center for Agri-Food Quality & Safety; no fee
Traceability	Yes	No	No
Period of validity	One year	Three years	Three years

Source: Scott et al., 2014, p.161.

[14] GM cotton and papaya production are permitted in China and are widely grown, but GM grain production are not. GM ingredients are allowed in processed green and hazard-free food.

Organic Agriculture: Organic agriculture is an international food quality standard, which was first introduced in China by the Dutch certifier SKAL in 1990 (Zong, 2002). In the 1990s, there was limited demand in the Chinese domestic market; certified organic products were exported to foreign countries such as Japan, United States, and European countries (Zong, 2002). At the initial stage, with a low awareness of organic agriculture and a limited demand in China's domestic market, organic agriculture was mainly promoted by the Chinese government and large agribusinesses for export (i.e., high demand for safe and high quality food in the export market) (Chen, 2006: 17).

Realizing the potential to increase local farmers' incomes and boost local economic development, Chinese government agencies at different levels have provided various supports to promote organic production by using diverse administrative procedures, financial support and other incentives (Scott et al., 2014). China implemented the national organic standards in 2005 to regulate the development of organic agriculture. As a result, certified organic agriculture rapidly increased in the 2000s both in terms of the certified land areas and the market value of certified organic products (Scoones, 2008; Sternfed, 2009). The Chinese domestic market for organic products has grown dramatically, largely attributed to the expanding population of middle and upper classes who have stronger purchasing power and more awareness of nutrition, health, and food safety issues (Xu, 2008). To raise consumer confidence in organic certification and to better regulate organic food markets, new and more stringent organic standards were introduced in 2012. The new standards have stricter labeling and traceability requirements on organic products. According to the new standard, all organic certified products on the market have been given a unique 17-digit tracing number (on the smallest package), which can be verified easily by the consumers.[15]

Given the fact that farming households are all small-scale and poor, the high cost of organic certification is unaffordable and farmers have difficulties seeking external support and accessing value-added markets on their own (Sanders, 2001; Zong, 2002). Therefore, no family households have been able to establish certified organic farms independently (i.e. being responsible for all activities from farming to marketing)[16] (Zong, 2002; Giovannucci, 2005). To overcome the limitations of small-scale farming, some farmers chose to establish cooperatives to

[15] Interview (via phone) with Zhou Zejiang, Vice President of IFOAM Asia, Nanjing, August 28, 2014.
[16] This is also confirmed by staff from organic certification agencies (e.g., the OFDC, COFCC and Eco-Cert) in Jiangsu and Beijing, various dates, 2010-2011.

conduct organic farming and/or work with trading companies to market their produce (Zong, 2002; Thiers, 2005; Mei et al., 2006).

1.4 Gaps in research

Organic agriculture is the fastest growing sector in industry in the world (OFA 2011). Both the certified land areas and the market value of certified organic products have been expanding rapidly. Certified organic production was taking place in over 160 countries in 2012, compared to 86 countries in 2000 (Willer and Lernoud, 2014). In total, more than 1.9 million producers worldwide were involved in the organic sector in 2012, and most of them (over 80 percent, 1.6 million) were in developing countries and emerging economies (Willer and Lernoud, 2014). A large proportion of these were small-scale farmers.

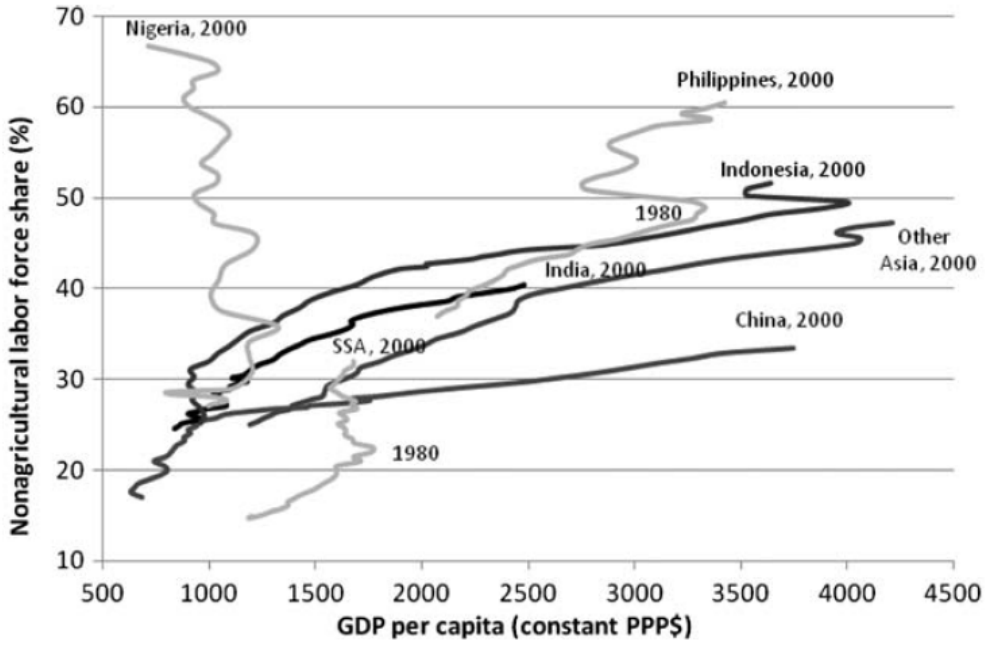
There have been longstanding debates about the future of small farmers around the world. On the one hand, some scholars argue that, by following the Euro- and state-centric model[17], small farmers will be gradually eliminated from the countryside and large-scale capitalist farmers will dominate the agricultural sector (Hobsbawm, 1994; Kitching, 2001; Araghi, 1995; 2009). On the other hand, the persistence of small farmers has garnered considerable attention in agrarian studies over the past three decades (see Eder, 1993; Brass, 1994; Burton and Walford, 2005; Lisson et al., 2010; Bowman et al., 2012; Inwood and Sharp, 2012). Small-scale farming is viewed as a key priority for sustainable agricultural development (IAASTD, 2008). Given that the number of small-scale farms in some countries has decreased rapidly, whether and to what extent peasants and small-scale farmers can survive under the capitalist penetration of agriculture remains to be seen.

Nevertheless, the assumption that development entails "agricultural exits", referring to a large number of people moving to non-agricultural sectors, has rarely been questioned (Araghi, 1995; Kay, 2000; McMichael, 2008; Headey et al., 2010). However, Headey et al. (2010) pointed out that the "agricultural exits" have shown different trends among countries and regions; even those that have a similar developmental level. By comparing Asia and Africa, they found that the trend in most Asian countries is characterized as "fast growth with relatively slow agricultural exits" due to their labour-intensive farming practice and strong farm-nonfarm linkages, while the development trend in African countries has taken a path of slow economic growth with high

[17] The Euro- and state-centric model is characterized as the centralization of capitalist agriculture and the elimination of the peasantry (McMichael, 2008).

agricultural exits (Headey et al., 2010). Among these Asian countries, the development trend in China is the most significant one in maintaining low agricultural exits (see Figure 1).

Figure 1. Alternative Development Paths: Agricultural Exits and Economic Growth, 1960-2000



Notes: SSA = sub-Saharan Africa; Other Asia = **Sri Lanka, Malaysia, Bangladesh, Thailand, Vietnam, Nepal, Pakistan.**

Sources: GDP: Summers and Heston (2002); urbanization: World Bank (2009b); labor force share: FAO (2009).

Source: Headey et al., 2010: 62.

Previous studies have documented the contribution of organic agriculture to small farmers mainly in terms of accessibility and profitability in broad terms (Gómez-Tovar et al., 2005; Blanc, 2009; Preißel and Reckling, 2010; Kleemann, 2011; Blackmore et al., 2012; Blanc and Kledal, 2012; Wang, 2012; Kleemann et al., 2014). No systematic analysis has been conducted regarding the extent and type of small farmers' involvement in this sector and the impacts on small farmers and rural development. China is an appropriate site to conduct this research considering the prevalence of small-scale farming and the rapid growth of organic sector.

As the largest country in Asia, China has long been an agricultural country with over half the population living in the countryside. The Research Institute of the Chinese Academy of Social

Science reported that approximately 40 percent of the Chinese population was still involved in agricultural production at the end of 2010. Many of these people are seasonal migrants (i.e., involved in urban and agricultural work). For decades, most rural households in China have used their small allocated land to cultivate grains, vegetables and fruit crops for self-consumption.

With the economic liberalization under the HRS, Chinese farmers have become more market-oriented (Tilt, 2008). In the context of China's agrarian transition toward modernization and commercialization, small-scale farmers have faced great challenges to access wider markets and promote rural development. Realizing the potential to solve these challenges, the Chinese government has since the 1990s made great efforts in promoting and supporting certified organic agriculture in China. Alongside this, China's domestic demand for organic products has been expanding rapidly over the past ten years mainly attributed to increased awareness of food safety and growing middle class with greater disposable income. The growth of China's domestic market provides greater opportunities for small-scale farmers to engage in the organic sector. This study analyzes the development path of China's certified organic agriculture and the involvement of small-scale farmers in this sector. These topics require a close examination in order to provide better insights into the relationship between organic agriculture, small-scale producers, and rural development.

This research intends to fill the research gaps about organic agriculture and small-scale farmers. This study first analyzes the development path and characteristics of China's organic sector by comparing it with those in the Global North, particularly in terms of diversification of ownership structures and strong government roles. This study then investigates various models of ownership structure in China's organic agriculture sector by examining the institutional arrangements and the changes in the power dynamics between small-scale farmers, farmers' cooperatives, and agribusiness enterprises. This study further analyzes the potential contributions of organic agriculture and farmers' cooperatives to sustainable rural development in China. It is expected that these research efforts will contribute to a better understanding of the diverse development paths of organic agriculture and the opportunities available for small-scale farmers and rural development.

1.5 Organization of this dissertation

This dissertation is structured as follows. The second chapter introduces research methods used for this study including data collection and data analysis. Chapter Three analyzes

the development path and characteristics of China's organic sector. Chapter Four investigates the participation of small-scale farmers in the organic agriculture sector from the perspective of ownership structure and examines the equity implications for small-scale farmers in different models. Chapter Five further examines the farmers' cooperative model in China's organic agriculture sector and analyzes its contributions to rural development and its development challenges. The final chapter concludes this study and identifies opportunities for further research.

Chapter 2
Research Methods

2.1 Rationale for methods used

The goal of this study was to investigate the development and evolution of China's organic agriculture sector and the type and extent of participation of small-scale farmers in this sector. This study employed qualitative methods. The choice between qualitative and quantitative methods depends on the research goal and questions rather than "a fixed preference or predefined evaluation of what is 'good' (i.e., qualitative) and 'bad' (i.e., quantitative) research" (Silverman, 2011:7). Semi-structured interviews have been viewed as a valuable tool to gain more comprehensive and in-depth information than other research methods (Stokes and Bergin, 2006). Therefore, in this study it was deemed appropriate to employ a qualitative approach (using semi-structured, in-depth interviews) as this would provide contextual knowledge and increase our understanding of the phenomenon being studied (Byrne, 2001).

But the use of in-depth interviews for my analysis of equity implications on small-scale farmers (e.g., farmers' income) might raise concerns as only a small sample size of organic farms and farmers/farm workers was interviewed. One major criticism of in-depth interviews is its limitation of speed and cost, which often leads to the small sample size (Zikmund, 1997; Cassell and Symon, 2004; Fern, 2011). Although sample size is important to achieve saturation in responses (i.e., no new data was added by recruiting additional samples), theoretical sampling strategy points out that increasing the sample size is sometimes unnecessary and researchers should focus more on sampling adequacy (Bowen, 2008). Sampling adequacy is often evidenced by looking at two factors: saturation and replication (Bowen, 2008). Saturation and replication mean "sufficient data to account for all aspects of the phenomenon have been obtained" (Morse et al., 2002: 12).

In accordance with the Household Responsibility System (HRS), all farmland (except state farms) has been equally allocated to rural households based on the total amount of labourers and the amount of mouths to be fed in a certain household. As a result, there is a low level of differentiation among agricultural producers in rural China in general. For this study, based on the fieldwork in China, despite a few large-scale farmers in the independent cooperative model, I

found that most farming households in a certain organic farming model were very similar in terms of their access to productive assets (e.g., allocated land, farming labour, and capital), education level, and socio-economic status. Therefore, to some extent sampling adequacy was reached by only recruiting and interviewing a small number of farming households in each model. But considering the fact that China is very large and diverse country, there might be some other types of ownership structures in the organic sector in addition to the three main models I discussed in the research. Therefore, I consider this as an exploratory analysis of the China path of organic agriculture development and equity implications for small-scale farmers in this sector. To ensure efficient and effective saturation of categories, scenes, events and documents can also be used to support the analysis (Morse et al., 2002; Charmaz, 2003). In the analysis of equity implications, I also drew information about small-scale farmers from a variety of other sources, including news reports, interviews with local government officials and other stakeholders, and company and cooperative websites.

This study also drew on statistical data from various resources (e.g., interviews, government documents and websites, news reports, project reports, and project websites) to reflect the development situation and trends of organic agriculture in China as a whole. The use of statistical data in rural China can be problematic. Data on China's organic agriculture sector is limited and data from different sources are sometimes inconsistent. In this study, I obtained most statistical data from the annual FiBL-IFOAM reports (*The world of organic agriculture: statistics and emerging trends*) from 2000 to 2014. Statistical data in these reports were obtained from various channels, including the private sector, government organizations and certification bodies (Willer, H., Lernoud, J. and Schlatter, B., 2014). These reports include two sets of data: organic certified land area data (including crop data) and market data. The data on organic certified land area were gathered mainly from the Certification and Accreditation Administration of the People's Republic of China, IFOAM China, and previous surveys; the market data were mainly from Panyakul and Zhou' s report (2011). Given the fact that official Chinese statistics have been criticized for data falsification (i.e., exaggerating real output growth) since the late 1990s (Rawski, 2001; Holz, 2004), the purpose of presenting these data in the research was to show a general growth trend rather than provide the exact details in China's organic agriculture sector over the past two decades. Table 2 presents the linkage between research objectives and research methods in this study.

Table 2. Linking Research Objectives with Research Methods

Research Objective	What kind of information was needed	Method(s) to obtain the information
To characterize the development path of China's organic sector, particularly in terms of the diversification of ownership structures and strong governmental roles.	1. internal organization of organic farms	1) Literature review about the development of China's OA in the 1990s 2) In-depth interviews with staff from organic certification agencies and NGOs about their experiences working with and for organic farms 3) In-depth interviews with the owners/managers of agro-enterprises, cooperati leaders, small farmers and farm workers about their responsibilities and roles ir developing OA 4) Project reports 5) Interviews conducted by other members in our research team[18]
	2. government roles	1) Literature review about the government roles in OA in the 1990s and 2000s 2) Government documents and policies in supporting OA 3) In-depth interviews with staff from organic certification agencies and NGOs about their experiences of the government involvement in the OA sector 4) In-depth interviews with the owners/managers/cooperative leaders about government support for their farms; interviews with government officials abou their roles and commitments
To analyze the equity implications of the main ownership structures in China's organic for small-scale producers	1. internal organization of organic farms 2. access to productive assets, participation in decision-making, inclusion in profit-sharing, and self autonomy	1) In-depth interviews with the owners/managers of agro-enterprises, cooperati leaders, small farmers and farm workers about their roles in developing OA 2) Websites and reports of agro-enterprises and farmers' cooperatives 3) In-depth interviews with small farmers and farm workers about their incenti experiences and understanding of OA 4) Site observations of organic farms
To identify the contributions of the independent farmers' cooperative model to rural development and its development challenges in China's organic agriculture sector	1. contributions - four dimensions: economic, social, environmental and political contributions 2. development challenges	1) In-depth interviews with farm members and cooperative leaders in three farmers' cooperatives studied 2) In-depth interviews with local government officials 3) In-depth interviews with staff from organic certification agencies 4) Project reports 5) Websites of farmers' cooperatives 6) Site observations of the three cooperatives studied

[18] My research is part of a larger research project regarding the ecological and organic agriculture sector in China with the funding support from the Social Science and Humanities Research Council. Our research team (Steffanie Scott, Aijuan Chen, Zhenzhong Si., and Theresa Schumilas) interviewed more than 120 people involved in China's organic and ecological agriculture sector from 2010-2013. The field trips were conducted over four periods: May-August 2010, Feburary-June 2011, April-June 2012, and March 2013. I participated in the first two trips.

2.2 Data collection

Data for this study were collected from six types of sources: interviews, site visits of organic farms, government websites, news reports, project reports (like GTZ), and secondary literature. Although organic agriculture in China has developed rapidly over the past two decades, research in this field is still limited and only a few previous academic studies are available. The reports about the GTZ project[19] were an important source of background information. In addition, promotional materials from organic farms and enterprises were also collected and analyzed.

2.2.1 In-depth interviews and site visits

To better understand the structure, scope, and social, economic and environmental context of the current development of ecological agriculture in China, semi-structured in-depth interviews were conducted with various participants in this sector. Interviews were conducted between May 2010 and June 2011 in China.[20] In total, 66 interviews[21] were conducted (64 in person and 2 by telephone). The number of interviewees and their occupations are summarized in Appendix A. Interviewees were individuals directly involved in the organic agriculture sector, with a few in the green and hazard-free food sectors, including owners/operators of organic farms, managers of processing/trading companies, leaders and members of organic farmers' professional cooperatives, government officials with the Ministry of Agriculture and Ministry of Environmental Protection at the provincial and county levels, and researchers at several universities and research institutes. In addition, I also visited two major domestic organic certification agencies, Organic Food Development Center (OFDC) in Nanjing and China Organic Food Certification Center (COFCC) in Beijing, and one foreign certification agency, Eco-Cert in Beijing, and interviewed their staff members. Full ethics clearance for conducting the proposed research in China was obtained from the University of Waterloo Office of Research Ethics. Anonymity was maintained in this study unless it was waived by interviewees.

Unlike quantitative research that aims at generalizing findings extrapolated from large amounts of data, the goal of qualitative research is to provide a rich description of the findings with the purpose to evaluate whether the findings can be transferred to other situations (Byrne, 2001). Rather than focusing on enlarging the sample size, qualitative research is concerned with "discovering the scope and the nature of

[19] The Sino-German GTZ project (1998-2003), named "Development of Organic Agriculture in Poverty Areas in China", was initiated to establish an advisory service and information system in China for organic agricultural development.
[20] This study also draws on some interviews conducted by other members in our research team (Steffanie Scott, Zhenzhong Si and Theresa Schumilas) in 2012.
[21] Two people were interviewed and counted twice.

the universe to be sampled" (Luborsky and Rubinstein, 1995: 92). In many cases, it is difficult to establish an appropriate sample size if the total population size is unknown. No official statistics are available about the total number of farms and enterprises in the sector of organic agriculture in China. So, the sampling decision in this study was made by contacts through various channels.

The China Organic Directory 2009, edited by Organic Services GmbH, listed organic certification agencies, organic consulting firms, NGOs, and most enterprises and farmers' cooperatives engaged in organic agriculture in China. Organic enterprises and farmers' cooperatives are categorized by province. This Directory was helpful in understanding the development and distribution of organic agriculture in China and identifying potential participants. One challenge of using this Directory for sampling is that some enterprises and cooperatives listed on the Directory had already withdrawn from organic agricultural production when I conducted the fieldwork. There is a turnover rate of approximately 30% annually in the sector of organic agriculture. This happens for two reasons: (1) organic agriculture is certified annually and some enterprises fail to pass the certification; (2) some enterprises voluntarily withdraw from organic agriculture for various reasons.[22] The final decisions about sampling and site visits were made after consulting with Chinese researchers, staff from organic certification agencies, and government officials in each province. BioFach, an annual trade fair specifically focusing on certified organic products, organized by NürnbergMesse and the China Green Food Development Center was also a useful channel to recruit some participants. Snowball sampling was used to recruit additional interview participants in this study (see Byrne, 2001).

Each interview was typically one to 1.5 hours in duration. Interview questions were open-ended and were asked in order from more general and simple (e.g., farming scale) to more specific and sensitive (e.g., the distribution of profits). Asking simple and general questions first was more likely to engage people in further discussion. The interviewees were reluctant to answer sensitive questions if they did not feel comfortable with the interviewer at the beginning. Specific interview questions were asked after the interviewer became increasingly familiar with the research/farming background of the interviewees. The interviewees were classified into four main groups: government officials, agro-enterprises and farmers' cooperatives, small farmers and farm workers, and others (e.g., organic certifiers and NGOs). So, the

[22] Personal interview with the representative of Organic Services GmbH in China, June 7, 2010, in Nanjing, Jiangsu province. Enterprises who failed to pass organic certification were not included in this study.

guiding interview questions were sorted into four categories as well. For the interviewees in a certain group, a list of pre-designed questions was asked (see Appendix B).

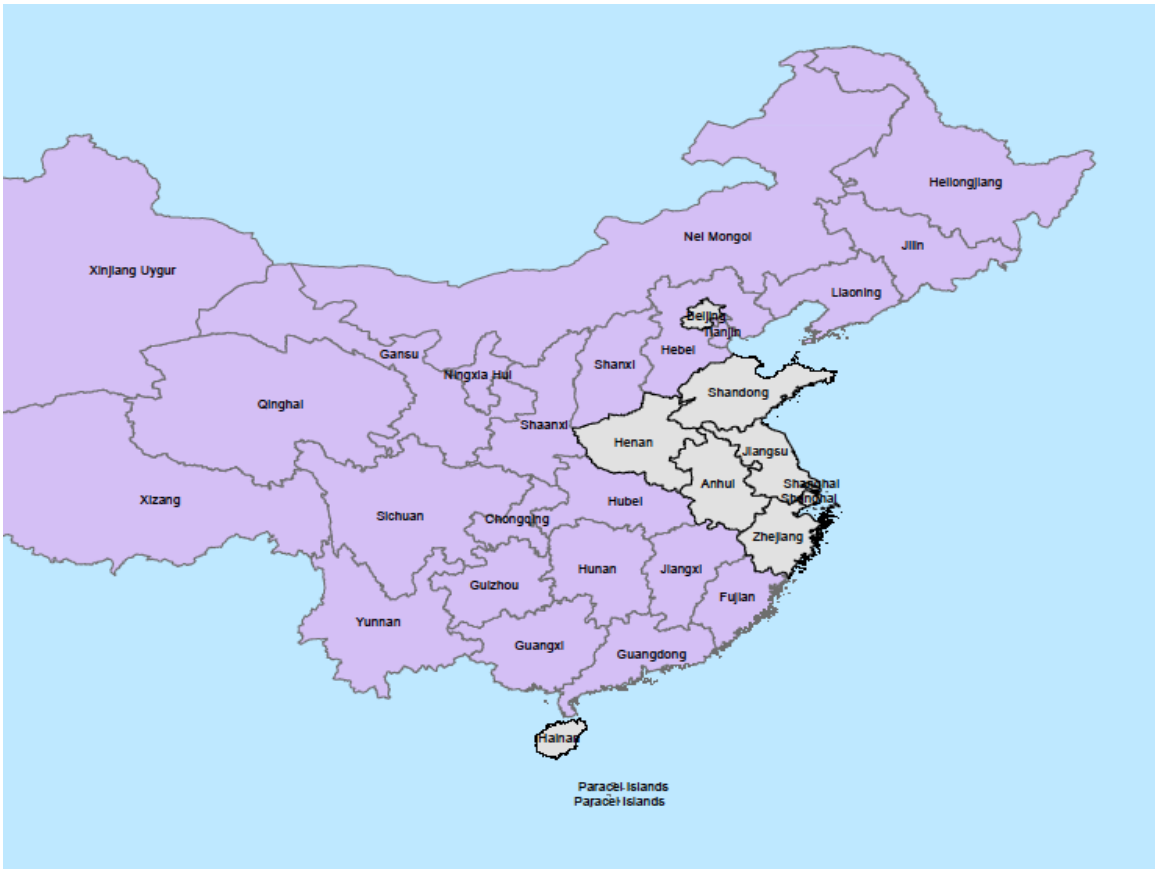
Interviews and site visits covered six provinces (Jiangsu, Anhui, Zhejiang, Shandong, Hainan, and Henan) and two municipalities[23] (Shanghai and Beijing). Twenty−four enterprises and farmers' cooperatives involved in ecological and organic agriculture sector were visited, some on more than one occasion. In addition, organic marketing exhibitions in Shanghai and organic specialty stores in some large cities (such as Shanghai, Beijing, Nanjing) were also visited. This selection of sites reflects a variety of dimensions: geographical location (rural vs. peri-urban and coastal vs. interior); ownership type (private, public, hybrid, or cooperative); size/scale of operation; sale to domestic and/or international markets; extent of infrastructure; proximity to large urban markets; local government with strong or weak financial capabilities; and relationship with agricultural universities and research institutions.

After reviewing previous literature and conducting preliminary interviews with the vice President at IFOAM Asia (i.e., Dr. Zejiang Zhou), staff from an organic certification agency (i.e., OFDC) and some researchers at agricultural universities in China, I selected and decided the research field mainly in the eastern region of China (see Figure 1). The reasons for selecting this area to conduct this research include (1) this region is the most developed area in China. Farmers are more active in linking themselves to value-added markets or leasing their farmland to large farmers and agribusiness companies for non-agricultural job opportunities; (2) certified organic agriculture is better developed in this region. In addition, I also had experience in this region - conducting the fieldwork for my Master thesis in this area. Zhejiang province was selected because of its leading role in promoting farmers' cooperatives in China (Liang & Hendrikse, 2013; Sultan & Larsén, 2011). Jiangsu, Zhejiang, Shandong and two municipalities were selected because of their important position in China's organic agricultural development.[24] Anhui and Henan provinces were selected for additional cases in the central part of China, and Hainan was selected for a case in southern China. Shandong, specifically Tai'an city, was selected because of its important position in organic vegetable production in China both for domestic and global markets (Kledal and Sulitang, 2007; Shandong Agricultural Department, 2012).

[23] Shanghai and Beijing are provincial level municipalities, acting administratively as provinces.
[24] Interviews with Zhou Zejiang, Vice President of IFOAM Asia; He, Wenlong, Associate professor with Nanjing Agricultural University; staff from organic certification agencies (e.g., the OFDC, COFCC and Eco-Cert) in Jiangsu and Beijing, various dates, 2010-2011.

In Chapter Five about Chinese farmers' cooperatives and rural development, only relatively successful cases (i.e., referring mainly to making profits in this research) were selected for the following reasons: (1) they illustrate the potential contributions of the development of organic agriculture and farmers' cooperatives in a particular region; (2) they provide valuable models for other large countries in the Global South interested in this sector; 3) they add to the knowledge base of locally appropriate good practices (Tendler 1997, 1-8). We recognize, however, that studying only successful cases may pose risks, especially if the study was designed to address questions like the relationship between outcomes and independent variables in comparative studies (Achen and Snidal, 1998; Geddes, 2003). The risks include presenting only a truncated range of variables, causing a form of omitted variable bias, and making incorrect conclusions (Achen and Snidal, 1998; Geddes, 2003; Powner, 2008). Geddes (2003) pointed out that the conclusions could be dangerous and misleading based only on the 'successful' cases because a particular variable was identified as a causal factor for achieving success could also be present in the non-successful cases as well. To mitigate or eliminate these selection biases, this study was designed to address research questions that are appropriate for studying only successful cases (e.g., no outcome-cause questions) in Chapters Four and Five. In addition, interviews with researchers, government officials and staff from certification agencies can give a broad picture of the research sector and help to provide complementary data.

Figure 2. Locations of Research Sites (in grey)



2.2.2 Data recording

Interviews were conducted in Chinese. Interview transcripts were recorded through either handwritten notes or a digital recorder during each interview. They were transcribed the same day to ensure that all notes were complete and accurate. This step provided an opportunity to review what participants had said and to identify interesting points to incorporate in future interviews. All interview notes were translated into English by me. In accordance to the UW Office of Research Ethics, written consent was acquired prior to conducting interviews and taking photographs.

2.3 Data analysis

Interview data was collected in two periods: May to August 2010 and February to June 2011. During the first trip and part of the second trip (mid-May to June 2011), all interviews and site visits were

conducted by me alone. Interviews and site visits from Feb. to mid-May 2011 were conducted together with my supervisor (Dr. Steffanie Scott). Initial data analysis was conducted during fieldwork. When we did the interviews and site visits together, our dual perspective (foreigner and Chinese) and discussions were insightful for seeking additional information. In addition, the presence of a foreign researcher (i.e., Dr. Steffanie Scott) made it easier to recruit participants and collect data. Many researchers in China were inclined to meet us and provide assistances in connecting us with informants when I had Steffanie with me during the fieldwork.

After conducting the first 3 months of fieldwork in China, I returned to Canada and began the process of organizing, translating and analyzing interview notes. I summarized some key findings from this trip and discussed with my supervisor the details of my research findings and I made some adjustments from my original plans and finalized my research focus and questions. With a better understanding of the development situation of organic agriculture and its distribution in different provinces, my research questions were modified and interview questions for the second trip were adjusted accordingly.

My supervisor and I conducted interviews and visited sites together during the first part of the second fieldwork. With both of us present at interviews, it was more convenient to discuss what we had learned and decide who should be interviewed next (such as individuals who often were mentioned by other interviewees), and determine any other questions to be included in our subsequent interviews. In most cases, we conducted the interviews and site visits over the course of about one week (or sometimes two) in each province/municipality. One interview and one site visit were typically scheduled for each day, leaving us time to discuss what we had learned that day and plan for the next.

Sometimes, I returned to a previous key interviewee to discuss our findings. Among those who were very helpful in this respect were Mr. Zhou, Vice President of IFOAM Asia and senior advisor at OFDC; Dr. Xi, a research fellow at Rural Environment Research Institute; Dr. He, an associate professor at Nanjing Agricultural University; Dr. Qiao, an associate professor at China Agricultural University; Zhang, a government official with Lingshui county in Hainan province.

After completing all data collection, I returned to Canada and began to organize, translate, and further analyze the interviews notes made in the second trip. Once all interview notes were transcribed

and translated (organized by cities/provinces/municipalities), it was easier to divide each case into appropriate thematic categories. After recording these codes and making preliminary classifications, N-Vivo, a qualitative data analysis computer software package for working with textual data, was used to code and inductively categorize data into key themes (Auerbach and Silverstein, 2003), such as ownership/ownership structure (land access, labour, marketing strategies, regimes of small producers inclusion), government role (central and local levels), motivations, and models of farmers' cooperatives.

2.4 Reflection on methods and process of analysis

My research method followed a pattern. Most cases were selected after consulting with local government officials and/or certification agencies. Participants could be easily recruited and approached with recommendations and assistance from these officials or staff members. In some cases, they helped us by making a call to confirm our visits. In a few other cases, interviews and site visits were conducted in the presence of local officials. Although participants did not feel compelled to be involved if government officials suggested them for interviews, I was aware that the presence of local officials during the interviews and site visits might influence interviewees' responses (e.g., saying positive things about the government and being silent about the negatives) and interview quality, especially when the officials were in charge of the sector of ecological agriculture in the region. For example, the positive roles of government agencies might be overstated, while their negative impacts and shortages might be overlooked. Although I had this concern, it was still helpful to have a local guide to lead us to appropriate participants who in some cases might not have been possible to access on our own. This sampling approach also affected the cases/organic farms I have visited. In most cases, I was directed to 'model farms' that had gained government support and were relatively profitable. I acknowledge that many organic farms in China, especially those operating in small-scale, were struggling to access government support and maintain competitiveness in agro-food markets.

Another factor affecting who I could interview was the timing of my fieldwork. Interviews and site visits were made in slack farming seasons and many part-time farmers had migrated to urban areas for work, so farmers I interviewed were mainly elderly people. One limitation was that I was not able to interview many younger farmers, who might have a different understanding of ecological and organic agriculture. As the manager of one organic restaurant explained,

It is more difficult to convince the old farmers to convert to organic farming because they are satisfied with the results of the conventional farming (referring mainly to the outputs), whereas returning farmers (often younger and better educated) are more willing to accept ecological agriculture (EA) and have a stronger commitment. It is understandable that older farmers are less interested in ecological agriculture for reasons like labour-intensive of EA. It is easier to purchase and use fertilizers and pesticides. There is limited labour available in the Chinese countryside and conventional agriculture works well for older farmers. Although most farmers do know about the negative impacts of conventional farming, consumers' opinion and preference have an effect on them. Organic products often look less attractive and take longer period to grow (e.g., raising pigs). Given the fact that the products do not look appealing and consumers are not willing to pay price premium for these products, older farmers are not willing to convert to ecological and organic agriculture. [25]

[25] Interview with the co-manager of Tushengliangpin Organic Restaurant in Nanning, guangxi, May 7, 2012.

Chapter 3

China's Path in Developing Organic Agriculture: Diversification of Ownership Structures and Strong Government Roles

Aijuan Chen and Steffanie Scott

Overview: Moving beyond debates about a key trend in the organic agriculture in the Global North — organic conventionalization — this research seeks to enhance our understanding of the China's path of organic agricultural development. China's organic sector has undergone substantial changes over the past two decades, particularly in terms of the ownership structure and marketing strategies. There is a co-existence of diverse ownership structures, including the contract farming model, the farmers' professional cooperative model, and the private company land leasing model. Unlike organic agriculture was initiated for the international markets in the 1990s, China's organic agriculture sector has now been mainly driven by and for domestic market. The Chinese government has played strong and more facilitating roles in this sector in the 2000s and more recently. Through an exploratory analysis of China's organic agriculture sector, we propose that four aspects of the political economy have shaped the diversification of ownership structures in this sector: a developed rural land rental market, agrarian transformation toward agro-industrialization and vertical integration, the growth of China's domestic organic market, and an emerging civil society. This study contributes to our understanding of the complexity and diversity of organic sector development within divergent socioeconomic contexts, and sheds some light on the potential trajectories of emerging economies with large and growing domestic markets.

3.1 Introduction

China has undergone significant reforms in the agrarian sector over the past three decades. To create economic incentives and increase agricultural productivity, the Chinese government replaced the centrally planned commune system with the Household Responsibility System (HRS) in the late 1970s. The transition from communes to the HRS, and the subsequent liberalization of agricultural markets, led to a rapid growth of agricultural output in the 1980s in China (Lin, 1992). However, the rapid growth was not sustained due to the limitations associated with the small-scale farming and intensified agricultural production (e.g., low efficiency, high production costs and environmental degradation). On the one hand,

due to the long-term unbalanced relationship between urban and rural development[26], rural development in China has faced great challenges, known as three-dimensional issues (i.e., producers, rural society and agricultural issues).[27] The three-dimensional issues appear as the low living standards of peasants and marginal status (e.g., low viability and vulnerability) of the rural and agricultural economy in the countryside. These issues could eventually lead to instability of the social structure as a whole in China. On the other hand, China has been confronted with an increasing food quality and safety issue over the past two decades, in both domestic and global markets (Yang, 2013).

To deal with the three-dimensional rural issues and the increasing rural-urban disparities, the Chinese central government officially set the goal of constructing a 'new socialist countryside' in the Fifth Plenary Session of the 16th Congress of the Communist Party of China in 2005. This rural development policy highlights the importance of both strengthening the agricultural sector to provide sufficient food for the Chinese population and improving the living standards of the rural population (Ahlers and Schubert, 2009). Meanwhile, the Chinese government promised tighter control of food quality and safety and developed a food safety management system to better regulate food systems and enhance food safety (Jia and Jukes, 2013). The State Council issued special regulations on food safety and the Food Safety Law[28] (replacing the Food Sanitation Law) was enacted in 2009. Realizing the potential to address rural development challenges and to enhance food quality and safety, ecological and organic agriculture have been strongly promoted by the Chinese government (Giovannucci, 2005; Mei, Jewison, and Greene, 2006). As a result, organic agriculture has developed rapidly in China, from 45th in 2000 to the second largest country in the world in terms of the organic certified land - 3.2 million hectares in 2006 (Paull, 2007). China's organic revolution has put China at the forefront of the worldwide organic agricultural development.

Certified organic agriculture in China has undergone great changes over a very short time since it was first introduced in 1990 by the Dutch certifier SKAL. The development of organic agriculture was mainly initiated and driven by the Chinese government, in cooperation with Chinese or foreign trading

[26] Since the establisment of the People's Republic of China, the prices of agricultural products had been artificially lowered in relation to industrial goods to support industrialization, which is known as 'price scissors' (Long et al., 2009).
[27] This term was proposed by an agricultural economist, Wen Tiejun, in 1996, referring to 'peasants issues', 'rural society issues' and 'agricultural issues'. He argues that challenges facing rural development in China are a combination of these three issues rather than just agricultural development, and that these three issues must be treated holistically and systematically in order to create long-term development.
[28] The Food Safey Law enacted in 2009 is the core food safety regulation in China to ensure food safety and quality (Jia and Jukes, 2013).

companies, to meet the growing demand of the global market (Thiers, 2002). The development path of China's organic production differs in many ways from countries in the Global North where organic agriculture was initiated by small farms and non-governmental organizations (NGOs) with limited government involvement.

Building on Thiers' research on the political economy of organic agriculture in China (Thiers, 1999), we discuss the development path and characteristics of China's organic agriculture sector since 2000 and further analyze the political economy in which these characteristics are shaped. Thiers' fieldwork was conducted in 1997 and 1998. China's organic sector has grown rapidly since 2000, mainly in terms of the ownership structure and marketing strategies. These far-reaching changes have not been well documented and there has been limited analysis of underlying structural forces behind these changes. Moreover, by comparing with the key trend toward conventionalization in the organic sector in the Global North, this study explores the development path of China's organic sector, which contributes to our understanding of the diversity and complexity of the development path of the organic sector and sheds some light on possible trajectories for emerging economies in the Global South with large and growing domestic organic markets, such as India and Brazil.

Most of the data presented in this study were collected through semi-structured interviews conducted in China between May 2010 and June 2011.[29] In total, 66 interviews[30] were conducted (64 in person and 2 over phone). Interviewees include owners/operators of organic farms, managers of processing/trading companies, leaders and members of organic farmers' professional cooperatives, government officials at provincial and county levels, and researchers at several universities and institutes. In addition, we interviewed staff members of two major domestic organic certification agencies, Organic Food Development Center (OFDC) in Nanjing and China Organic Food Certification Center (COFCC) in Beijing, and one foreign certification agency, Eco-CERT in Beijing. Interviews and site visits covered six provinces (Jiangsu, Anhui, Zhejiang, Shandong, Hainan, and Henan) and two municipalities[31] (Shanghai and Beijing).

[29] This study also draws on some interview data conducted by our research team (Zhenzhong Si, Theresa Schumilas and Steffanie Scott) in 2012 and two phone interveiws with Zhou Zejiang on August 28, 2014 and Nov. 22, 2014.
[30] Two people were interviewed and counted twice.
[31] Shanghai and Beijing are provincial level municipalities, acting administratively as provinces.

This paper is structured as follows. We first review the evolution of organic agriculture in the Global North and South. Next, we review the evolution of China's certified organic sector: the standardization of certified organic agriculture in the 1990s and its development in the 2000s. Then, by comparing with the characteristics in the Global North, we discuss China's organic agriculture since 2000 mainly in terms of ownership structure and government roles in this sector. Finally, we analyze the social, economic and political factors that shape these characteristics.

3.2 A review of organic agriculture evolution

Growing awareness of health and environmental issues associated with the intensive use of chemical inputs has spurred interest in alternative forms of agricultural production in the world, including organic agriculture (Browne et al., 2000). Organic agriculture has been practiced in 164 countries worldwide, on 37.5 million hectares of certified organic agriculture land (Willer and Lernoud, 2014). The global sale of organic food and drink reached US$ 63.8 billion in 2012, 85 percent of which was sold in the United States and European countries (*Organic Monitor*, 2014). Although the organic sector as a whole is still tiny, accounting for only 0.87% of global agricultural land, it has been one of the fastest growing agribusiness sectors in recent decades, with double-digit annual growth in land under organic cultivation, value of organic produce and number of organic farmers (Willer and Lernoud, 2014). Organic agriculture has taken different development paths in the Global North and South[32]. In this section, we will briefly review the development paths of organic agriculture in the Global North and South in terms of the roles of various stakeholders (e.g., state, small-scale producers, agribusiness, and non-governmental organizations), as well as ownership structures and marketing strategies.

3.2.1 Organic agriculture in the Global North

The organic agriculture movement in the Global North has been traditionally characterized by a small-scale, decentralized ownership structure; an orientation toward direct marketing; and has been mainly driven by producers and non-government organizations (NGOs) as an alternative to the

[32] The regional divide between the Global North and South is broadly considered as a socio-economic divide. The Global North typically refers to the higher income countries mainly in Europe, North America, and part of East Asia, while the Global South refers to lower income countries of Africa, Asia, and Central and South America. However, this divide is recognized as problematic given the great diversity within each grouping. In this study, I discussed a key trend within the organic agriculture sector–conventionalization–which has occurred in some countries in the Global North, including the United States and some European countries. When I refer to the Global South in my dissertation, I am mainly referring to emerging economies, such as India and Brazil, which have large and growing domestic markets.

conventional agriculture and with the commitment to environmental protection and other social and ethical values, such as animal welfare, fair price for producers, and regional production (Lotter, 2003; Rahman and Nieberg, 2005). More recently, the organic industry has shown a trend of larger-scale production and an increase in international trade and corporate involvement – 'organic conventionalization' (see Lyons, 1999; Lockie et al., 2000; Best, 2008; Glin et al., 2013; Constance et al., 2008) – although small-scale, independent farmers and NGOs have continued to play an important role in balancing the power of the organic industry with the principles of the organic movement (Thiers, 1999; Constance et al., 2009). The trend toward conventionalization, as first identified by Buck et al. (1997), refers to the process that organic agriculture increasingly resembles the characteristics of the conventional industrialized agriculture that it had originally opposed. Bifurcation refers to a dual-structure of organic agriculture: small-scale, lifestyle-oriented producers and large-scale, economically driven agribusiness (McGee, 2014).

Over the past decade, the phenomenon of conventionalization and further bifurcation of organic agriculture have drawn much attention in academia. During the 1990s, a broader political interest in organic agriculture has been identified through the introduction of common standards and the provision of policy support for organic agriculture in the Global North, especially European countries. Positive correlations have been found between government intervention and organic agriculture growth (Michelsen, 2001a). Beyond the introduction of common standards, Michelsen (2001a) finds that policy support in the organic agriculture sector has contributed significantly to the growth of organic agriculture in European countries in the 1990s. As found in the case of Ireland, Tovey (1997) points out that the Irish version of EU support " . . . is in fact contributing to the institutionalization of structural dualism. . . . The organic agriculture movement, in spite of its strong critique of conventional farming, is becoming incorporated into a system which precisely allows that sort of farming to continue" (Tovey, 1997: 36). Government intervention in introducing national organic standards has been criticized for accelerating the transformation of organic agriculture from an ecological and social movement to organic conventionalization (Buck et al., 1997; Tovey, 1997; Guthman, 1998, 2004; Goodman, 1999; Allen and Kovach, 2000; Michelsen, 2001b; Pugliese, 2001).

Scholarly discussion focuses on the processes of conventionalization including institutionalization, standardization, and increasing industrialization, that have resulted in an erosion of organic farming as an alternative to conventional farming practices (cf. Buck et al., 1997; Guthman,

2000). The conventionalization of the organic sector has been criticized for replacing small-scale farming with capitalist entrepreneurship, the disconnection between farmers and eaters, and a loss of social and cultural values of organic production (Best, 2008). For instance, Goodman (1999) argues that the techno-centric perspective of organic certification may threaten the foundations of public trust established by the harmonious relations between organic production and nature. As a result of conventionalization, small-scale farmers might benefit less due to the involvement of actors with strong financial capital like large retailers and agribusiness in the organic sector (Smith and Marsden, 2004). In addition, the globalized organic food system has extensive requirements for packaging, processing, and shipping via airfreight to the global market, which has raised concerns about organic agriculture as an institutional vehicle for environmental sustainability (Stagl, 2002).

3.2.2 Organic agriculture in the Global South

Certified organic agriculture in the Global South has long been promoted by the ongoing globalization of the organic food supply chains, although main drivers and development patterns vary among countries. For instance, approximately 70% of organic production in Brazil was for export in the early 2000s; and the export rate of organic production in Brazil is still 60% now (Blanc and Kledal, 2012). Main driving factors to convert to organic agriculture in the Global South include securing a place on international markets, economic self-reliance, finding alternatives to decreased access to agricultural inputs, natural resource conservation, food self-sufficiency, and rural and wider social development (Scialabba, 2000). Small-scale farmers in the Global South, who are often economically marginalized and poorly educated, face great challenges to enter the organic sector and benefit from it, such as structural barriers to access credit, difficulties in securing reliable markets, lack of managerial skills and technical assistance (Barret et al., 2001; Nordlund and Egelyng, 2008; Blanc, 2009; Damiani, 2010).

Egelyng et al. (2010) divide organic farming systems in the Global South into three main categories according to different marketing strategies and types of organizational structure. The first type of organic agro-food system is the well-known industrialized organic food system, which is driven mainly by the export market and is also the most common organic food system found in the Global South (Barrett et al., 2001; Bolwig et al., 2009). Willer and Klicher (2011) point out that most organic products sold in the USA and European market (97%) are imported from countries in the Global South. This system is rooted in efficiency, standardization, and price competition and has rigorous requirements on volume, packaging and delivery. The second type is driven by the demand of the urban domestic market and

organized and operated by national and/or international supermarkets (Reardon and Berdequé, 2002; Siriex et al., 2011). The third type is an alternative food system that is driven mainly by NGOs, religious activists, and farmers' cooperatives or associations (Blanc and Kledal, 2012). Under this system, farmers and consumers establish semi-closed circuits of exchange via direct marketing, which is often based on 'values' such as trust, community, social and environmental welfare and opposite to 'capitalist' values such as competition, concentration and specialization of agricultural production (Egelyng et al., 2010). The latter two types remain under-developed in most countries in the Global South, but are developing in emerging economies over the past decade, such as Brazil, China, and India (Egelyng et al., 2010). Limited government roles have been played in this sector in general in the Global South except China.

The development trend in emerging economies requires a close examination in order to better understand the opportunities for small-scale farmers by conducting organic agriculture. Previous studies on the impacts of organic agriculture on small-scale farmers in the Global South have yielded conflicting findings. On the one hand, besides environmental benefits, it was found that organic farming in the Global South (such as India, Turkey, Brazil and tropical Africa) contributes significantly to linking small-scale farms to value-added global markets, boosting the household incomes of small-scale farmers, and strengthening farmers' self-confidence (Crucifix, 1998; Shah et al., 2005; Kilcher, 2007; Bolwig et al., 2009). On the other hand, because of the stringent certification standards and the highly competitive market for organic products, organic agriculture has also exacerbated social inequalities between small-scale producers and larger market-oriented farmers and further caused the exclusion of small-scale producers (Gómez-Tovar et al., 2005; González and Nigh, 2005; Blanc, 2009; Blanc and Kledal, 2012). Most of these studies have been based on cases of small-scale organic farms via contract farming for exports. Studies on developments of the organic agriculture sector in emerging economies can contribute to the knowledge about the opportunities available for small-scale farmers and long-term impacts on sustainable rural development.

In summary, the development of certified organic agriculture in the Global South and North has followed different paths. Certified organic agriculture in the Global North was initiated by small-scale farms and NGOs as an alternative to conventional agriculture. Since the mid-1990s, organic agriculture in some countries (mainly the US and some European countries) has shown the trend toward conventionalization. In contrast, certified organic agriculture in the Global South has tended to be export-oriented and carried out through contract farming. Over the past ten years, in emerging economies,

alongside the increasing demand for organic products domestically, marketing channels and ownership structures of organic agriculture have been diversified (Egelyng et al., 2010; Menon et al., 2010; Osswald and Menon, 2013). To better understand this trend in emerging economies, this study analyzes the development path of organic agriculture using China as a case study.

3.3 The evolution of certified organic agriculture in China

Despite a small sample size of organic farms we visited, China, as an emerging economy, has shown a strong trend of diversifying ownership structures of organic farms and marketing channels of organic products since the 2000s. This section provides a brief review of China's organic agriculture sector since it emerged in the 1990s. The development of certified organic agriculture in China can be divided into two phases: the emergence phase in the 1990s and its further development phase in the 2000s. In this section we briefly review these two phases of China's organic agricultural development mainly in terms of driving forces, ownership structures, marketing strategies, and government roles.

3.3.1 The emergence of standards and certification of organic agriculture in China in the 1990s

The concept of certified organic agriculture was wholly imported into China from the Global North. Certified organic production was first introduced in China in 1990 with certified organic green tea, which was exported to the Netherlands (Zong, 2002). In 1994, the first specialized organization engaging in research, certification, training, and promotion of organic agriculture - OFDC - was established in Nanjing, Jiangsu province. OFDC was founded by and affiliated to the former Chinese State Environmental Protection Agency (SEPA). OFDC is one of the largest certification agencies[33] in China today.

In the 1990s, organic products in China were certified by OFDC, with co-certification by a foreign certification agency, to a given foreign standard and mainly for the international market. With ready access to international markets, trading companies dominated China's organic sector by signing production contracts with small-scale farmers. The estimated value of organic food exported from China

[33] The other two largest certification agencies (of the 23 in total in China) are COFCC (established by the Ministry of Agriculture in 2003) in Beijing and the Organic Tea Research and Development Center (OTRDC, established by the Tea Research Institute, Chinese Academy of Agricultural Science in 2003; over 60% of organic tea in China was certified by this center) in Zhejiang. Both OFDC and COFCC have gradually separated from their affiliated government departments and are third-party certification agencies now.

was approximately US$140 million in 1999 and US$200 million in 2000 (*The Nikkei Weekly*, 2001). Aside from ensuring a guaranteed market for selling their products, small farmers received only a 5%-10% premium, or even no premium at all, for participating in certified organic production (Thiers, 2005). The domestic market for organic products was undeveloped in this period.

Due to a lack of incentive and unfamiliarity with organic agriculture, some small farmers were not willing to convert to organic production at that time. In dealing with this kind of situation, some local officials used "administrative measures" (such as forced land swapping among farmers who are willing to convert to organic production with those who refuse to) to promote organic agricultural conversion and production in some cases, as discussed by Thiers (2002). Thiers (2002) characterizes the political economy of rural China as 'a fragmented entrepreneurial state', in which "state entities (local governments, subunits of ministries, research institutions, and so on) use political authority to gain market advantage both as regulators of and as competitors in the socialist market economy" (358). He further points out that the fragmented entrepreneurial state has caused problematic outcomes, especially in certification and marketing (e.g., conflicts of interest), and calls for market-based approaches to promoting organic agriculture.

3.3.2 China's organic agriculture development in the 2000s

Alongside the development of the organic agriculture sector, the Chinese government has started to play a more facilitating role in organic agriculture in the 2000s and more recently by introducing national standards and providing policy support. Based on the IFOAM organic standard, OFDC issued and enforced its own organic certification standard in 2003 (the first domestic standards in China).[34] The standards outline the basic requirements for organic production, processing, and trading in China. By fully complying with the IFOAM basic standards, OFDC became an accredited IFOAM member, the first one in China. The Certification and Accreditation Administration (CNCA), affiliated with the General Administration of Quality System, Inspection and Quarantine, was established in late 2003 to supervise organic certification, accreditation, and related policy making. The national organic standards were introduced in 2005 to regulate organic certification and marketing in China. With the goal of increasing consumer trust in organic products (Lei, 2011; Bloomberg, 2011), CNCA released a revised set of standards for domestic organic products in 2012, which is "probably the strictest organic certification

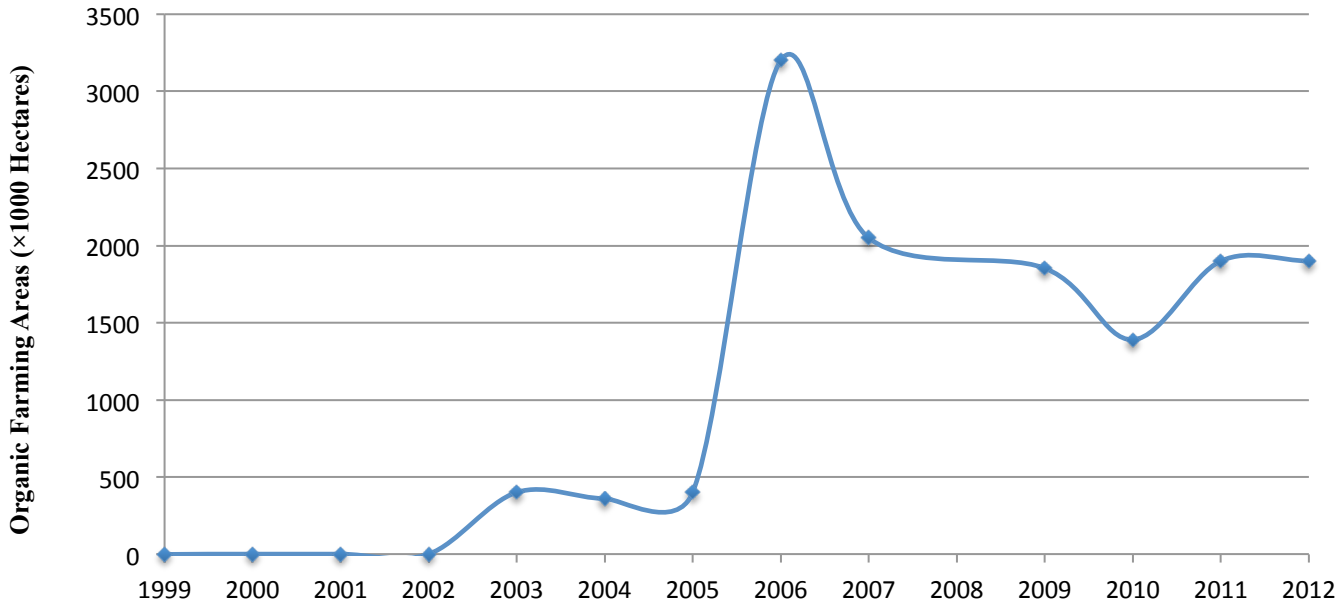
[34] The standards were formed gradually through a joint project with Gesellschaft fur Technicshe Zusammenarbeit (GTZ), named "Development of Organic Agriculture in Impoverished Areas in China" (1998-2003).

system in the world" (Katto-Andrighetto, 2012). These new guidelines will lead to an increase of the certification costs by 50-100 percent (Yu, 2012).[35] For example, the new standards require third-party organic certifiers to check and register every organic crop at every individual farm for every season.

China's domestic market for eco-labeled food products has been developing at a rapid rate in the 2000s. By the end of 2012, China was the fourth largest country in the world in terms of the land area for certified organic cultivation (1.9 million hectares), producing more than 500 species of organic products (Willer and Lernoud, 2014). The growing trend of organic agriculture in terms of total certified organic land area from 1999 to 2012 is illustrated in Figure 3. The huge jump from 2005 to 2006 was a result of the rapid development of land area certified for grazing (mainly in Xinjiang province), wild harvest area and aquaculture (Scoones, 2008; International Trading Centre, 2011). The conversion of large areas of grazing land and wild harvest area to organic production in 2006 was mainly attributed to local government support by providing various subsidies. In fact, some of certified farms failed to turn a profit. Thus, many of them withdrew from organic production when there were no government subsidies in the following years. The drop from 2009 to 2010 was due to the strict supervision and tightened regulation in this sector, and some unqualified organic farms failed to receive organic certification in 2010.[36]

[35] For the details of the new standards, see Scott and Wu, 2012.
[36] Interview (via phone) with Zhou Zejiang, Vice President of IFOAM Asia, Nanjing, August 28, 2014.

Figure 3. Certified organic farming areas in China from 1999 to 2012



Sources: Paull, 2007; Willer and Kilcher, 2009; Willer and Lernoud, 2014

Notes:

1) Unit of Chinese land area: 1 hectare = 15 mu

2) No data available prior to 1999; no data in 2008; data in 2006 are controversial (larger numbers were listed in other sources: for example, Sternfeld, 2008 and Scoones, 2008 – over 5 million hectares).

Organic food in China consists mostly of fresh produce (such as fruit and vegetables), dried or frozen field crops (such as grains, corn and beans) and tea. China has been well established as a global source of organic beans, herbs and ingredients (Willer et al., 2008). Currently most organic products in China are available in large urban centers, with the majority of them being consumed by upper and middle class individuals (Shen et al., 2009; Shi et al., 2011; Thøgersen and Zhou, 2012). In 2006, official data indicated that, for the first time, the domestic sale value exceeded the export value, although exports also continued to increase, from US$150 to US$350 from 2004 to 2005 (Sternfeld, 2008). The value of domestic sales organic food was approximately US$1.7 billion in 2009, which was almost four times of the value of exported organic products (US$464 million).[37] In 2013, 90 percent of certified organic

[37] Interview with Gao Xiuwen, Assistant Director, Certification Management Department, China Organic Food Certification Centre, Beijing, April 10, 2012.

products grown in China were sold and consumed domestically, with only 10 percent for export.[38]

Along with the expansion of the Chinese domestic market, ownership structures in China's organic agriculture sector have diversified. Based on the literature review (e.g., International Trading Centre, 2011) and our fieldwork findings, we categorize the ownership structure of organic farms in China into three main models: the contract farming model, the private company land leasing model, and the independent Farmers' Professional Cooperatives (FPC) model. No individual farmers convert and run organic farms independently due to extensive requirements of organic certification and strong marketing skills and the marginal status of small farms[39] (Zong, 2002; Giovannucci, 2005). Despite the dominance of agribusiness in the ecological and organic agriculture sector, a small number of values-based initiatives have started to emerge in major cities in China (e.g., Beijing, Shanghai, Guangzhou, Chengdu). These include Community-Supported Agriculture (CSA) farms, buying clubs, and ecological farmers' markets. These initiatives are driven mainly by civil society[40] (mainly consumers and some NGOs) and pay attention to some broader values, such as environmental sustainability, social justice and/or political values (Si et al., in press).

The emergence and early stages of development in China followed a typical pattern of developing organic agriculture in the Global South – export-oriented and via contract farming. China is leading the way in further expansion of the organic sector among emerging economies, mainly given its large and expanding domestic organic market. Compared with the development pattern in the Global North, China showed a significant difference at the initial stage and some similarities at later stages of development, mainly in terms of ownership structures of organic farms and marketing strategies. Table 3 summarizes commonalities and differences in organic agriculture at the initial stage and at the stage of further development (or maturation), in China and in the Global North. We did not include the development pattern of organic agriculture in the Global South in this table for two reasons: (1) the emergence and early development of organic agriculture in the Global South is very similar to China, except for the intervention of the local government in China's organic sector; and (2) the stage of further development in most countries in the Global South is not as significant as we see in China. Even in emerging economies,

[38] Personal interview with Zhou Zhejiang, Vice President of IFOAM Asia, Nanjing, November 22, 2014.
[39] Interviews with staff from OFDC in Nanjing and COFCC in Beijing, various days, 2011 and 2012.
[40] With regards to civil society in promoting values-based initiatives in China's organic agriculture sector, some international NGOs (e.g., Institute for Agriculture and Trade Policy in Beijing; Roots & Shoots in Beijing and Shanghai, the Amity Foundation in Nanjing), consumer associations (e.g., a buying club in Beijing), and other grassroots associations (e.g., Partners in Community Development; the Chengdu Urban River Association) are a few examples.

organic production is currently still mainly for export and the domestic organic market is growing but still limited.

Unlike the transformation in ownership structure from the predominance of small independent farms to the conventionalization and bifurcation in the Global North, the ownership structure in China's organic agriculture sector has undergone a transformation from the domination by trading companies in the form of contract farming to the co-existence of various models mainly attributed to the expansion of the domestic organic market and the promotion of farmers' cooperatives as a development strategy (discussed later in the political economy section). Market channels in the Global North and China have also changed accordingly. States have played different roles in facilitating the transformation in this sector.

Table 3. The Development and evolution of Organic Agriculture (OA) in China and in the Global North

	OA in China	**OA in the Global North**
	Emergence of OA	
Driving forces	The Chinese government, in cooperation with trading companies, both Chinese and foreign	Small independent farms and NGOs/social movements
Grower motivations	Agribusiness – profit; small producer – guaranteed market with limited price premium	Strong commitment to environmental protection and social justice
Values pursued	Profits	Economic, environmental and/or broader social values
Markets channels	Export markets	Direct marketing in local markets
Ownership structure	Contract farming with a large number of small farmers	Small-scale, decentralized ownership structure
Government role	Strong government support, including intervening directly in OA (e.g., administrative measures to force farmers to convert)	Limited or none
	Further Development of OA	
Driving forces	Agribusiness, farmers professional cooperatives, plus civil society (consumers and NGOs)	Agribusiness and small independent farms
Grower motivations	Profits and/or values-based initiatives	Profits and/or values-based OA movement
Values pursued	Economic, environmental and/or broader social values	Economic, environmental and/or broader social values
Market channels	For domestic markets – co-existence of direct marketing and conventional marketing channels, such as supermarkets; Global trade	For domestic markets – co-existence of direct marketing and conventional marketing channels, such as supermarkets; Global trade
Ownership structure	Co-existence of various ownership structures	Bifurcation - co-existence of increased dominance of agribusiness and small independent farms
Government role	1) National standards; 2) policy supports (e.g., subsidies, tax exemptions, loans, and facilitating land access)	1) Introduction of common standards; 2) policy support (varying among countries and regions)

3.4 The diversification of ownership structure in China's organic production

Based on literature review and our fieldwork findings, three main models of ownership structure of organic farms are identified in current China's organic production: the contract farming model, the private company land leasing model, and the independent FPC model (see Table 4).

Contract farming, traditionally viewed as an institutional solution to a number of barriers related to access to credit, insurance, and information encountered by small-scale farmers (Key and Runsten, 1999), is typically driven by large-scale food processing/trading companies to ensure that a steady supply of raw materials meets certain quality standards. Realizing the potential to link numerous small-scale farmers to a wider market and achieve agricultural industrialization, the contract-farming model has been promoted strongly by the Chinese government with subsidies, preferential loans, and tax exemptions (Huang, 2011; Huang et al., 2012). Many large agribusiness enterprises, also called "dragon-head enterprises" in China[41], use contracts as a business strategy to reduce their risk and uncertainty and to achieve greater economic returns. Given that all farms (except state farms) in China are quite small, these trading/processing companies more commonly choose to sign contracts with farmers' cooperatives rather than creating relatively large-scale farms as has been witnessed in many other countries (Singh, 2002). Local officials at the village level often act as a broker between the company and the farmers by signing a long-term contract of organic production and purchasing. By contracting with farmers' cooperatives, agro-business enterprises can also help strengthen their own positions by ensuring favorable regulatory treatment from the government and access to productive resources. Farmers' cooperatives have been viewed by the Chinese government as a suitable institutional unit for organizing, monitoring, controlling, and taxing agricultural production (Zhao, 2011). In this model, processing and trading companies are mainly responsible for processing and marketing, sometimes also supplying inputs and providing necessary technical supports; farmers' cooperatives are mainly responsible for agricultural production. One such example is the Tai'an Asian Food Company (TAAFC) in Shandong province. In 2006, the TAAFC entered agreements with 1300 households in 17 villages to convert 534 ha to organic vegetable production.[42] Besides providing a guaranteed market at favorable prices, this company also arranged organic certification and provided on-site technical training and monitoring through hiring a technical

[41] Dragon-head enterprise are 'clustered groups to which state capital can be channeled and state preferential treatment provided' (Chan, 2009: 46). By using agricultural production factors collectively and efficiently, dragon-head enterprises have been viewed by the Chinese government as an engine in promoting agricultural industalization and modernization (the State Concil of P. R. China, 2012).

[42] Personal interview with the CEO of Asian Food Company, March 17, 2013 in Shandong.

expert to reside in each village. Another example of this model is the state-owned Maotai Company, which facilitated the conversion to organic production among its suppliers of raw materials, primarily sorghum and wheat (Sanders and Xiao, 2010). This model holds a great potential for sustainable organic agriculture development in China in the future (Sanders and Xiao, 2010).

Under the private company land leasing model, entrepreneurial farmers and investors manage organic production by leasing land from small farmers and hiring farmers to work on the company-controlled land. This model is developed mostly in the coastal provinces because this part of China is often the most developed area where farmers can easily find job opportunities in non-agricultural sectors and the farmland has been idle or underutilized for many years.[43] To better utilize farmland, some villages, townships or counties rent land back from local farmers and manage it in a unified way (i.e., investing in roads, water supply and/or greenhouses) in order to attract external investors; a strong preference has been given to investors interested in organic and ecological production. The county districts of Shanghai have been major actors in promoting this model of organic production[44] (also see Kledal and Sulitang, 2007). This type of farms varies in scale. They often target at the domestic organic market to sell the products for reasons like well established market networks and geographical proximity.[45] Products have been sold via various marketing channels, including conventional (e.g., supermarkets) and direct marketing channels.

To overcome the barriers of small-scale production, some small-scale farmers choose to establish farmers' cooperatives in which they pool resources and market their produce collectively. By working together, small-scale farmers can reduce transaction costs and increase their bargaining power in the supply chain (Bosc et al., 2002; Stringer et al., 2009). Unlike farmers' cooperatives under the contract farming model where cooperatives have been very much dominated by enterprises, the independent FPC model is established and managed by farmers themselves and FPCs truly represent members' interests (Huang et al., 2012). Kruijssen et al. (2009) point out that farmers' cooperatives have the potential and in practice to be more inclusive of the most resource poor small farmers than contract farming. Although no data are available about the number of farmers' cooperatives conducting ecological and organic agriculture independently, there are more than 150,000 FPCs nationwide in China, with 34.8 million members, accounting for 14% of total farming households in 2008 (Ministry of Agriculture, 2009). The

[43] Personal interviews with government officials at Shanghai and Nanjing and organic certifiers at Nanjing, 2010 and 1011.
[44] Personal interview with government offical at Shanghai, March 20, 2011.
[45] Interview with several CEOs/managers of farms operating with the private company leasing land model in 2010-2011.

status of small farmers in different cooperatives varies due to different farming ownership structures. Zhang (2009), however, found that no substantial change has been made in the vulnerable position of small farmers in economic decision-making and in the distribution of earnings in many cooperatives in China because many cooperatives worked with agro-business companies and were dominated by them through contract farming. The status and equity implications of small farmers in different models of ownership structure in ecological and organic agriculture sector have been explored further (See Chen and Scott, 2014).

A small number of values-based initiatives have been identified among cases that adopt the private company land leasing model or the independent FPC model. Beyond the economic motivation, these farmers also highlight the value of reconnecting consumers and producers, urban and rural, and humans and nature/land.[46] Some examples of these initiatives we visited are Green Cow Farm and Little Donkey Farm in Beijing and BioFarm in Shanghai. Rather than relying on certified organic labels, they choose to conduct farming in broadly organic or 'natural' cultivation methods and rely on informal, participatory 'certification' by consumers to establish consumers' trust in their products (see Shi et al., 2011 for details). As one informant explained,

We do not want to buy certified products because we do not trust third parties. We only trust ourselves and our friendships with farmers. And there are opportunity costs for misbehaving - suppliers will lose their reputation. It's an acquaintance society and people will report on others. They are doing 'experience certification' or 'emotion certification'.[47]

They have adopted various direct marketing channels to sell their products and enhance the relationship with consumers, including home delivery, community-supported agriculture (CSA), buying clubs, and ecological farmers' markets. See Table 4 for the characteristics of three types of ownership structure in China's organic sector.

Due to the costly certification fees, the 2012 new organic standards were expected to have significant impacts on the ownership structure of China's organic production as many organic enterprises might either not certify or will drop certification and others might decrease the number of certified

[46] Interviews with several small-scale CSA farms and ecological farms selling products at ecological farmers' markets in Beijing and Shanghai.
[47] Interviw with the co-manager of one organic restrurant in Nanning, Guangxi, May 7, 2012.

products to reduce costs (Scott et al., 2014). Official statistics revealed that one-third of China's 7000 organic enterprises had exited the organic market in the first few months of the implementation of the new standards (Yu, 2012). Because of the stronger financial and managerial capacity, large agribusiness enterprises were expected to be better positioned than others under the more stringent standards and higher costs for organic certification[48] (Horowitz, 2012). Mr. Zhou, Vice President of IFOAM Asia, also mentioned that some previous small-scale organic enterprises continue following organic management practices but without getting certified. Rather than relying on certification, these farmers reconnect with consumers and sell their products directly to consumers via various channels.

[48] Personal interview with Zhou Zhejiang, Vice President of IFOAM Asia, Nanjing, March 11, 2013.

Table 4. Characteristics of Three Types of Ownership Structure of Organic Farms in China's Organic Sector

	Contract farming model	Private company land leasing model	Farmers' Professional cooperatives (FPCs) model
Internal organization/mode of operation	Processing/trading companies + FPCs + small-scale farms	Investors + farm workers	FPCs + farm members
Governing structure	Companies apply for certification, provide on-site technical assistance and guaranteed prices and ensure stable markets; smallholders via FPCs sell produce to companies	Investors hire farm labourers to work on the farm	FPCs are responsible for certification, production, processing and marketing
Land access	Rural households' land	Land is leased from small-scale farmers/villages	Rural households' land
Production scale	Large scale	Various scales	Medium/small scale
Target market	Global and domestic markets	Domestic market	Domestic market
Marketing channels	International traders, Supermarkets	Direct marketing; home delivery, CSA, farmers' markets, restaurants	Various channels

3.5 Strong government roles

Organic agriculture in the Global North has been mainly initiated and promoted by individual producers and NGOs (Lotter, 2003; Rahman and Nieberg, 2005). With the exception of some European countries that have adopted a policy support program, government agencies in countries in the Global North overall have played a limited role in this sector, aside from setting production, certification and inspection standards (Michelson, 2001b; Guthman, 2004). In the Global South, the organic sector has been mainly developed by organic exporters, with an active role played by civil society organizations in some countries (Scialabba, 2000; Gómez-Tovar et al., 2005; Menon et al., 2010; Preißel and Reckling, 2010; Blanc and Kledal, 2012).

The growing adoption and increasing recognition of Participatory Guarantee Systems (PGS) in these countries is an important indicator of a strong civil society and domestic demand in the organic sector. PGS is a locally focused quality assurance system based on the active participation of various stakeholders and built on "a foundation of trust, social networks and knowledge exchange" (IFOAM, 2008). PGS provide producers, especially small producers the opportunity to convert to organic farming and help overcome the barriers posed by third-party certification, such as high certification fee and bureaucracy (Willer and Lernoud, 2014). India and Brazil are two leading countries in terms of the number of producers certified through PGS, with 5,191 and 2,755 in 2011, respectively (Willer and Lernoud, 2014).

Unlike in many other countries where limited roles have been played by the government, the Chinese government, in cooperation with the private sector, has played a strong role in initiating and developing the organic agriculture sector. China's organic agriculture sector was initiated and organized by political and/or economic entities such as local government officials and export-oriented trading companies at the initial stage (Thiers, 2005). In the 2000s and more recently, the Chinese government has continually played strong and facilitating roles in this sector by working closely with the private sector. The strong government role in this sector can be explained by the following. First, although rural reforms have provided broad autonomy for farmers and allowed business enterprises to become important actors in the agriculture sector, the Chinese government, local government in particular, still remains the leading role in the rural economic development (Zhang, 2012). Realizing the potential to alleviate rural poverty and support rural development, ecological and organic agriculture have been promoted by the local government in China since the 1990s. Second, the municipal and provincial governments, often working closely with the private sector, have strong incentives to improve the economic

performance in their jurisdiction in order to generate more tax revenues. As a result of China's fiscal decentralization in the mid-1980s, the local government revenue is mainly determined by the economic performance in their jurisdiction (Walder, 1995). Third, the private sector is also keen to establish political connections in China for reasons like accessing state controlled resources (obtaining loans from banks and other state institutions), and overcoming legal and institutional failure and discrimination against private ownership (see Fan et al., 2007; Li et al., 2008).

The Chinese government role can be assessed at two levels: central government and local government. The central government plays a key role in standardization and institutionalization of organic and ecological agriculture through establishing production standards and certification procedures as many Western governments have done. Key Chinese government agencies that have been involved in promoting organic agriculture include the Ministry of Agriculture (MOA), the Ministry of Environmental Protection (MEP), the Ministry of Commence (MOC), the Development and Reform Committee, and the Ministry of Science and Technology (Qiao, 2012). At the outset, major certification agencies in China (e.g., OFDC and COFCC) were affiliated with certain government departments. For example, OFDC was affiliated with and administrated under SEPA (later became the MEP) when it was established in 1994. Many organic certified farms are state farms[49], which resulted in conflicts of interest because state entities act as both regulators and competitors (Thiers, 2002). In the 2000s, all these certification agencies were gradually divorced from their affiliated departments and became third-party certification agencies. In 2005, China developed its own national organic standards and introduced a national label for organic food sold domestically.

At the provincial and local level, government agencies have played various roles in promoting and facilitating the organic agriculture sector within their jurisdiction by using both political and economic resources. Organic agriculture has been viewed as a development strategy by the Chinese local government for the benefit of themselves and rural development. At the initial stage, Thiers (2002) found that the local government intervened heavily in the organic sector, not only as a regulator, but also as an organizer, coordinator, and owner of the means of production (i.e., rural land), which has created conflicts of interest. In the 2000s, the local government has started to play more affiliating roles in this sector through collaborating and

[49] In rural China, most of the land is owned by rural collectives and was allocated to rural households according to the Household Responsibility Systems in the 1980s.

working closely with the private sector. To draw in businesses and investment in the agricultural sector in their region, local government agencies have provided an aggressive support in the forms of large subsidies, preferential loans, special tax considerations and the like.

Based on our fieldwork and previous research, local government efforts in facilitating organic agriculture sector can be classified into the following main categories (see also Scott, et al., 2014):

- Administering standards and testing: agricultural bureaus[50] at the provincial, prefectural and county levels are responsible for administrating the implication of ecological and organic standards and product testing.[51]
- Providing or facilitating land access: helping agribusiness get access to farmland for organic production either through direct donation or through negotiating land leasing with small-scale farmers to consolidate rural land for investors; Shanghai is an example illustrating the kind of government roles (Kledal and Sulitang, 2007).
- Developing regional organic product development plans and establishing eco-agricultural zones, organic agriculture gardens and demonstration bases: some local government officials are ambitious to promote organic production at the county scale such as Wanzai organic county in Jiangxi province and Baoying organic country in Jiangsu province (see also Qiao, 2012).
- Financial supports and subsidies: subsidies for building greenhouses and installing irrigation facilities and subsidies for organic fertilizer and bio-pesticides (see also Bennett, 2009; EU-China Trade Project, 2008). For example, the Shanghai Municipal government invested US$ 30 million in organic fertilizer subsidies between 2004 and 2009. There are also specific subsidies for organic agriculture in some jurisdictions, including for organic certification; low or no interest loans; and tax exemptions for agribusiness/cooperatives.
- Technical supports: conducting training workshops about organic production; organizing visits to other organic farms or production bases; bringing in researchers (see also Qiao, 2012).
- Marketing support: assisting with branding, organizing expos, and other forms of product promotion; institutional procurement - purchasing organic food as a perk for government

[50] The China's Certification and Accreditation Administration (CNCA) is now in charge of organic certification in China, but this department does not have a vertical hierarchy with subordinate bureaus and offices at the local levels to administrate the implementation of organic standards. So, the subordinate bureas and offices of the Ministry of Agriculture are resposible for the administration and product testing.

[51] Organic produced samples need to be tested at a testing agency with legitimate qualifications entrusted by the certification institution.

employees; promoting ecological agri-tourism; helping host various organic and green food expos, such as BioFach and the China Green Food Expo.

- Facilitating vertical integration to reduce transaction costs caused by contracting with a large amount of small-scale farms: helping establish farmers' cooperatives since trading and processing companies prefer to contract with cooperatives rather than numerous small-scale farmers to convert to organic production.
- Moral support: various awards provided by Chinese government at various levels in recognition of good performance of organic farms, such as the "organic agriculture demonstration model" at national, provincial or city levels.
- Improving public awareness of ecological agriculture and organic food. For example, the China Environment and Sustainable Development Reference and Research Center (CESDRRC, a sub-unit of State Environmental Protection Agency) started a new monthly newsletter, Organic Trends. This center also worked with NGOs (e.g., Friends of Nature and Global Village Beijing) to set up a new webpage, Green Choice, as a platform to discuss food safety and organic food.
- Other roles: State-owned enterprises facilitating their suppliers' conversion to organic production (Sanders and Xiao, 2010); encouragement to convert to organic agriculture (Sanders, 2006).

In summary, realizing the potential to boost the local economy and protect the natural environment, local governments have provided diverse supports to encourage ecological and organic agriculture development within their jurisdictions. In contrast, although ecological and organic agriculture has been viewed as an important strategy in alleviating rural poverty, enhancing food safety, and developing sustainable agriculture, our research found that the central government does not play an active role in practice in this sector. However, the government role at both levels in educating the public and improving awareness of organic and ecological agriculture is still lacking and consumers are often confused about the differences between the various food quality standards (e.g., organic, green and hazard-free food).

While the range of local government supports may be impressive, there are substantial variations by region due to differing financial capabilities of provincial and local governments. Government agencies in wealthier areas more often promote organic agriculture through direct financial support and subsidies, while tax exemption and other kinds of policy support are more

common in poorer areas.[52] Strong local government involvement in the rural economy, however, has also led to jurisdictional competition in which state entities (local government agencies, subunits of ministries, research institutions, etc.) invest both capital and political authority to compete to build a business environment favorable to private capital investment to organic agriculture (Qian and Roland, 1998). The institutionalized competition might impose constraints on government economic policies and spending (see Weingast, 1995; Qian and Roland, 1998; Nee et al., 2007).

Compare to green and hazard-free food, organic agriculture has received relatively less support from local and provincial governments. This may be due to the deep skepticism among government officials and some organic farm operators regarding the productivity of organic agriculture and the concerns that expansion of organic production could lead to insufficient food supplies to feed Chinese population.[53] In consideration of the already serious environmental situation in China, the less stringent standards of green and hazard-free are often viewed as more suitable to be widely adopted because most farms would not pass organic certification.[54]

3.6 The political economy of rural China in the 2000s

We argue that the diversification of ownership structures in China's organic production as discussed above is rooted in China's political economy in the 2000s, including the developed rural land rental market, agrarian transformation toward agro-industrialization and vertical integration, the expansion of the domestic organic market, and an emerging civil society. The impacts of these political economy elements on the diversification of ownership structure in organic production are summarized in Table 5.

Developed rural land rental market: Land tenure reforms in China over the past three decades have developed rural land rental markets and promoted land leasing to large farms and agro-enterprises. Reforms began with the introduction of the Household Responsibility System (HRS) in the late 1970s, which resulted in important changes in the land tenure system, characterized as the separation of land use rights from land ownership.[55] Individual households

[52] Interviews with government officials at the provincial and county levels at Zhejiang, Jiangsu, Anhui, Shanghai and Beijing in 2010 and 2011.
[53] Interview with an agricultural scientist, Beijing, April 13, 2012.
[54] Interviews with government officials and farmers, Jiangsu, Anhui, Shandong, and Hainan, various dates, 2010-2011.
[55] Rural land in China is mainly owned and controlled de facto by village-run 'rural collectives' that allocate and re-allocate land to each household according to the number of household members. "Land in the countryside and in suburban areas is under collective ownership unless the law stipulates that the land is state-owned" (National People's Congress 1982, Article 10).

have the right to use, sub-lease and transfer land, but they do not have the land ownership, which means they cannot sell or buy land or obtain loans from banks using land as collateral. Ho (2001) described this land tenure system as "institutional indeterminacy"; somewhere between state-controlled and market-oriented. Although this land tenure system significantly stimulated farmers' enthusiasm for production and accelerated agricultural productivity in the 1980s (Muldavin, 1996; CSSB, 2008), it has also created structural weaknesses in China's agricultural sector (Sanders, 2006). These structural weaknesses have threatened agricultural development in China, particularly given the severe competition from overseas after China became a member of the World Trade Organization (WTO) in 2001. Instead of advocating and promoting large-scale mechanized farming, Huang (2011) argues that small farms are better suited to China's conditions given the realities of severe population pressure on land in China. But small farms must coordinate with agro-industrial enterprises or take collective action, such as establishing farmers' cooperatives (Huang, 2011). Sanders (2006) argues that organic agriculture can be conducted successfully within China's current small-scale farming system, if combined with appropriate collective arrangements among small farmers.

Although privatization of rural land may seem to some as the logical next step in China's reform and opening policies, the Chinese central government has not so far lessened its commitment to collective land ownership and long-term land leases under the HRS. The main concern is that privatization would likely lead to an acceleration of land concentration through market mechanisms, which would further result in increased poverty and social instability in rural areas (Dong 1996, Wen, 2001, Kung 2002; Zhang and Donaldson, 2013). For the large number of small-scale farmers, access to land still serves as a basic social safety net in the absence of a social security system in the Chinese countryside (Zhang and Donaldson, 2008; Huang, 2011). Rather than promoting land privatization, Zhang and Donaldson (2013) argue that China's current agricultural system can work more effectively and more efficiently than privatizing rural land by enhancing the following six issues: increasing investment in land and agricultural productivity, promoting scaling of modern agriculture, protecting farmers' land rights, improving rural livelihoods and facilitating rural migrants' integration into cities. The Chinese central government has established and developed land transfer and rental markets as a main strategy to increase the scale of agricultural production (CCP Central Committee, 2010). Although the buying and selling of rural land is still not allowed, land tenure reforms have made land transfers from small farming households to large farms and agribusiness companies increasingly easier (Gürel, 2014). As a result, agribusiness companies and rich farmers can rent farmland either from individual small

farming households or from the village collectives to establish private farms and hire wage labourers to work on their farms.

Agro-industrialization and vertical integration: To address the limitations of small-scale farming, the Chinese central government since the mid-1990s has increasingly turned to agricultural industrialization and offered a series of attractive programs to encourage entrepreneurs to engage in the modern agricultural sector. This has further driven agrarian transition toward vertical integration of agriculture with industries, from cultivation to processing to marketing. The Chinese government has promoted the establishment of dragon-head enterprises and farmers' professional cooperatives in order to achieve vertical integration in China's agricultural sector. In recognizing the potential to improve farmers' production and market capacities, the Chinese government has promoted dragon-head enterprises as the most favorable type of ownership structure to foster agricultural modernization (Zhang and Donaldson 2008: 29; Huang 2011: 119). In the 1990s, contract farming led by dragon-head enterprises was the main type of ownership structure in China's organic sector to supply global market and overall.

Alongside the strong support for dragon-head enterprise, the Chinese government has also made an considerable effort to promote farmers' cooperatives as an alternative model for vertical integration since the mid-2000s (Huang, 2011). For example, the Chinese government implemented the Rural Professional Cooperative Law in 2007, which gives a legal status for farmers' cooperatives as an independent economic unit in China. Various government supports have offered by the Chinese government to promote the development of farmers' cooperatives, including government grants, subsidies, and tax exemptions (Deng et al., 2010).

Food safety concerns, burgeoning middle class, and the Chinese domestic organic market: Consumer trust in food safety and quality dramatically decreased in China in the 2000s mainly because of the growing ecological awareness and numerous food scandals exposed by the mass media, including the tainted infant formula scandal and recycled gutter oil used in cooking (Chen, 2013; Mol, 2014). As Shi Yan, the founder of the first CSA farm in China, explained,

> *Certified organic agriculture in China has been export-oriented since its emergence in 1990s. But until a series of food safety scandals, especially the tainted infant formula*

scandal, were reported by the media in China in the mid-2000s, people started to pay high attention to food safety. And it is at this time that people started to purchase organic food and the Chinese domestic market for organic agriculture has been grown rapidly since then.

Unlike in many countries in the Global North where consumers are mainly motived by the environmental and other social and ethical values in purchasing and consuming organic products (Lockie et al., 2004; Zander and Hamm, 2010), the consumption of organic food in China has been motivated mainly by individual health concerns and strongly affected by economic factors like household income and organic food prices (Yin et al., 2010; Scott et al., 2014).

Besides the rising health concerns, the burgeoning middle classes with strong purchasing power is another major factor contributing to the rapid growth of China's domestic organic market. Social and economic reforms have significantly contributed to China's growing economy and a growing middle and upper-middle class. Compared with the lower class whose concerns related more to food security, middle-class consumers have strong concerns around food safety and quality and are willing to pay extra for better tasting and higher quality food (Banerjee and Duflo, 2008). The large Chinese middle-class population and their growing awareness of nutrition, health, and food safety account for the expanding Chinese domestic organic market (Xu, 2008).

The growing domestic organic market has provided opportunities for private companies and farmers' professional cooperatives to expand organic production through direct marketing strategies. To capture the tremendous growth potential and reap high price premiums, private investors from various sectors (real estate, IT, etc.) have shown strong interest and made substantial investments in China's organic agriculture sector (Yuan, 2010). For example, Tony's Farm, one of the earliest and most well-known organic farms in China, has invested over 250 Million RMB (equal to US$ 41 million) since its founding in 2005, with the funding coming from their own enterprise, local government and venture capital funds. More recently, some large agribusiness companies, which engaged in contract farming and exported products to the global market, have also shown interest in developing their sales domestically.[56] The expanding domestic organic market contributes significantly to the diversification of ownership structure in

[56] Interview with the CEO of Asian Food Company, Shandong, March 17, 2011.

China's organic production by providing local market opportunities for land-leasing farms and farmers' cooperatives, especially those operating in comparatively small scale.

Although the Chinese domestic market has grown rapidly in the past decade, it still faces many barriers to better meet consumer demand. These barriers include low availability of organic products, high prices, low trust in certification and eco-labeling, and limited knowledge among consumers about ecological agriculture and eco-labeled products.[57] Yin et al. (2010) found that the most important reasons for not purchasing organic food were high prices and limited availability on the market, which is the same as the findings in most other international contexts (for example, Thøgersen, 2010). In addition, low trust and limited knowledge about ecological agriculture and eco-labeled products increases consumer uncertainty, which will have negative impacts on the consumers' willingness to buy eco-labeled products (Thøgersen, et al., 2012). More recently, social media also exposed some organic food scandals. These food safety and quality scandals have hit the organic food industry and have had negative impacts on consumers' purchases of organic food in recent years (Yin et al., 2010). To overcome these barriers, some solutions have been proposed, including diversifying the marketing channels to cut down the market price and improve market availability, lowering the premium prices, enhancing the monitoring system, and reducing consumer uncertainty by means of consumer education and campaigns (Yin et al., 2010; Thøgersen et al., 2012).

Growing civil society: In addition, an emerging civil society in China has spurred values-based initiatives in organic production in the 2000s. Civil society organizations (e.g., NGOs) start to play active roles in promoting organic agriculture by developing organic projects in many provinces in China. For example, a Hong Kong-based foundation, named 'Partners in Community Development' (PCD), has started to promote the CSA model in Mainland China by working with James Yan Rural Construction Center and other NGOs in Mainland China since 2003. By developing internship projects and organizing workshops and trip visits to organic farms in other countries (i.e. Thailand), the PCD educates people and enhances their knowledge and understanding of sustainable agriculture. The PCD has also worked with the Chengdu Urban River Association (CURA) to establish organic projects in Chengdu through providing financial support, training staff, and helping them find markets. The Amity Foundation in Nanjing has also developed organic projects in Guangxi and Inner Mongolia. The roles played by the Amity

[57] Interview with various stakeholders in 2010 and 2011 in China.

Foundation include: 1) helping establish farmers' cooperatives; 2) educating local farmers about ecological and organic farming; and 3) providing training.

Through adopting local and direct marketing strategies, such as Community-Supported Agriculture (CSA) and buying clubs, direct interaction and reconnection between consumers and producers are often highlighted by those organic farms established and supported by civil society organizations (Shi, et al., 2011; GOMA, 2012; Si et al., in press). These farms emphasize broad social and environmental values. As one CSA farmer in the Anlong village project supported by the CURA explained,

> *We should not evaluate our activities only by economic benefits. Rather, we need to be self-reliant. Our ecological farming activities are motivated by three basic concepts: environmental protection, healthiness, and harmony. Ecological agricultural farming helps us to become friends with consumers. Some consumers told me that although we are different, we are working toward a common goal - protecting the environment.… We are fundamentally providing service to the society. The involvement of big capital won't solve the problem. The big capitals are profit-oriented, so it's hard for them to consider the social benefits. They are constrained by their stakeholders, so they can't always make decisions that are good for the society. And, it's not good to be large scale; small-scale farming is more stable and effective to solve the food safety and quality problems.*[58]

[58] This interview was conducted by Zhenzhong Si and Steffanie Scott at Anlong village, Pixian county, Sichuan province on April 26, 2012.

Table 5. Impacts of Chinese Political Economy on Diversifying Ownership Structure in the Organic Agriculture Sector

Elements of China's Political Economy	Features	Results	Impacts on the diversification of ownership structure
Development of a rural land rental market	Promoting rural land transfers and renting to large farms and private companies by adopting a series of land tenure reforms	Active rural land leasing market	The development of private company-operated organic farms
Agrarian transformation toward agro-industrialization and vertical integration	Large processing/trading companies contracting with numerous small-scale farms/farmers' cooperatives; emergence of independent farmers' cooperatives	Large-scale farming, agricultural modernization, and vertical integration in the agricultural sector in production, processing, packaging and marketing	The rise of contract farming with cooperatives; the rise of independent farmers' cooperatives
Growth of the domestic organic market	Local demand for organic products due to increasing food safety concerns and burgeoning middle class	Creation of domestic market for small-scale organic farms	Local market opportunities for private companies and farmers' professional cooperatives
An emerging civil society	Nascent interest in broad social and environmental values	Development of organic agriculture projects; providing sustainable agriculture training; financial support	The emergence of values-based initiatives, such as CSAs and farmers' markets

The Chinese government has shaped the contemporary political economy that contributes to diversifying ownership structures in China's organic agriculture sector. The Chinese government has played a leading role in implementing a series of rural land reforms since the late 1970s and promoting agrarian transformation since the 1990s, as discussed above. The Chinese government has also put great effort in stimulating the domestic market in general and the domestic market of organic products in particular. To deal with the extraordinarily high and rising savings rate in the 2000s, the Chinese government took steps to transition to more balanced domestic demand and encourage consumption at the household level by promoting job creation, creating a stronger social safety net, and providing household loans from banks and other state institutions (Chamon and Prasad, 2008; Ma and Yi, 2010; Wen, 2010). To boost consumers' confidence in China's food industry in general, and organic products in particular, the Chinese government has made efforts to improve the food safety environment by establishing stringent food quality standards and regulations, providing marketing support (e.g., helping to organize expos of certified ecological and organic products), and educating consumers on food safety and ecological and organic agriculture (Thompson and Ying, 2007; Jia and Jukes, 2013). Civil society in China overall has long been strictly controlled (Ho, 2001; Yang, 2005). Realizing its own limitations, the Chinese state has been more tolerant of and even cautiously encouraging civil organizations on environmental related issues in the 2000s (Ho, 2001; Yang, 2005). Nascent civil society has been burgeoning in China in the 2000s and more recently, which has paid more attention to environmental and broader social values in organic agricultural production. As a result, some values-based initiatives have been emerging in China's organic agriculture sector in the 2000s.

3.7 Conclusion

Compared with the evolution in the Global North, the organic agriculture sector in China has shown great differences in terms of its development path and government roles in this sector. In many countries in the Global North, organic agriculture was mainly initiated by individual farms and NGOs with limited roles play by governments at the initial stage. Since the 1990s, a trend toward conventionalization in organic production and marketing has been reported in the Global North and criticized for the erosion of values of original organic producers. With the exception of some European countries that have adopted policy supports, governments in countries in the Global North overall have played a limited role in organic production, aside from setting common standards.

Unlike the trend toward conventionalization, the certified organic agriculture sector in China has undergone significant changes over its short time of development mainly in terms of the ownership structure of organic farms and marketing strategies. As in many other countries in the Global South, organic agriculture in China was initiated in the 1990s for export; there was limited concern about environmental conservation or social justice. Our study found that along with the development of organic agriculture, especially the growing domestic organic market, the ownership structure in China's organic production has diversified in the 2000s with the co-existence of contract farming, private companies land leasing, and independent farmers' professional cooperatives models. Among them, a small number of values-based initiatives have started to emerge and paid attention to the broader values of organic production and highlighted the importance of direct interactions between consumers and farmers to rebuild relationships of trust. They often adopt direct marketing strategies, such as CSA, home-delivery, buying clubs, and farmers' markets, to sell their products. Consumers' trust was enhanced through direct interactions in these initiatives rather than through official organic labels. The Chinese government, in cooperation with the private sector, has played a strong role in developing China's organic agriculture sector.

The political economy of rural China has shaped these changes occurring in China's organic agriculture sector in the 2000s. We identified four aspects of the political economy that account for these changes: the developed rural land rental market, agro-industrialization and vertical integration, the growth of the domestic organic market, and an emerging civil society. Although rural land ownership has not changed since the 1980s, long-term land leasing has been promoted by the Chinese government at both central and local levels and the rural land leasing market has developed in the 2000s. Through leasing land from small farming households and rural villages and hiring farm labour, the private company model in organic production has grown rapidly and most of farms are located near large city areas where the growing upper-middle and middle classes live and demand for organic food is strong. The growing upper-middle and middle classes can afford and are willing to pay a premium for high quality and safe food. In addition, the emerging civil society has contributed signification to the development of values-based initiatives in China's organic agriculture sector.

Our study contributes to the discussion regarding the development trends/patterns of organic agriculture, which currently focuses mainly on the phenomenon of conventionalization in the Global North. The study of China's organic production reveals a trend of diversification in ownership structures

in organic production with an emergence of values-based initiatives. This study contributes to our understanding of the complexity and diversity of the development path of organic agriculture within different contexts. The findings of this research give us a glimpse at the development patterns of organic agriculture beyond the Global North, but also serve as a mirror to reflect the possible trajectories of organic agriculture in emerging economies in the Global South that need further investigation. Many other emerging economies, such as India and Brazil, face similar situations in developing organic agriculture as we found in China. In these countries, organic agriculture has been driven mainly by export markets via the contract farming model; and domestic organic markets has been rising over the past decade, which might provide more opportunities for small-scale farmers to engage in and benefit from the organic agriculture sector (Egelyng et al., 2010; Menon et al., 2010; Blanc and Kledal, 2012; Osswald and Menon, 2013).

Future research could fruitfully examine the implications of the diversification of ownership structures in China's organic production in terms of its impacts on small-scale farmers and rural development. Future study on the emerging values-based initiatives in organic agriculture is also promising by comparing with the organic movement in the Global North to reveal the impacts of political economy on the development of organic agriculture within different social contexts.

Chapter 4
Who is Growing Organic Food? The inclusion of small farms in China's organic agriculture sector

Aijuan Chen and Steffanie Scott

Overview: Current studies on small-scale farmers and organic agriculture have focused mainly on profitability and accessibility in general. There have been no systematic studies examining the extent and type of involvement of small-scale farmers in the organic agriculture sector. Based on fieldwork involving interviews with 66 stakeholders, we address this issue by analyzing three major models of ownership structure of organic farms in which small-scale farmers have been engaged in organic production in China: the dragon-head enterprise contract farming model, the independent farmers' professional cooperative model, and the private enterprises land leasing model. A three-tiered equity framework proposed by Brown and Corbera (2003) – equity in access, in decision-making and in outcome – is applied to examine the equity implications for small-scale farmers in these three models. Our study found that all these models have played important roles in linking small-scale farmers to value-added markets and in increasing farmers' income. The results of our study, however, also reveal that the independent farmers' cooperative model has shown a stronger inclusion of small farms in terms of participating in decision-making and providing them with more autonomy compared with the other two enterprise models. We also found that farmers in the cooperative model have shown more comprehensive understanding of organic agriculture and demonstrated a stronger commitment to sustainable development in their daily operations than those in the two enterprise models.

Keywords: Small-scale farmers; ecological agriculture; organic agriculture; ownership structure; equity implication

4.1 Introduction

Converting to ecological and organic farming has been viewed as an effective way to support the livelihoods of small-scale farmers and to alleviate rural poverty (Fan et al., 2000; Scialabba, 2000; Bacon, 2005; Giovannucci, 2005; Gómez-Tovar et al., 2005; IAASTD, 2008). Organic agriculture is becoming more market-oriented and an income-generation strategy for poor farmers (Scialabba, 2000; Gómez-Tovar et al., 2005). Organic products often target high-end markets (e.g., niche markets and foreign

markets). In the Global South where organics have been produced mainly for export, industrialized organic agriculture is the most common mode (Barrett et al. 2001; Bolwig et al. 2009). With the purpose of achieving efficiency and market competitiveness, organic agriculture in the Global North has been gradually organized toward the capitalist and large-scale mode (Buck et al., 1997; Tovey, 1997; Guthman, 1998; Goodman, 1999; Allen and Kovach, 2000; Michelsen, 2001b; Pugliese, 2001; Best, 2008). Under these circumstances, the types and extent of involvement situation of small-scale farmers in the organic sector is worth examining in order to have a better understanding of the social and economic value of organic agriculture to small-scale farmers.

There is a growing literature on the participation of small-scale farmers in value-added supply chains. Until recently, the main focus of this research was on how to link small-scale farmers to global supply chains (Jaffee and Bintein, 1996; Dolan and Humphrey, 2000) and how to make markets benefit the poor and the environment (Stanton, 2000; Reardon and Berdegue, 2002; Henson and Reardon, 2005; Kruijssen et al., 2009). Previous studies on organic agriculture have found that small-scale farmers in the Global South face huge challenges in entering this sector and benefitting from it due to their marginalized social-economic status and low levels of education (Egelyng, 2009; Barret et al., 2001; Nordlund and Egelyng, 2008; Blanc, 2009; Blanc and Kledal, 2012). Challenges for small-scale farmers to convert to organic agriculture in the Global South include high costs for certification, decreasing incomes during the transition period, difficulties in accessing credit and creating a reliable market, and a limited knowledge about organizational management (Egelyng, 2009; Barret et al., 2001; Nordlund and Egelyng, 2008). As a result, small-scale farmers have participated uneven in organic supply chains or even have been excluded from this sector (Gómez-Tovar et al., 2005; González and Nigh, 2005; Blanc, 2009).

Many studies have documented an array of mechanisms for linking small-scale farmers with high-value markets (e.g., Glover and Kusterer, 1990; Masakure and Henson, 2005; Kruijssen et al., 2009; Blandon et al., 2009). However, to date there have been few studies comparing the characteristics of different ownership structures with respect to the equity implications for small-scale farmers. These issues are important to examine, especially in China where small-scale farmers are so prevalent. Studies on these issues can shed light on future food policies and agro-food system sustainability. If a certain type of ownership structure has a stronger pro-poor impact, policies and programs (such as providing subsidies and low-interest loans) to support this model can be justified and enhanced on equity grounds. If not, the policymakers would be better to allocate limited resources to other types of ownership structures. This

study aims to fill this research gap by exploring how and to what extent small-scale farmers are included and benefit from China's organic agriculture sector via various models of ownership structure.

Over the past two decades, ecological and organic agricultural production has grown dramatically in China, both in terms of the area of land and the value of production (Giovannucci, 2005; Scoones, 2008; CESDRRC, 2008; Sternfeld, 2008). Under the household responsibility system (HRS), all rural land (except state-owned farms) was allocated to rural households according to the number of household members; rural households are the basic unit of agriculture production; and no rural land can be sold or purchased. As a result, many small farming households in China have been directly or indirectly involved in the organic agriculture sector. This study characterizes the models of ownership structure in China's organic agriculture and further analyzes the equity implications for small-scale farmers in each model by applying a three-tiered equity framework developed by Brown and Corbera (2003). This research offers insights for China and potentially other countries with similar challenges seeking to alleviate rural poverty and support sustainable rural development that incorporate small-scale producers and ecological production practices.

This paper is structured as follows. First, we review the literature on mechanisms linking small-scale farmers to value-added markets and introduce a three-tiered equity framework to evaluate the equity implication in three models of ownership structure in China's organic agriculture sector. Second, we briefly review the experience of agrarian transition and organic agricultural development in China over the past three decades. Third, we characterize the three models of ownership structure and examine the equity implication among the three models. We provide conclusions to our study at the end of the paper.

4.2 Conceptual and analytical framework

4.2.1 Ownership structures linking small-scale farmers with value-added markets: an overview

According to current studies on strategies linking small-scale farmers to agro-food supply chains (both conventional and organic), three main models of ownership structures can be identified: contract farming, producers' cooperatives, and private enterprises hiring farm workers. We briefly review the characteristics of each of these three models in this sector.

Contract farming, traditionally viewed as an institutional solution to the problem of market failure in the markets for credit, insurance, and information, is typically driven by large-scale buyers, such as exporters or food processors, to ensure that a steady supply of raw materials meets certain quality standards (Grosh, 1994; Key and Runsten, 1999). The impacts of contract farming in the Global South have sparked extensive debate (e.g., Little and Watts, 1994; Key and Runsten, 1999; Singh, 2002). On the one hand, contract farming can significantly benefit small-scale farmers and contractors (see Bijman, 2008 for details). For example, contract farming can contribute to increasing farmers' incomes, access to inputs, credit, services and information and ensuring a guaranteed market and fixed prices for their products (Key and Runsten, 1999; Da Silva, 2005; Masakure and Henson, 2005; Miyata et al., 2009). On the other hand, contract farming has also raised concerns about equity and has been criticized for taking advantage of cheap labour, transferring risks to farmers, marginalizing small-scale farmers, and exacerbating rural inequalities (Little and Watts, 1994; Zhang and Donaldson, 2010; Singh, 2002; Warning and Key, 2002).

To overcome the barriers resulting from small-scale production, some small-scale farmers have chosen to take collective actions and establish their own cooperatives in which they pool resources and market their produce collectively. By working together, small-scale farmers can help correct some of the market imperfections, such as high transactions costs, and increase their bargaining power in the food supply chain (Bosc et al., 2002; Markelova et al., 2009). Kirschenmann et al. (2008) view the farmers' cooperative model as 'an encouraging trend with real benefits to the local communities'. Dunn (1988: 85) defined farmers' cooperatives as "farmer-owned and controlled businesses from which benefits are derived and distributed on the basis of use" (Dunn, 1988: 85). Producers' cooperatives can play an important role not only in providing small-scale farmers with higher incomes but also in helping them adapt to the changing global supply chains (Markelova et al., 2009). Moreover, small-scale farmers are more able to reach high quality standards and operate on a larger scale through collective action, which enables them to reach value-added markets both domestic and international (Markelova et al., 2009). Kruijssen et al. (2009) found that producers' cooperatives have the potential to be more inclusive of the most resource poor small-scale farmers than contract farming.

Small-scale farmers, besides operating their own farms, can also be involved in the food supply chain as agricultural labourers. The agricultural employment literature focuses mostly on migrant farm workers in western countries, especially in North America (Mize, 2006). The vulnerable position of the

migrants in the labour market, as well as the causes and consequences thereof, have been widely documented (see Rogaly, 2006 for an overview).

Most of the studies on the links between small-scale farmers and value-added markets have investigated incomes and social impacts on small-scale farmers (Little and Watts, 1994; Singh, 2002; Kruijssen et al., 2009; Miyata et al., 2009). However, comparison of the equity implications for small-scale farmers among different models of ownership structure is limited. To fill this research gap, our study compares the three models of ownership structure to summarize their characteristics and discuss the equity implications for small-scale farmers in China's organic agriculture sector.

4.2.2 Analytical framework to assess equity

Equity is a core aspect of sustainable development (World Commission on Environment and Development, 1987) and a key criterion for sustainable environmental governance (Adger et al., 2003). It concerns fairness of outcomes and power relations among different stakeholders (Keizer, 2003). We propose to analyze the equity implications of small-scale farmers and farm workers in three different models of ownership structure in China's ecological and organic agriculture sector. A three-tiered equity framework (Brown and Corbera, 2003) — equity in access, equity in decision making and equity in outcome - is applied in this study to investigate the equity implications for small-scale farmers in three models of ownership structures in China's ecological and organic agriculture sector.

In this study, *equity in access* concerns the ways in which various stakeholders (e.g., small-scale farmers, agribusiness, and farmers' cooperatives) engage with and participate in the ecological and organic food supply chains. Equity among various stakeholders in this case depends largely on access to marketing information, farming knowledge and networks, and access to land, labour, and other productive assets. Institutions are important in determining the way in which different stakeholders can participate and share the profits. For example, the household responsibility system in China grants small farmers rights to access rural land, which leads to their inclusion in the organic agriculture sector. We discuss this in detail later.

Equity in decision-making relates to procedural fairness (Brown and Corbera, 2003). Beyond the requirement of participation, equity in decision-making also requires that various stakeholders should express their interests and can negotiate various interests in making strategic decisions (Fraser, 1997;

Paavola, 2003). In this study, equity in decision-making refers to the extent to which small-scale farmers have been included in the decision-making process within the food supply chain, such as converting to organic production, processing, managing and marketing.

The third dimension of equity relates to the *distribution of the outcome* among various stakeholders and the perceived fairness when conducting certain activities (Brown and Corbera, 2003). In our study, we examine both the economic payments and non-monetary impacts on small-scale farmers or farm workers (e.g., freedom and autonomy). The three dimensions of equity are highly interrelated, and equity in outcome is partially determined by access to production factors and involvement in decision-making (Brown and Corbera, 2003; Corbera et al., 2007). For example, in our study, small farmers were involved in the redistribution of profits only in the independent cooperative model, in which they are the decision-makers in all stages of the food supply chain.

This study evaluates equity for small-scale farmers vis-à-vis various stakeholders in distinct ownership structures in ecological and organic agriculture. Perceptions of ecological and organic agriculture among small-scale farmers are also examined to show the differences among various ownership structures.

4.3 Research methods

This study is based on eight months of fieldwork in China covering six provinces (Jiangsu, Anhui, Zhejiang, Shandong, Hainan, and Henan) and two municipalities[59] (Shanghai and Beijing). Semi-structured interviews were carried out by the authors with a wide range of organic farmers, farm workers, administrators and technicians of organic cooperatives, managers and/or owners of agribusiness enterprises, government officers, researchers, and certification agencies. From May 2010 to June 2011 a total of 66 in-depth interviews were conducted with representatives from two agribusiness enterprises contracting with cooperatives, ten independent farmers' cooperatives, and 12 private enterprises (three of them adopting the Community Supported Agriculture model) (See Figure 4).

Most cases about the independent cooperative model in this study came from Zhejiang province, which is the pioneer in China in developing farmers' cooperatives (Liang and Hendrikse, 2013; Sultan and Larsén, 2011). Both contract farming cases came from Shandong province, which is the nation's

[59] Shanghai and Beijing are provincial level municipalities, acting administratively as provinces.

leader in developing organic agriculture and supporting dragon-head enterprises by investing in rural infrastructure, offering favorable policies (e.g., access to land use, tax exemption, no or low-interest loans) and providing various subsidies. Many previous studies on dragon-head enterprises and contract farming have drawn cases from this province (cf. Miyata et al., 2009; Huang, 2011; Yu et al., 2013). Although the number of the organizational model of enterprises contracting with cooperatives interviewed was limited (only two), more information regarding this model was collected from a variety of other sources, including the Maotai Company (in Gansu province) discussed in Sanders and Xiao (2010), discussions with certification agencies, government officials and researchers on this model, and news reports about these three cases.

The main topics discussed in the interviews were the organizational structure of the farm, conversion to organic production, terms and channels of sales, development challenges, government roles, and the interviewees' understanding of organic agriculture. To identify and characterize the models of organizational structure of a certain organic farm, the interviewees were asked the following questions: who are the leaders and what roles do they play; what level of access does the farm have to land, labour, credit, and technical services and training; what are the relationships among various stakeholders; what are major advantages and disadvantages of this model; how were the development decisions made; how were the profits shared among various stakeholders. Most interviews were conducted either on the farms or at farmers' homes. This enabled observations on working environment on the farms, farming activities and farmers' livelihoods. Cooperatives and companies also showed us their offices and documentation of sales, certifications and farm management.

Figure 4. Locations of Cases Studied

Source: the author

All interviews were conducted in Chinese, and interview notes were written up following each interview. Completed interviews were transcribed in Chinese and then translated to English. To facilitate data analysis, N-Vivo, a qualitative data analysis computer software package for working with textual data, was used to categorize data into themes and facilitate data analysis.

4.4 Agrarian transition and organic agriculture in China

4.4.1 Agrarian transition in China

For a long time China's food production system was subsistence-based and farmers did not organize themselves for economic purposes, although farmer organizations emerged for security and self-defense purposes during particular time periods (e.g., the war of resistance against Japan in the 1930s) (Thaxton, 1997). In the socialist period from the 1950s to the 1970s, the collectivization campaign eliminated the peasantry wholesale through collectivizing agricultural production, but these turbulent policy changes only created an extended peasantry (Friedman et al., 1991; Bramall and Jones, 2000).

Although collective brigades and communes replaced household production as units of agricultural production under collectivized socialist agriculture, agricultural production and reproduction was still not commoditized. Rather, it was done through either self-provisioning or through 'direct, non-monetary ties' to other units of production and state agencies (Friedmann, 1980).

Since the implementation of the HRS in 1978, rural China has undergone a process of de-collectivization through allocating land-use rights – though not ownership – directly to rural households according to the number of household members. Under the HRS, rural land is mainly owned and controlled de facto by "rural collectives" that allocate and re-allocate land to each household under land leasing contracts, typically for 30 years.[60] Individual households have the right to use, sub-lease and transfer land, but they do not have the land ownership. This rural institutional reform led to a rapid growth in agricultural productivity in the 1980s (Lin, 1992).

Since the early 1990s, the Chinese government started to formulate and implement an agricultural modernization program with the goal to transform China's small-scale, household-based agricultural production into modernized agricultural production, with an emphasis on market-oriented, large-scale, specialized production of higher-value goods (Zhang, 2012). The Chinese government has promoted agricultural integration mainly through two parallel processes: scaling up agricultural production and integrating all activities within the supply chain (e.g., production, processing and marketing) (Zhang and Donaldson, 2008). The commercialization of agriculture contributes to two recent developments in China's agricultural sector: (1) scaled-up, specialized, commercialized and vertically integrated agricultural production in recent years has been actively promoted by the Chinese government through encouraging private, collective[61], and public companies to enter the agricultural sector (Waldron et al., 2006); (2) the main productive assets - labour, land and capital - have been re-organized and the mobility of these factors has significantly increased (Brauw et al., 2002; Zhang and Donaldson, 2010).

The commercialization of agriculture has created increasing demand for improved technical services, specialized knowledge and better access to marketing and technical information (World Bank, 2006). Under agrarian transition, many scholars have investigated challenges for small-scale farmers in dealing with global agricultural markets. These challenges include high unit transaction costs, low market

[60] "Land in the countryside and in suburban areas is under collective ownership unless the law stipulates that the land is state-owned" (National People's Congress 1982, Article 10).
[61] Collective companies is typically affiliated with and owned by local government and produe products for competitive markets.

competitive capacity, stringent requirements on food safety and quality, lack of bargaining power, lack of access to technologies and marketing information, etc. (Kherallah et al., 2002; Thorp et al., 2005; Poulton et al., 2005; Gulati et al., 2007; Devaux et al., 2009; Markelova et al., 2009). Poulton et al. (2005) highlight the challenges faced by small-scale farmers in quality-conscious and niche markets such as organic or fair trade. Barrett et al. (2001) argue that the high cost of third-party certification can be or is often a major barrier for small-scale farmers to participate in these markets. In addition, the small-scale farming system has also posed a great challenge in monitoring production practices. In China, small-scale agricultural production has also posed a great challenge for the government in monitoring production practices for food safety in a sector composed of 200 million farming households (Zhou and Jin, 2009).

The process of China's agrarian transition has occurred mainly through two methods: *zongxiang yitihua*, literally 'vertical integration', and *chanyehua*, literally 'agro-industrialization'. In practice, various farming operation structures have emerged and gradually replaced the small-scale farming structure. The dragon-head enterprise model and the farmers' cooperative model are the most common organizational structures adopting integration strategies in China's agricultural sector (Zhang and Donaldson, 2008; Huang, 2011). Dragon-head enterprises[62] – "clustered groups to which state capital can be channeled and state preferential treatment provided" (Chan, 2009: 46) - have been promoted by the Chinese government since 2000 to overcome the urban-rural income disparity and solve the 'three dimensional rural issues' (*sannong wenti*) in China – peasants' problems, rural society problems, and agriculture problems.[63] More recently, along with the development of the rural land leasing market and the expanding demand on organic products in China's domestic market, private capital has entered the organic agriculture sector by leasing land from rural collectives and/or small farms and operating organic agribusinesses.

4.4.2 China's ecological and organic agriculture

Starting in the late 1970s, China pursued intensive farming practices that relied heavily on external inputs (agro-chemicals) to increase yields and ensure enough food for its enormous population. This farming system has caused severe environmental problems: rapid loss of fertile farmland, toxic

[62] Dragon-head enterprises specific to agriculture must benefit a large number of farmers and contribute to the agro-industrialization and agricultural integration process. They are classified into three levels: national, provincial and city levels. While the city-level dragon-head enterprises are at the lowest grade with the smallest size, the national-level dragon-head enterprises are at the highest grade by meeting certain criteria (such as turnover, profits, market share, taxes paid, growth rates, and linking with the number of small-scale farmers) identified by the Ministry of Agriculture.
[63] See more discussion about the *sannon wenti* in Day, 2008.

chemical residue on food, water pollution, desertification, deforestation, and loss of biodiversity (Chen, 2007; Lichtenberg and Ding, 2008; Smil, 2008). Given a severely degraded environment and the increasing demand for safe foods, the Chinese government since the 1980s has had to find ways to promote a more environmental sustainable agricultural system. A number of programs have been initiated including Chinese Ecological Agriculture (CEA), green food, organic agriculture and hazard-free food (Zong, 2002).

Organic agriculture in China was initiated as a response to meet the demand of foreign markets. There was virtually no domestic market for organic products in the early 1990s. Growth in domestic demand over the past ten years has been spurred by China's economic growth, the emergence of an affluent middle class, an increasing number of food safety scandals, and widespread pesticide residues. There is more certified organic production in coastal provinces (near markets of wealthier population), although there is also 'organic by default' among ethnic minority populations in the south/mountainous areas. Consumers in China are starting to pay more attention to food quality and safety (Xu, 2008).

Promoting ecological and organic production in China is a widespread strategy to satisfy consumers' demand for high quality and safe products (Sanders, 2002). Different strategic positions toward environmental problems can be identified in China's ecological farming. Many producers and consumers have very limited or narrow understandings of organic agriculture; environmental and social benefits of ecological and organic agriculture are less frequently mentioned or even ignored (Si et al., in press). Others have, to some degree, taken ecological and organic agriculture principles into consideration (i.e., biodiversity and social fairness).

In this study, we are interested not only in farms engaged in ecological and organic agriculture, but also in different models of ownership structure within this sector. Ecological and organic agriculture in China cover almost all varieties of foods, including grains, vegetables, fruits, livestock, dairy, fisheries and aquaculture products. Farmland varies widely in scale from less than one hectare to thousands of hectares.

By drawing on multiple cases, we identify and characterize these three ownership structures in China's organic agriculture sector in the following section. Equity implications among these three models are analyzed in terms of equity in access, decision-making and outcomes (both economic returns and non-

monetary outcomes). In addition, the status of small-scale farmers engaging in the organic agriculture sector is examined and the social-economic contexts are explored.

4.5 Ownership structures in China's organic sector

Based on our fieldwork and interviews, three main models of ownership structure are identified in China's current organic agriculture sector: the dragon-head enterprise contracting with farmers' cooperatives model, the independent FPC model and the private company leasing land model. The main characteristics of these three models are summarized in this section.

Dragon-head enterprise contracting with farmers' cooperatives model: Unlike the typical contract farming model that has been documented in many other countries, the enterprises in this model often choose to contract with farmers' cooperatives rather than individual farmers as we have found in previous studies. Under the small-scale farming system in China, the enterprises can significantly lower coordination costs associated with working with a large amount of small farming households and can minimize transaction costs (Stringer et al., 2009).[64]

The dragon-head enterprises in this model are often food processing and/or trading companies and they sell products on both the domestic and international markets via supermarkets and export companies, respectively. Instead of leasing land and operating their own production bases (i.e. farms) as in the private enterprise model discussed below, the dragon-head enterprises contract with farmers' cooperatives to ensure a stable supply of products with a predetermined quality standard. For example, the Asian Food Company (AFC hereafter) in Tai'an city[65], Shandong province, has contracts with over 20 farmers' cooperatives, comprising around 1300 households in more than 17 villages, to ensure a stable supply of certified organic food. The Zibo Huasheng Food Company (Huasheng hereafter) contracts with five fruit and vegetable cooperatives and one livestock cooperative, comprising 1066 small farming households in nine villages across several townships. These companies typically arrange a long-term purchasing contract with farmers' cooperatives (e.g., ten years in the AFC case) and sign farming contracts seasonally.

[64] Personal interviews with the CEOs of two dragon-head enterprises - Asian Food Company and Zibo Huasheng Food Company in Shandong province, March 17 and 18, 2012.

[65] Tai'an city has the most developed and the largest organic vegetable supply chain in China (Kledal and Sulitang, 2007). The organic vegetable area in Tai'an covers approximately 13,333 ha (8% of the total in China); annual yields reach 670,000 tons (10% of the total in China); and the export value amounts to 36 million USD (10% of the total in China) (Shandong Agricultural Department, 2012).

The relationship between the enterprises and cooperatives is complex. One the one hand, there is a clear division of roles and responsibilities between the dragon-head enterprises and contracted cooperatives. The enterprises are often responsible for applying for organic certification, making crop selection decisions, providing technical support for farming, and marketing products; contracted cooperatives and farmers are responsible for agricultural production by following the requirements and standards set by the enterprises. On the other hand, the enterprises and the cooperatives are highly interdependent in practice.[66] The enterprises rely on the cooperatives for stable, high quality food supplies and there is no alternative way for them to source certified organic products in a large quantity in China. The cooperatives rely on the enterprises to transition to organic agriculture (e.g., applying for organic certification, providing production inputs and receiving technical assistance) and to sell their harvest with guaranteed markets and generous prices. For example, to ensure that all standards and requirements are met, the AFC regularly has one or two agro-technicians in each contracted village to supervise the production sites and provide technical support to small farms for daily operation.

Within each cooperative, ten farmer members often form a small group and there could be many groups in one cooperative. These ten members in one group monitor each other's activities and share the responsibilities for organic production. As the leader of one contracted cooperative with the AFC explained, "if one member in a certain group does not follow the requirements to conduct organic farming, the enterprise has the right to refuse to purchase products from all members in that group for that season." During our interviews, we did not hear about produce being rejected for not meeting quality standards, though this is a common problem with contract farming elsewhere.

This monitoring system within the group is similar to the Participatory Guarantee Systems (PGS), which has been applied in many countries in the Global South to enable small-scale farmers to convert to organic agriculture (Zanasi et al., 2009; Nelson et al., 2010). The PGS are "locally focused quality assurance systems [that] certify producers based on active participation of stakeholders and are built on a foundation of trust, social networks and knowledge exchange" (IFOAM, 2007). The PGS is more suitable for small-scale farmers to convert to organic production and can overcome many limitations associated with the third-party certification system, such as high certification costs, sole dependence on external inspectors, and extensive documentation requirements (IFOAM, 2007).

[66] Interviews with the CEOs of dragon-head enterprises, organic certifiers and researchers in Shandong, Jiangsu, Beijing, various days, 2010-2011. Also see Sanders and Xiao, 2010 for the Maotai case in Guizhou province.

Independent farmers' professional cooperatives (FPC) model: The rapid expansion of the Chinese domestic market for organic products provides great opportunities for cooperatives to convert to organic production and sell their products via direct marketing channels (Chen and Scott, in preparation). Unlike the contract model where the enterprises play a dominant role in decision-making and own all profits by selling the final products, farmers' cooperatives in this model operate independently (e.g., in applying for certification and marketing products) and small farmers are the main actors in decision-making and profit distribution. Based on our interviews, independent cooperatives can be initiated and established by various internal actors (e.g., large farms) and external actors (such as researchers, government agents, foreign donors, and non-governmental organizations) (Chen and Scott, 2014).

In this model, cooperative members typically farm their own land by following the production standards and selling their harvest to the cooperative for packing and selling. Members have regular meetings (more often at the starting stage) for technical training about organic agriculture and education about cooperative management. The goal of this type of cooperatives is to better serve numerous small farming households rather than taking profits from them.[67] As the leader of the Yuexi Organic Kiwifruit Cooperative explained,

> *Farmers' cooperatives, as service providers, play important roles throughout the entire process of agricultural production. To better serve farmers, our FPC is responsible for 'six unifications': unifying crop varieties, technical training, inputs supply, production standards, brands, and marketing. The purposes of these unifications are to reduce the high costs of individual farming and to improve the market competitiveness through conducting ecological farming and establishing own brand(s).*

Based on our interviews, we can summarize cooperatives' functions into the following main categories: applying for quality certifications, providing technical supports, purchasing inputs collectively (e.g., seeds, organic fertilizers and pesticides), monitoring farming process, establishing own brands and marketing products collectively. In addition, some cooperatives also help organize events (e.g., a harvest festival in the Nanmazhuang FPC or flower festival in the Tonglu FPC) to improve the recognition and

[67] Interviews with ten independent cooperative leaders and researchers at China's agricultural universities in Zhejiang, Jiangsu, Anhui, Henan, and Beijing, various days, 2010-2011.

reputation of their cooperatives and their products. Many benefits to small farming households in this model have been highlighted in our interviews. The leader of the Tonglu FPC summarized five major benefits of cooperatives to small farms: *"1) provides a platform for farmers to exchange ideals and experience, learn new knowledge and get information; 2) increases farmers' incomes; 3) improves the production standards; 4) reduces production costs by controlling agricultural inputs and purchasing them collectively with lower prices; 5) establishes own brands which are good for advertising and marketing."*

Farmer members in this model can earn income from two sources: 1) receiving payment for selling their produce to the cooperative, and 2) redistributing profits after the final products have been sold by the cooperative.[68] To encourage farming activities, members receiving high yields are rewarded both materially and symbolically each season in some cooperatives. In the Daizhuang FPC, the cooperative normally kept up to 20% of the profits for re-investment, such as improving the irrigation system and purchasing farming machinery.[69] In the Tonglu FPC, 60% of profits were redistributed to all members based on their user shares; 30% was returned to members based on their investor shares; and 10% was kept in the cooperative for investment.[70]

Private company leasing land model: Unlike the above two models where small farmers work on their own land to conduct organic farming, farmers in this model sell their labour to the company for wages and all harvests belong to the company (See Table 6). The founders of the agribusiness companies we interviewed come from various sectors (e.g., IT, academia, sales industry, food industry, and housewives), and most of them have university education, with a few having a foreign education background (e.g., the founder of Zhenggu company in Beijing and the founder of Tony's farm in Shanghai). The motivations of these founders to engage in organic agriculture include economic benefits (e.g., making profits, receiving government funding support), safety concerns, environmental concerns, and personal interests.[71] As the founder of the Bio-Farm explained, *"When my family moved here to Shanghai in the early 2000s from Taiwan, it was difficult to buy safe food for my family. So, I decided to start my own organic farms here and founded Bio-Farm in 2004."*

[68] Interviews with ten independent cooperative leaders in Zhejiang, Jiangsu, Anhui, and Henan, various days, 2010-2011.
[69] Interview with the leader of the Daizhuang FPC in Jurong city, Jiangsu province, June 1st, 2011.
[70] Interview with the leader of the Tonglu FPC in Tonglu county, Zhejiang province, March 24, 2011. Some farm members also invest capital in this cooperative for purchasing inputs, processing and sorting machines, and cold storage facilities. So, they hold investor shares for profit re-distribution.
[71] Personal interviews with the founders of 12 private companies in Beijing, Shanghai, Jiangsu, Hainan, and Anhui, various days, 2010-2011.

Contributing to the substantial capitalization in agricultural production and the developed rural land rental markets in China over the past two decades, the phenomenon of farm workers has emerged recently and has attracted scholarly attention (Zhang and Donaldson, 2008 and 2010; Huang et al., 2011; Gürel, 2014). When investigating China's conventional agricultural sector, Zhang and Donaldson (2008) classified the status of small farming households in this model into three main categories: semi-proletarian with Chinese characteristics (i.e., allocated land leased to the company and became hired employees at that company), semi-proletarian farm workers (i.e., migrant farm workers, but with allocated rural land in their hometowns), and proletarian farm workers (i.e., landless farm workers). During our fieldwork, we found that these three types of farmers also co-exist in China' organic agriculture sector. The complex relationship of small farmers with agribusiness companies can be explained by China's particular land tenure system, under which all rural land (except state-owned farms) is allocated to small farms and land is not privatized. Trichur (2012) further argued that neoliberal processes of capitalist accumulation by dispossession are not occurring in China. Although China has witnessed a large amout of rural-urban migration since the 1980s (Zhang et al., 2002; Chen, 2005; Zhang et al., 2008; Zhang, 2009; Huang et al., 2011), the number of rural residents moving to the urban areas is still tightly controlled by the government through the *hukou* system (Chan and Buckingham, 2008; Afridi et al., 2012). A significant amount of migrants in China are still rural *hukou* holders and have been allocated rural land in their hometowns, so they are officially registered as farmers.

Under the HRS, rural collectives own rural land and all farmland has been allocated to rural households.[72] In order to farm, companies need to get the land use rights and hire workers first. Based on our interviews, these companies commonly access farmland through the following three channels:

First, companies lease farmland from small farming households with or without rural collectives as middlemen.[73] Some companies were asked to hire village residents to work on the land. They faced many challenges in leasing land from small farming households, such as an unwillingness to lease land out to the companies (e.g., Longhao Company in Hainan and Yufeng Company in Jiangsu) and asking for very high land leasing prices (e.g., Longhao Company in Hainan and Green Cow farm in Beijing). Under

[72] During our fieldwork, we came across some rural collectives that they still hold some uncultivated and un-allocated land (e.g., forest land and barren land).
[73] Cases like the Little Donkey Farm and Green Cow farm in Beijing, Yufeng Company and Plank in Jiangsu, Mingshan Company in Anhui, CROP in Shandong, and Longhao Company in Hainan

this land leasing model, tensions and conflicts exist between the companies and the local farmers. As the president of the Yufeng Company explained,

> *I first signed a land leasing contract with the village collective to lease the farmland from local farmers at the price of RMB 650 per mu*[74] *for three years in 2006. Although my company did not deal directly with local farmers in the contract negotiation stage, it is unavoidable to interact with them in our daily operation, especially in the harvest season when we need to hire many local farm workers. The conflicts I faced included taking the company's products home, planting vegetables on the edges of company land, etc.*

Second, companies leased land from the county districts Asset Management Divisions which rented land from local farmers and invested in the land (such as roads, water supply, and greenhouse) (e.g., Bio-Farm). This form of land leasing is called *fanzu daibao* in Chinese and exists mainly in highly developed areas (e.g., Shanghai) where most local farmers work in the non-agricultural sector and leave their land idle or under-cultivated. Kledal and Sulitang (2007) found that all organic vegetable production in Shanghai is based on this property rights regime. Most farm workers on the organic farms in this model migrated from other provinces. The conflict between the local farmers and migrant farm workers has caused a major social concern for the local government.[75]

Third, companies leased the land that has not been allocated to rural households (e.g., the CROP company in Shandong, and Longhao, Junwei and Luhong companies in Hainan). Most of this type of land is forested or barren. It can be leased at very low prices and with a longer leasing period (such as 30 years or even 50 years). For example, the Junwei Company in Hainan province leased uncultivated land from the village collective at US$ 200[76] per hectare for 30 years. The income of the land leasing fee is distributed to local farmers.[77] But, it is difficult to access this type of land because it is not common; most areas have all rural land cultivated and allocated to village residents.[78]

With a few exceptions (e.g., Mingshan case in Anhui and Green Cow in Beijing), small farmers were not directly engaged in the negotiation process of land leasing. Instead, the officials of rural

[74] One mu equals to 0.067 hectare.
[75] Personal interview with the president of the Bio-Farm in Shanghai, July 16, 2010.
[76] One US$ was valuated at 6.14 Chinese Yuan (Renminbi or RMB) as of August 2014 in this paper.
[77] Personal interview with a local government official in Hainan, June 13, 2010.
[78] Personal interview with the president of the Junwei Company in Hainan, June 12, 2010.

collectives typically acted as the broker between the farmers and the companies. Most of the hired farm workers were 40 to 50 years old, which is a bit younger than farmers in the other two models. Some companies mentioned that they avoided hiring elderly farm workers.[79] Overall, farmers working on farmland in China are elderly because the younger generations are unwilling to farm and migrate to urban areas for non-agricultural work opportunities.

In this model, the company controls the farmland and closely monitors the entire production process to ensure that production and processing standards are met. The companies own all the harvest and market products domestically via both conventional (e.g., supermarkets) and direct marketing channels (e.g., home delivery, CSA, specialty stores, restaurants, organic farm markets). Vegetable farms in this model that provide home delivery and CSA often diversify their products to meet the consumers' demands. For example, Bio-Farm grows more than 180 vegetable varieties year round on their 70-hectares of land. Farms in this model highlight the importance of establishing a relationship of trust with the consumers rather than relying on organic certification to ensure their markets.[80] Given that consumers in China do not have high confidence in food labeling schemes (Shi, et al., 2011; Scott et al., 2014), some farms in this model, especially CSA farms, rely on informal 'participatory certification' of consumers[81] and building trust and reputation through word-of-mouth rather than organic certification (e.g., the Little Donkey Farm and Green Cow farm in Beijing). According to our interviews, most farms in this model have made great efforts to communicate with and inform consumers, through providing product information leaflets and disseminating knowledge of organic/ecological agriculture and food.

[79] Personal interview with the presidents of the Junwei Company and Luhong Company in Hainan, June 12 and 16, 2010, respectively.
[80] Personal interviews with the founders of 12 private companies in Beijing, Shanghai, Jiangsu, Hainan, and Anhui, various days, 2010-2011.
[81] These farms often have their gates open to members and others. By doing this, the consumers can know more about how the food is grown and raised and be more confident about the products they purchase on the farm (personal interviews with the manager and owners of the Little Donkey Farm and Green Cow farm, 2011).

Table 6. Characteristics of Three Models of Ownership Structure in China's Organic Agriculture Sector

Ownership structure	Dragon-head enterprise contract farm	Independent professional farmers' cooperative (FPCs)	Private company leasing land
Internal management	Dragon-head enterprises + FPCs + Farmers	FPCs carry out organic farming independently – production, processing and marketing	Private enterprise operated with hired workers
Inclusion of small-scale farmers	Contracting with enterprises via FPCs	Members of independent FPCs	Leasing land to and/or working for the company
Certification	Dragon-head enterprise applies for certification	Cooperative applies for certification	Company applies for certification
Land access	Contracting with small farmers who have land entitlement	Farm members farm on their allocated land	Land is leased from local farmers and/or village collectives
Labour	Family members	Family members	Hired farm workers
The harvest	Belongs to small farmers	Belongs to members	Belongs to the company
Target markets for organic products	Both domestic and international; wholesale	Domestic markets; various channels	Domestic markets; various channels
Small farmers in profit distribution	Selling products to the enterprise at guaranteed prices	1. Selling products at guaranteed prices 2. Profit re-distribution among members	Land leasing fees and wages
Relationship with cooperatives/small farms	Buying and selling relationship	Service relationship	Employee-employer relationship

4.6 Results and Discussion

4.6.1 Equity in access

According to our interviews, the dragon-head enterprises in the contract farming model often have been established and done business in the agricultural sector for a while before they start to contract with farmers' cooperatives. Both the AFC and the Huasheng in Shandong were processing and trading companies and started to contract with farmers' cooperatives and arrange their transition to organic agriculture in 1994 and 2007, respectively. The Maotai Company is a state-owned liquor company and started to convert to organic agriculture in the early 2000s. In this model, farmers' cooperatives were commonly established with the assistance of dragon-head enterprises, as we have seen in all three cases. Compared with the other two models, the dragon-head enterprises have received stronger support from the Chinese government since 2000 and are better positioned to access productive assets and marketing information (Jia et al., 2010; Huang, 2011). With strong support from government, they gain adequate access to funding (e.g., subsidies and loans at a low-interest) and technical services to conduct organic agriculture. They also have management skills and have well-established networks accumulated through previous business experience. Therefore, they have developed extensive access to market information and can expand the market easily.

In the independent cooperative model, the farmers' professional cooperatives are responsible for various activities covering applying for certification, arranging agricultural production, processing and packing products, and marketing the final products. The leaders of the ten independent cooperatives we interviewed mentioned that by pooling resources and marketing collectively they can easily access some productive assets (e.g., land, labour, agricultural inputs) and overcome many challenges faced by small-scale farmers. Despite these advantages, they also highlighted some challenges the cooperatives faced in converting to organic agriculture and expanding markets. These include a lack of access to capital, limited access to technical services, and lack of management and marketing skills (also see Chen and Scott, 2014). For example, the specific property rights to land in China - small farms have only land use rights and rural land is collectively owned within the HRS - has caused difficulties for farmers' cooperatives to obtain loans from banks using land as collateral. Meanwhile, there remains a significant challenge for farmers to change from the role of conducting conventional agricultural production to running cooperatives as businesses, especially with the added complexity of organic certification (i.e., extensive requirements for documenting and managing), financing and marketing skills. The lack of these skills and knowledge has been a major challenge for cooperatives to expand their markets and remain competitive in

the market[82] (also see Dong and Jensen, 2007). Therefore, the Chinese government agencies at various levels collaborate with agencies in the public sector (e.g., universities and research institutes) to provide financial and training supports to farm members regarding organic farming techniques, managerial and marketing knowledge and capability (cf. He, Ma and Li, 2004; Su, 2011).

In the private company land-leasing model, companies access land by leasing it from rural collectives and/or small farmers. Companies hire local farmers or migrant farmers to work on the company land and all harvests belong to the company. These companies access funding from various channels, such as private investments, government subsidies, and even venture capital funds (in the case of Tony's Farm in Shanghai). In this model, the companies are in charge of all activities in the food supply chain, including production, processing, and marketing[83]. One of the major advantages of this model is that the companies can control and closely monitor all farming activities, making it easier to ensure that organic quality standards are met in the whole food supply chain. As Sanders (2006) pointed out, when compared with small farms, companies are often better positioned to meet the knowledge-intensive demand of certified ecological production, such as careful documentation of inputs for certification and specialized marketing networks. Unlike the above two models, the companies need to pay for labour and land use in this model. Besides the disadvantage of higher production costs, a lack of motivation or effort among hired workers to work on the company land was also mentioned in our interviews.

4.6.2 Equity in decision-making

Small-scale farmers[84] in FPCs participate actively in all stages of production, processing and marketing, whereas those in the other two models were passive participants (if they participated at all). In the contract farm and land-leasing models, the enterprises played dominant roles in making strategic decisions (e.g., choosing crop varieties, converting to organic agriculture, accessing technical services, and marketing products), while small farmers or farm workers participated only in the agricultural production stage. On the contrary, small farmers are the owners and operators of their business in the independent cooperative model and they have played active roles in decision-making. We recognize that

[82] Personal interviews with the leaders of the ten independent cooperatives in Zhejiang, Jiangsu, Henan, and Anhui provinces, various days, 2010-2011.
[83] Personal interviews with the owners/managers of private companies in Beijing and shanghai municipalities and Jiangsu, Hainan, Shandong and Anhui provinces, various days, 2010-2011.
[84] We recognize that not all members have involved in all decision making especially regarding technical innovations and marketing strategies even in the FPC model. We explored this issue further in a separate paper on FPCs (Chen and Scott, 2014).

many cooperatives in China choose to contract with agribusiness enterprises. Previous studies on cooperatives in China were critical of the fact that no significant improvements have been seen in overcoming the vulnerability of small farmers in decision-making and profit sharing in many cooperatives in China (Zhang, 2009; Gürel, 2014). We argue that these critiques apply mainly to cooperatives within the contract farming model and do not apply to FPCs that operate independently (Chen and Scott, 2014).

Williams (2011) argues that participation in decision-making is critical to understanding stakeholders' interests and concerns, which will further contribute to improving their understanding of the activities they are engaged in. To assess the impacts of farmers' participation in decision-making on their understanding of organic agriculture, we asked farmers the following questions: (1) what are your roles in decision-making in converting to organic agricultural production (e.g., participating in the application for organic certification); (2) where do you access the knowledge about organic agriculture and how do you get trained; (3) what's your understanding of organic agriculture (e.g., differences between organic agriculture, green and hazard-free food; seeds; pest control; fertilizers; rotation; and crop covers); and (4) what are the major benefits of organic agriculture? Our interviews revealed that farm members in the independent cooperative model showed a better understanding of organic agriculture, such as explaining clearly the differences among three food quality standards certified in China, mentioning the social (e.g., rural development and food security) and environmental benefits (e.g., soil fertility and biodiversity) of organic agriculture. On the contrary, farmers and farm workers in the other two models demonstrated limited and narrow understanding of organic agriculture — emphasizing only inputs. Some farmers even had no knowledge of what organic agriculture was, even though they were conducting organic farming for the companies. Nevertheless, some companies in the land-leasing model have played an important role in educating consumers and expanding knowledge of organic agriculture by interacting directly with consumers (e.g., Plank in Jiangsu, Bio-Farm in Shanghai, and Green Cow and the Little Donkey in Beijing) (also see Zhou and Xiao, 2008).

4.6.3 Equity in outcome

4.6.3.1 Economic outcomes

All three models have played an important role in boosting farmers' incomes (see Table 7). The main incentive of private investors is to seek profits by investing in agricultural activities (Gray and Stevenson, 2008); and the main goal of farm cooperatives is to better service and benefit farm members.

Therefore, it was expected that farmers in the independent cooperative model could receive higher economic returns than those in the other two enterprise models. However, based on our interviews with ten independent FPCs (interviews conducted with at least four farmers from each FPC), small-scale farmers in this model did not receive significant higher economic returns by converting to organic agriculture than farmers or farm workers in the enterprise models who were engaged in similar types of agricultural production (e.g., vegetables, fruits, and/or grains). This is supported by our interviews with local government officials across many different districts and counties who had extensive experience working with small-scale farmers in various models. This can be explained by the following two factors. First, under the HRS the farm size for individual farming households is small, so the economic return for conducting agriculture overall is limited. Second, although in the cooperative model there is a redistribution of profits to members annually while the enterprise models do not, farm members in the independent cooperative model did not receive significantly higher economic returns than farmers in the other two models due to the challenges the cooperative faced in accessing both funding and market information (Chen and Scott, 2014). Third, part of the profits was distributed only to farm members who invested funding in the cooperatives (Chen and Scott, 2014).

Although no significant difference was found among farmers and farm workers in different models, they earned incomes in different ways. In the dragon-head enterprise contract farming model, farmers converted to organic production with the assistance of the dragon-head enterprises and earned higher incomes by selling their harvest to the enterprises at guaranteed prices. For example, farmers contracted with the AFC earned double the incomes by converting to organic vegetable production (i.e., US$ 500 - US$ 830 per mu) than those engaging in conventional vegetable production (i.e., US$ 250 - US$ 400 per mu), and three to six time higher incomes than those in conventional grain production (i.e., US$ 130 per mu), in the same region[85]. In the independent cooperative model, farm members received incomes by selling their products to the cooperatives and being involved in the re-distribution of profits annually.

In the private company land leasing model, farmers earned incomes by leasing their allocated land to the companies, or by working for the company as employees, or both. Small farmers earned high incomes by leasing their allocated land to the companies, especially those close to large cities. For

[85] Personal interviews with the CEO of the CAF and contracted farmers with this company in Tai'an city, Shandong province, March 17, 2011.

example, the land leasing fee in the Beijing suburbs was approximately US$ 170 per mu in 2003 and it was double in 2011.[86] But, overall land leasing fees did not generate a significant percentage of income for rural households considering each rural household had only a small allocation of land. Besides the land leasing fee, farm workers also earned wages averaging US$ 200 monthly (doubled in the harvest season) with farm companies in Hainan province and earned even higher wages in Beijing and Shanghai, consistent with the local income and consumption levels.[87] In the 2000s, wages in general have increased sharply in China although they vary greatly by regions and sectors (Yang, Chen, and Monarch, 2010). Farm workers still earned relatively high incomes even though in some cases they did not gain income by leasing land to companies in the private company leasing land model.

4.6.3.2 Non-monetary outcomes

Although no significant differences were found among the three ownership structures in terms of boosting farmers' incomes, the independent cooperative model has shown stronger inclusion of small farms in expressing their voice and decision-making, which in turn could better empower small farmers and rural society as a whole[88] (Chen and Scott, 2014). Small farms enjoyed more independence and were given a lot of autonomy in deciding their farming and marketing plans, while farmers in the contract farm model relied on the dragon-head enterprise to sell their products and farm workers in the land leasing model relied on the companies to get wages.

In addition, rural households who lease out their allocated land might cause social instability in China, in which the land is the basic living security for most rural households and where the villages do not offer any social welfare (He et al., 2009). During our fieldwork, we came across quite a few cases where companies faced difficulties in leasing land from village farmers and expanded their farming scale due to the unwillingness of village farmers to lease out their land. As one farm member in the Daizhuang FPC explained, *"We are small-scale farmers. If we lease out our allocated land and become farm workers, not only we could not do things as the way we want, but also our future live and wellbeing will be unsecured."*

[86] Interview with the owners of the Green Cow farm in Beijing, March 20, 2011. This farm leases land from local farmers in the Beijing suburbs.
[87] Interviews with the farm workers in 12 private companies in Shanghai and Beijing municipalities, and Jiangsu, Hainan, Shandong and Anhui provinces, various days, 2010-2011.
[88] However, the issuing of new and more stringent organic certification regulations in 2012 will make it harder and more costly for farmers' cooperatives to certify their products (Scott et al., 2014), whereas it expects to have positive impacts on the enterprise leasing land model.

Table 7. Equity Implications for Small Farmers within Three Types of Ownership Structure in China's Organic Agriculture Sector

Ownership structures		Dragon-head enterprise contract farm model	Independent farmers' cooperative model	Private company leasing-land model
Access to production factors		Small farmers provide allocated land, family labour and some farming knowledge; Enterprises provide funding, technical services and market information	Small farmers provide all productive assets – allocated land, family labour, marketing information, and farming knowledge	Companies provide all productive asset - leased land, wage labour, technical services, and marketing information
Participation in decision-making		Dominated by the dragon-head enterprises; small farmers follow requirements set by enterprises and participate only in production	Small farmers own and operate the cooperatives, make farming and marketing plans, participate in all stages of production, processing and marketing	Dominated by the private companies; farm workers excluded from decision-making process
Outcomes	Profit (re) distribution	Small farms excluded from redistribution of profits; enterprises accrue the majority of the profits	Farm members sharing the final profits	Companies owing all profits; farmers earning wages and land leasing fees
	Autonomy	Power concentrated in dragon-head enterprises; dependence on the enterprise to sell products	Autonomy; independent; self-supported	Dependence on the company to hire the workers

4.6.4 Discussion

The results of our study indicate that all three ownership structures in China's organic agriculture sector that link small farmers to value-added markets may become an engine to promote agricultural modernization and boost farmers' income. Previous studies have documented the challenges faced by small-scale farmers to link to major markets, especially the value-added food markets. These challenges include the high certification costs, the complex requirements of documentation, risks of converting to organic agriculture, limited access to productive assets, and a lack of management and marketing skills (Egelyng, 2009; Barret et al., 2001; Nordlund and Egelyng, 2008; Blanc, 2009; Blanc and Kledal, 2012). Farmers can overcome these challenges through contracting with or working for agribusinesses and by working collectively, as we have seen in the three ownership structures.

The results of our study reveal that the independent cooperative model has demonstrated a stronger inclusion of small farms in decision-making and provided them with more autonomy than the other two enterprise models. The active participation of small farmers in decision-making and planning in the independent cooperative model has further broadened the farmers' understanding and knowledge of organic agriculture. In the two enterprise models, enterprises played a dominated role and farmers were passively engaged in organic production by following the companies' rules and were mainly motivated by high economic returns. But because of the barriers that small-scale farmers encounter, not all small-scale farmers can establish their own cooperatives and operate them independently. Under these circumstances, the two enterprise models offer a good opportunity for small-scale farmers to engage in ecological and organic farming and be involved in value-added food supply chains.

Our study shows the importance of China's unique rural land tenure system in shaping the participation of small farming households in the three ownership structures in the organic agriculture sector. Under the HRS, rural land is collectively owned and rural households have only use rights over a small amount of rural land allocated to them. Unlike contract farming in many countries in the Global South that tends to exclude the participation of small-scale farmers (Little and Watts, 1994; Singh, 2002; Warning and Key, 2002), our study found no signs of marginalizing small-scale farmers in the contract farm model in China's organic agriculture sector (also see Zhang and Donaldson 2008; Miyata et al., 2009). This is mainly due to the fact that all farms in China are small under the HRS. However, accessing land through leasing caused many challenges for private companies, such as high investments because of the high land leasing costs, difficulties in accessing land because of farmers' unwillingness to lease out their allocated land, and other conflicts with village farmers. As a result, the owners of some companies

were contemplating giving up land leasing and transferring to the contract farm model (e.g., the Mingshan Company in Anhui). The CEO of the AFC pointed out that,

> *It is fine to lease land for a short period of time if farmers can find job opportunities in non-agricultural sectors. But it is dangerous if small farming households lease their allocated land out for a long period, say ten years or longer: first, they might have to return home if they lose the job in the non-agricultural sector, which happened in the past few years. Over the past three years, many rural-urban migrants lost their jobs in cities and returned to their hometowns due to the global economic crisis. Second, it is also difficult for them to survive if living costs go up, but they only receive a small amount as land leasing fee. In this case, they may not be willing to continue their leases, which is also a risk for companies. So, we choose to contract with farmers and let them hold and farm their own land in the AFC."*

4.7 Conclusions

This study has begun to identify and characterize the ownership structures in China's organic agriculture sector: the dragon-head enterprise contract farming model, the independent cooperative model and the private company land leasing model. We have found that small farms have linked to value-added markets and increased their economic returns by working with and for enterprises or working collectively in these three models. By analyzing the equity implications, we found that the independent cooperative model has shown a stronger involvement of small farms in decision-making and offered more freedom compared with farmers in the other two enterprise models. In addition, farmers in the independent cooperative model have shown more comprehensive understanding of organic agriculture and demonstrated a stronger commitment to sustainable development in their daily operations rather than viewing organic agriculture only as a strategy to boost incomes as we have seen in the other two enterprise models.

We have argued that the unique land tenure system in China has framed the characteristics of the involvement of small farmers in the organic agriculture sector. Under the HRS, rural land is collectively owned and rural households have only land use rights. As a result, each household has been allocated a small amount of land that serves as the basic social safety net (Zhang and Donaldson, 2008; Huang, 2011); rural land cannot be sold and purchased on the market; and private companies can only access land through leasing it from village collectives and/or small farms in order to conduct agricultural production

in China. This unique land property right has led to the advantage of engaging numerous small-scale farmers in the contract farm model and caused challenges for private companies to up-scale their production in the land leasing model.

Our finding regarding the strong inclusion of small farming households in the independent cooperative model offers valuable guidance for policy-makers in further developing the agro-food system and promoting rural development in China by providing more support to farmers' cooperatives. For future research, it would be insightful to perform an in-depth analysis of the independent farmers' professional cooperatives regarding internal governance, development opportunities and challenges, contributions to sustainable rural development, and potential roles that can be played by the government.

Chapter 5
Rural Development Strategies and Government Roles in the Development of Farmers' Cooperatives in China

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Overview: In an effort to address the growing income disparities between rural and urban residents in China, Chinese authorities introduced a series of rural development policies beginning in 2002 that established as a national goal a *xiaokang* (all around better off) society and gave top priority to the triad of agriculture, rural areas, and farmers. Farmers' cooperatives, consequently, have received substantial government support since 2002 as they are viewed as an important institution for linking small-scale producers to agro-food supply chains, and particularly value-added food chains. Yet little is understood regarding how and to what extent farmers' cooperatives have benefited members and contributed to rural development in China. Using a case study method and in-depth interviews, we evaluated three successful farmers' cooperatives in China. Following the "deepening-broadening-regrounding" typology proposed by van der Ploeg, Long, and Banks (2002), we found that the farmers' professional cooperatives can make important economic, social, and environmental contributions to rural development by adopting alternative strategies and activities. On the other hand, these cooperatives also face great challenges for further development, including limited access to land and capital, a massive loss of labourers, low market competitiveness, weak internal management, and limited government support, which explains why cooperatives are not more widespread in China. This paper offers new insights into the roles of farmers' cooperatives and government in rural development.

Keywords: China, ecological agriculture, farmers' professional cooperatives, sustainable rural development

5.1 Introduction

Under the agro-industrial paradigm, agricultural producers face a reduction in economic margins as a result of the cost-price squeeze (van der Ploeg, 2000). Small-scale farmers in developing countries face numerous challenges in connecting to agricultural services and in accessing markets, especially value-added markets (Barrett, 2008; Kruijssen, Keizer, & Giuliani, 2009). By working collectively, farmers' cooperatives can significantly reduce transaction costs and increase the bargaining power of farmers in the supply chain (Bosc, Eychenne, Hussein, Losch, Mercoiret, Rondot, & Mackintosh-Walker, 2002). Compared with the capitalist agribusiness model, this model has the potential to be more inclusive of the most resource-poor, small-scale farmers (Kruijssen et al., 2009). Kirschenmann, Stevenson, Buttel, Lyson, and Duffy (2008) view this model as "an encouraging trend with real benefits to the local communities" (p. 3).

Farmers' professional cooperatives (FPCs) have grown rapidly in rural China over the past 10 years. They have become an important institution in rural China in attempting to achieve the vertical integration of agricultural production, processing, and marketing. However, findings about FPCs are controversial. Realizing the potential to combine capitalist and socialist components, Huang (2011) advocates FPCs as alternatives to large agribusiness companies for integrating small-scale farms with processing and marketing, and predicts that FPCs could outcompete agribusiness if they were given the same state subsidies and privileges. Others suggest that FPCs would likely be transformed into capitalist agribusiness and be cooperatives in name only if farmers could not sustain anticapitalist political mobilization (Hale, 2013; Lammer, 2012). Gürel (2014) further points out that many FPCs in contemporary China are company-like cooperatives that are similar to agribusiness in terms of their "shareholding and decision making structures and the production relations they facilitate" (p. 69).

These critiques tend to apply only to coops established by enterprises. Rather than continuing the debate on "true" and "fake" cooperatives, we argue that FPCs — particularly the subset of cooperatives that are not merely extensions of agro-enterprises — have the potential to make significant social, economic, and environmental contributions to rural development in China by adopting the "deepening-broadening-regrounding" framework proposed by van der Ploeg, Long, and Banks (2002). In this study we analyze how new entrepreneurial and innovative strategies are pursued, what roles are played by the Chinese government in the establishment and operation of FPCs, and what roles are played by different farm members and their participation in decision-making and profit-sharing. Finally, we analyze the main

contributions to rural development and the development challenges of FPCs.

This paper is structured as follows. We first present the research framework adopted in this study to analyze the convergence of farmers' cooperatives to rural development. Next, we introduce the methods used in data collection and analysis for this study. Then we provide a brief overview of FPC development in China. We then introduce three cases of FPCs and highlight the government's role in promoting FPCs. Finally, we analyze the contributions of FPCs and the challenges they face.

5.2 Convergence of Farmers' Cooperatives and Sustainable Rural Development

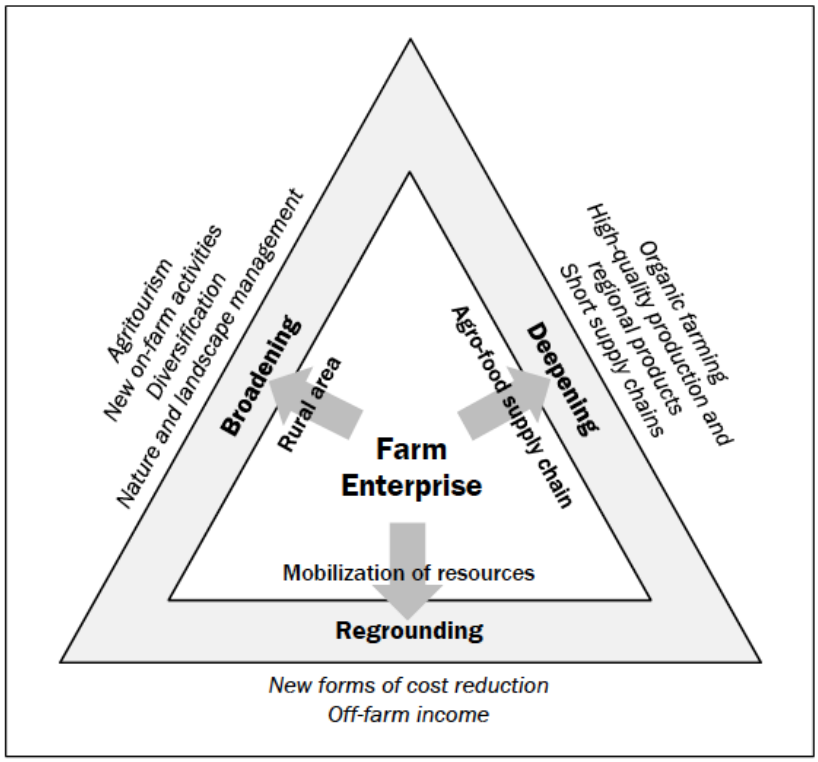
Based largely on Europe's experience, Terry Marsden (2003) identifies three distinct agrarian production paradigms that link rural development to sustainable development: the "agro-industry paradigm," the "post-productivist paradigm," and the "sustainable rural development paradigm." These three paradigms differ in internal logic, ideology, scientific rationality, and regulatory arrangement (Marsden, Banks, & Bristow, 2002). The agro-industrial paradigm, following the logic of neoclassical economics, promotes specialization and economies of scale. The post-productivist paradigm is based on the belief that the agricultural sector (in developed economies) is being marginalized through a move away from food production and toward the "consumption" of the countryside (Marsden, Murdoch, Lowe, Munton, & Flynn, 1993). Marsden (2003) argues that both of these two development paradigms are unsustainable.

In contrast to these two paradigms, the new sustainable rural development paradigm redefines our relationship with nature by highlighting the multifunctionality of agriculture and works toward an alternative food supply chain to counter the scale and price rationalities of large-scale agribusiness (Marsden et al., 2002). The rural development paradigm explores opportunities in the agricultural sector related to resource use, livelihood strategies, and institutional arrangements. This paradigm reasserts land-based agricultural production as a central dimension in achieving rural sustainability and highlights the crucial roles of farmers and farmers' cooperatives in revitalizing the rural economy (van der Ploeg et al., 2000; Marsden et al., 2002). It emphasizes the ability and skills of famers and PFCs to generate different economic values from the same ecological resource through co-production, cooperation and co-evolution of the resource base (Marsden, 2009). The multifunctional role of agriculture in meeting new social and environmental demand is underlined in this paradigm (Renting et al., 2009; van der Ploeg, Laurent, Blondeau, & Bonnafous, 2009).

Although the rural development paradigm has been widely used, there is no comprehensive and agreed upon definition of it (van der Ploeg, 2000). Part of the debate concerns the role and categorization of rural development activities. To identify an activity as a "rural development activity," Marsden, Banks, and Bristow (2002) postulate that the aggregated effect of this activity must meet the following three conditions: (1) it is a response to the cost-price squeeze on agriculture and adds income (and/or employment opportunities) to the agricultural sector; (2) it corresponds to the needs and expectations of the population and expresses new relationships between the agricultural sector and society; and (3) it implies a redefinition, recombination, and/or reorganization of rural resources and develops new businesses and/or opportunities within rural society. The diversified activities can take place on-farm and/or within the local economy, either within the scope of agriculture or outside of it (van der Ploeg et al, 2002). Beyond the production of raw materials, alternative activities include landscape management, agritourism, innovative forms of cost reduction, production of high quality and region-specific products, direct marketing, and new activities such as care activities for the disabled (Darnhofer, 2005, p. 309).

Van der Ploeg et al. (2002) propose a typology of alternative farming strategies to categorize diversified rural development activities: "deepening," "broadening," and "regrounding" (see Figure 5). A *deepening* strategy refers to activities that add value to products by means of processing or by focusing on "quality" production (such as organic) or shortening the food supply chain. A *broadening* strategy refers to activities that diversify nonagricultural activities based on rural resources, such as agritourism and landscape conservation. A *regrounding* strategy refers to activities that reorganize farm resources mainly through reallocating family labour, reutilizing farm resources, or adopting various forms of local and regional cooperation and/or collaboration to achieve cost reductions.

Figure 5. Boundary Shifts: The "Deepening-Broadening-Regrounding" Typology



Source: Van der Ploeg, Long, and Banks, 2002, as cited in van der Ploeg et al., 2012, p.134.

To better accommodate the situation in China, we adopt this typology in the current study with two slight modifications: (1) we consider green, hazard-free,[89] and organic agriculture as ecological agriculture under the category of deepening strategy in this paper (see Scott, Si, Schumilas, & Chen, 2014, for the differences between organic, green, and hazard-free certification); and (2) we do not consider off-farm income to be a regrounding strategy for FPCs. Part-time farming is a common phenomenon in rural China, so it should not be viewed as an alternative farming activity. Moreover, the effects of part-time farming on rural development in China are contradictory, as we explain later in this paper.

The deepening-broadening-regrounding typology provides an analytical framework for describing and assessing agricultural multifunctionality and rural sustainability. Beyond producing food and fiber,

[89] Given the fact that GMO and certain types of pesticides and fertilizers are allowed in production, green and hazard-free production practices would not be considered as ecological agriculture in a European or North American context. We categorize green and hazard-free production practices under "ecological agriculture" sector in this paper because they have a tendency toward reducing ecological impact by limiting the usage of agro-chemicals (in terms of both amounts and types) compared with conventional farming practices in China.

and providing employment and income, agriculture is considered to be one of the most common multifunctional activities, which also produces other commodities (such as agritourism and other services) and noncommodity outputs (such as landscape management, soil conservation, and biodiversity) (Durand & van Huylenbroeck, 2003; Renting et al., 2009). With a few exceptions (van der Ploeg, Jingzhong, & Schneider, 2012), this framework has been applied to date mainly within EU rural-development contexts (see for example Ortiz-Miranda, Moreno-Pérez, & Moragues-Faus, 2010).

Rural development research often starts at the farm or farm household levels, although it is also valuable to conduct studies at the regional level in order to examine connections to rural life more widely and to other (economic) actors operating in the countryside (Knickel & Renting, 2000). The farmers' cooperative model provides an important lens to analyze rural development at the regional level, although to date this model has received little attention in rural development research (Ortiz-Miranda et al., 2010). Following the deepening-broadening-regrounding typology, we examine the potential contributions of FPCs to agricultural multifunctionality and rural development in China.

5.3 Research Methods

The research was designed as a multiple case study (Yin, 2003), consisting of three cases of cooperatives involved in China's ecological and organic agriculture sector. Each of these three — Daizhuang Organic Farmers' Professional Cooperative in Jiangsu province, Tonglu Peach FPC in Zhejiang province, and Yuexi Organic Kiwifruit FPC in Anhui province — represents an FPC initiated and established by different types of internal or external actors. The cooperatives that we selected reflect the following three criteria: 1) They all follow the principles stated in the Farmers' Professional Cooperative Law,[90] although all three FPCs existed before the law was enacted; 2) The cooperatives were initiated and established differently: by large-scale farms, by agro-industries, and by other external actors (such as researchers, government agents, foreign donors, and nongovernmental organizations [NGOs]).[91]

[90] According to the Farmers' Professional Cooperative Law, implemented in 2007, FPCs should follow five principles: (1) farmers play the dominant role in the cooperative; (2) the key purpose is to serve members and act in the common interests of all members; (3) the members shall join and exit voluntarily; (4) all members are equal and cooperatives are democratically controlled; and (5) surplus should be redistributed based on the volume of members' patronage (National People's Congress [NPC], 2006: article 3, chapter 1, paragraph 4).

[91] Cooperatives initiated by agro-enterprises are not included in this study because agro-enterprises are mainly driven by profit maximization rather than a rural development goal. Clegg (2006) found that the agro-industrial–oriented model in China leads to the monopolization of benefits by wealthy farmer-investors and outside shareholders at the expense of small-scale farmers. Moreover, this model does not address the disadvantaged position of small-scale farmers in decision-making and in the distribution of earnings (see Yan & Chen, 2013, regarding the intellectual debate over rural cooperatives in China).

3) They all adopt "alternative" farming strategies and have been relatively successful economically.

We chose to focus on successful cases to better understand the contributions of cooperatives to rural development. Moreover, we selected cases adopting "alternative" farming strategies in order to demonstrate the kinds of new opportunities that are emerging for farmers' cooperatives based on the growing demand for high quality and organic food, especially in China's domestic market (Si, Schumilas, & Scott, 2014). We recognize, however, that most cooperatives in China are still oriented to conventional agricultural production.

Both primary and secondary data were used in this study. Primary data were collected through face-to-face semi-structured interviews. Over 20 interviews were conducted between 2010 and 2012.[92] Interviewees were selected using purposive sampling and included the cooperative initiators, cooperative leaders, cooperative members, and organic certification agencies, as well as other key actors such as representatives from local institutions and government agencies. At least four interviews focused specifically on each of the FPC cases, including one with each cooperative leader. All interviews were conducted in person and took on average 60 minutes to complete. Interviews were conducted in Chinese, and notes were written in Chinese during each interview and translated into English later. In addition to this interview data, we also reviewed secondary sources in this study, including government reports, project reports of organic agricultural development in less-developed regions, and cooperative documents of Tonglu and Daizhuang FPCs. NVivo, a qualitative data analysis computer software package for working with textual data, was used to code and inductively categorize data into themes.

5.4 The development of farmers' cooperatives in China

Internationally, cooperatives have been a central institution in social development, poverty alleviation, employment creation, and participatory development (United Nations, 2001). The cooperative model is defined by the International Co-operative Alliance (ICA) as "an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through jointly-owned and democratically-controlled enterprise" (n.d., para. 1). Cooperatives can deliver pro-poor growth in a manner that is owned and controlled by poor and small-scale farmers themselves (Clegg, 2006). Nevertheless, farmers' cooperatives in developing countries face many challenges due to

[92] This is part of a larger project on "Greening China's food system: The emerging alternative and ecological agriculture sector" that has involved 106 interviews with six types of key stakeholders.

the lack of capital and business management capacity (Birchall, 2004).

The development of farmers' cooperatives since the establishment of the People's Republic of China in 1949 can be divided into three phases: from 1949 to the early 1980s, the early 1980s to 2007, and 2007 to the present. Since 1949, agrarian institutions have changed from agricultural "collectives" or people's communes in the Mao era[93] to household farming and then to FPCs (Jia, Hu, Hendrikse, & Huang 2010). The unsuccessful experience of agricultural collectives during the Maoist period became an obstacle to developing farmers' cooperatives in the following decades. The level of trust among people — an important basis for cooperation — was eroded in many systems of collectivization due to centralized decision-making that left little or no room for civil society initiatives and social organizations (Paldam & Svendsen, 2002). Subsequent challenges have been reported in some post-socialist countries with (re)establishing farmers' cooperatives (see Paldam & Svendsen, 2002; Tisenkopfs, Kovách, Lošťák, & Šūmane, 2010). Agricultural collectives in China stagnated between the 1960s and early 1980s. Cooperatives began to emerge, particularly in the fruit and vegetable sectors (Garnevska, Liu, & Shadbolt, 2011), in the late 1980s, with the shift from central planning to market orientation in the agricultural economy (Xiaoshan, 1999). These cooperatives mainly involved pre- and post-farm production activities in relation to purchasing farm inputs, processing, and marketing (Clegg, 2006).

Experiences of the "East Asia development model" in Japan, South Korea, and Taiwan indicate that rural development often garners more attention when the industrialization and urbanization of a country reach a certain phase. To build a stronger rural community and improve the living conditions of rural households, community-based rural development initiatives, especially farmers' cooperatives, have been promoted in these countries through policy support (Choi, Kim, Kim, & Kim, 2007; Long, Liu, Li, & Chen, 2010). Scholars argue that China reached a turning point for rural development in the 2000s in terms of per capita gross domestic product (GDP), which was US$1090 in 2003 (Long et al., 2010). The fast-growing economy and stronger international standing mean that China is in a position to broaden its development strategy and provide more support to agricultural and rural development. China can learn from South Korean and Japanese experiences and build a new countryside by establishing farmers' cooperatives to encourage local participation (Long et al., 2010).

[93] We use the phrase "collective" here to refer to the type of collective action with the purpose to overcome barriers faced by individual farms. Although in the Chinese literature "collective" is sometimes translated into English as "cooperative," we recognize that "collective farms" in the Mao era would not be considered cooperatives today. The "collectives" in the Mao era did not meet the criteria of cooperatives, such as being voluntary to join or withdraw.

The first national Farmers' Professional Cooperative Law was implemented in 2007 to formalize and standardize FPCs in China. The law stipulates that FPCs must be voluntarily and democratically organized and remain independent in operation. Having FPCs controlled democratically by farmers sets them apart from the previous agricultural collectives of the socialist era, in which the supplying of farming inputs and producing and selling activities were all centrally planned by government (Hu, Reardon, Rozelle, Timmer, & Wang, 2004). The stable legal environment together with various supportive government policies has created a favorable political and economic environment for developing FPCs in China. As a result, the number of FPCs has been increasing rapidly since 2007 (see Table 8). However, most FPCs are criticized for being "fake" cooperatives that are controlled by a small group of members and fail to empower small producers in practice (Yan & Chen, 2013). The "fake" cooperatives, mainly those initiated by agro-enterprises, are different from the types that we examine in this study. Meanwhile, cooperation among FPCs across multiple townships is also developing in China; this increases their market power and provides more services for farm members (Garnevska, Liu, & Shadbolt, 2011).

The main activities defined in the law include purchasing agricultural inputs, marketing, processing, transportation, storage, and providing agricultural technology and information. Learning from the experience of "comprehensive cooperation" in Japan, South Korea, and Taiwan, many Chinese rural development advocates and intellectuals (e.g., Wen Tiejun and Li Changping) also highlight the values of FPCs in empowering rural areas and small producers rather than focusing only on commodity production (Yan & Chen, 2013). In situations where farmers are poorly educated, lack cooperative management experience, and have limited access to legal advice, intellectuals who advocate for rural development have called on the Chinese government (at both national and local levels) to play a stronger role in promoting and organizing FPCs (Yang & Wen, 2011). With the strong support that the Chinese government has been giving to large-scale agribusiness enterprises, also called "dragon-head enterprises,"[94] since the mid-1990s, the capacity of cooperatives has suffered (Wen & Dong, 2010). Yang and Wen (2011) call for stronger government support for developing cooperatives that "ensure fairness and protect the disadvantaged" and "represent integrative and long-term social interests" (p. 45).

[94] Dragon-head enterprises are "clustered groups to which state capital can be channeled and state preferential treatment provided" (Chan, 2009, p. 46).

Table 8. Farmers' Cooperatives Registered at the Bureaus of Industry and Commerce in China, 2007-2012

	Number of registered farmers' cooperatives	Number of registered members	Registered capital (millions of US$[a])
2007	26,400	350,000	5,074
2008	110,900	1,417,100	14,329
2009	246,400	3,917,400	40,070
2010	379,100	7,155,700	74,002
2011	521,700	11,964,300	117,950
2012	689,000	n/a	179,072

[a] One US$ was valuated at 6.14 Chinese Yuan (Renminbi or RMB) as of August 2014.

Source: Fleischer, 2012, p. 24; data from Ministry of Industry and Commence, and the General Station of Administration on Rural Cooperative Economy, Ministry of Agriculture.

The development of FPCs in different parts of China has been quite uneven. Cooperatives are developing rapidly in eastern China, where the economy and markets are more developed and agriculture is more industrialized, whereas cooperatives in less industrialized western China are still in the early stages of development (Liang & Hendrikse, 2013). Zhejiang is a pioneering province in eastern China where the first modern farmers' cooperatives in China were established. Zhejiang takes the lead in the development of farmers' cooperatives in China, both in terms of the total number of FPCs and their economic performance (Liang & Hendrikse, 2013; Sultan & Larsén, 2011). It was also a leading province in enacting the provincial cooperative law and regulations in 2005, providing the basis for the national law[95] promulgated on July 1, 2007.

In the following section, we outline three case studies that exemplify successful examples of developing economies of scope in FPCs to achieve agrarian-based forms of rural development. We begin by highlighting the socio-economic context of each case. The practices and strategies pursued by the three

[95] In China, provinces or municipalities are allowed and selected (in some cases) to experiment with new projects or strategies in a given area, and then the state learns from this and the experience shapes the national law. This differs from the procedure in many other countries, where a law is enacted and then people follow it in a much more linear system than in China (also see van der Ploeg et al., 2012).

FPCs are analyzed according to deepening, broadening, and regrounding strategies. We also examine the role played by the Chinese government in promoting cooperatives.

5.5 Findings

5.5.1 Cooperative Profiles

Daizhuang Organic FPC: Daizhuang village, south of Jurong city in Jiangsu province, is situated on hilly land with 1,040 hectares or 2,570 acres (approximately 666.7 hectares or 1,648 acres of farmland, 60 percent of which is hilly-slope land) and a population of 2,900 (around 866 households). At the time of establishing the cooperative, it was the poorest village within Zhenjiang City, despite boasting rich natural resources. Before the establishment of the Daizhuang Organic FPC, conventional crops, including wheat and rice, were produced. After a comprehensive study, a senior researcher, Mr. Zhao at the Institute of Zhenjiang Agricultural Technology & Science (IZATS), facilitated the establishment of this cooperative in 2006. Since that time, Mr. Zhao has continued to serve as an on-site technical consultant, and the village secretary has served as the cooperative leader,[96] attending to the daily management of activities in the cooperative. Daizhuang Organic FPC was the first organic farmers' cooperative in Jiangsu province. Its main products are organic rice and strawberries. Products are sold through various channels, including direct sale to companies[97] (60 percent of sales), to individuals (20 to 30 percent), through its own specialty stores locally, and via agencies in large cities. Home delivery was offered in 2007 and 2008 but was discontinued due to the high cost. Given the small volume of production, this cooperative faces challenges in supplying a large food retailer.[98]

Tonglu Peach FPC: Yangsanfan village, in the northern part of Tonglu county, in Zhejiang province, is situated in a mountainous area with 519 hectares or 1,282 acres (approximately 74 ha or 183 acres of farmland and 155 ha or 383 acres of forest land) and a population of 861 (285 households). Peaches

[96] Given that many young people have migrated to urban areas for better job opportunities, secretaries are often the ones with a better education and stronger ability than others in rural areas.
[97] In China, it is common for an employer to purchase gifts for employees or clients on special occasions throughout the year.
[98] The large retailer refers in particular to Beijing Organic and Beyond Corporation (OABC), which is one of the largest companies engaging in the cultivation, production, distribution, and home delivery of organic food in China. Although this company has its own production bases, it also buys organic products from enterprises or cooperatives. FPCs also face great difficulties in selling their products through supermarkets, the major food outlets in most cities, partially due to the small volume of their production and the high standards that must be met. It is also costly to sell products through supermarkets, including paying stocking, sales, and promotional fees, and giving 20 percent of the profit to the store (Lagos, Scott, Rasmussen, Bugang, & Chen, 2010). Therefore many FPCs choose to sell their products at wholesale markets or via direct marketing channels (as we illustrated in the three cases discussed here).

have been grown in this area for approximately 170 years. Compared to other areas in China, rural communities in Zhejiang province are wealthier and farmers have greater entrepreneurial skills. The per capita income in this village was around US$2,000 in 2008. With the support of local government agencies, the Tonglu Peach FPC was initiated in 2004 by a few local "large-scale" peach farmers,[99] and was the first farmers' cooperative in Tonglu county. Mr. Wang, one local large-scale peach farmer, has acted as the elected cooperative leader since it was founded. He is high-school educated and is active in marketing and establishing social networks. Peaches and cherries are the main products of this cooperative. Peaches are sorted into two grades: first-class peaches are gift packaged and are procured by companies and government agencies as gifts for employees[100] or are sold at specialty fruit markets in large cities; second-class peaches are sold at wholesale markets. Agritourism is also a channel for this cooperative to sell its products.

Yuexi Organic Kiwifruit FPC: Yufan village in Yuexi county, Anhui province, is situated in a cool mountainous area with 950 hectares or 2,348 acres (approximately 95 ha or 235 acres of farmland, 68 percent of which is paddy field and the rest is dry land, and 850 ha or 2,100 acres of forest land) and a population of 1,005 (257 households). It is the poorest village in the area. The Yuexi Organic Kiwifruit FPC[101] was established in 1999 in Yufan village with the support of a Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) project,[102] the Organic Food Development Center (OFDC),[103] and the local government. The cooperative produced organic kiwifruit and water bamboo. Mr. Chu, a former village officer, has served as the elected cooperative leader because he knows the local situation well and is willing to devote himself to local development. Following the end of GTZ project support in 2003, the

[99] We recognize that there are significant differences in definitions and in the understanding of what constitutes a small- versus large-scale farm in China and the west. In this study, small-scale farming refers to Chinese small-scale farms with an average size of less then 0.5 hectare or 1.2 acres per household, whereas large-scale farming refers to farm sizes over 1.3 hectares or 3.2 acres. During our interviews from 2010 to 2011, farms with sizes over 20 mu (or 1.3 hectares or 3.2 acres) were referred to by several cooperative leaders as large-scale farms. Some of these farms lease land from their relatives or neighbors who choose to work in non-agricultural sectors in cities; others lease undeveloped village land from rural collectives. The latter often have comparatively larger scales (e.g., over 50 mu or 3.3 hectares or 8.2 acres) as we have seen in the Tonglu case.

[100] This cooperative, collaborating with several other cooperatives that produce different crop varieties in the same area, runs its own specialty stores and attracts local consumers.

[101] This cooperative is supported by Yufan Kiwifruit Research Institute, which was founded by several local farmers in response to serious plant diseases and insect pests suffered by kiwifruit farmers in the village from 1991 to 1993. With the technical support from the institute, kiwifruit production grew rapidly in the following 10 years, and this area became "the first township of kiwifruit production in East China" with over 290 ha (717 acres) under kiwifruit cultivation.

[102] The Sino-German GTZ project (1998–2003), named "Development of Organic Agriculture in Poverty Areas in China," was initiated to offer an advisory service and information system in China for organic agricultural development.

[103] The Organic Food Development Center (OFDC), founded in 1994 in Nanjing by the former Chinese State Environmental Protection Agency, is the first specialized organization engaged in research, certification, training, and promotion of organic agriculture in China. It is also one of the largest certification bodies in China.

organic kiwifruit FPC was divided into two groups in 2006: the kiwifruit FPC and the water bamboo FPC. The latter has been growing rapidly. The withdrawal of the GTZ project posed a difficult challenge to the kiwifruit FPC to continue organic farming because of the high certification costs, a shortage of funding, and limited access to value-added markets to garner a sufficient price premium. As a result, the FPC discontinued organic kiwifruit farming. Organic kiwifruits had been exported with the assistance of the GTZ project, while non-organic kiwifruits have been sold domestically through various channels since the project support ended. Water bamboo is delivered to large cities (e.g., Shanghai, Nanjing, Hefei) and sold at wholesale markets. More recently, the retirement of the kiwifruit FPC leader also created difficulties as members lacked confidence in the new leader. Key characteristics of the three FPCs are summarized in Table 9.

Table 9. Key Characteristics of Three Professional Farmers' Cooperatives in China [a]

	Daizhuang FPC (Jiangsu province)	**Tonglu Peach FPC** (Zhejiang province)	**Yuexi FPC** (Anhui province)
Locations	Close to large cities (Nanjing and Shanghai)	Close to large cities (Hangzhou and Shanghai)	Far from large cities
Initiators	Several local farmers with large-scale farmland	A researcher	The GTZ project and the Organic Food Development Center
Leaders	A large-scale farmer	Local government official	Former local government official
Year established	2006	2004	Founded in 1999 and registered in 2001
Number of members	612 households (70% of village households) in 2012; 3 households in 2006	173 households (60% of total) in 2011; 116 households in 2004	No updated data (138 households in 2002; 43 households in 2001)
Technical innovation	Introduced a new rice variety from Japan	Applied new technology to stagger the harvest time	Promoted suitable crops for local natural resources
Main products	Organic rice and strawberries	Peaches (green and hazard-free certified) and cherries	Kiwifruit and water bamboo (hazard-free certified)
Target markets	Domestic; various channels	Domestic; gift packages & wholesale markets	International (only for organic kiwifruit) and domestic;

wholesale

[a] Most data listed in the table were supplied through interviews; additional information came from the report of the Yuexi Organic development Project 2002 (Bao, 2002) and cooperative documents of the Tonglu and Daizhuang FPCs.
[b] Most of the arable land in Yuexi county is cold, waterlogged paddy field, which is not suitable for growing regular crops (i.e., rice) and has low yields, but it is ideal for growing water bamboo. The Yuexi FPC took advantage of the local natural conditions and encouraged farmers to grow water bamboo.

5.5.2 Alternative strategies and the new rural development paradigm

The key function of FPCs is to provide services for their members. These services support on-farm activities (such as providing technical assistance and purchasing inputs together) and/or facilitate marketing their produce (such as sorting, grading, marketing, and processing). Activities and strategies adopted by the three FPCs can be grouped into the three categories of deepening, broadening, and regrounding (Table 10).

Table 10. Typology of Strategies Pursued by the Three Cooperatives

	Daizhuang FPC	**Tonglu Peach FPC**	**Yuexi FPC**
Deepening strategy	Product branding; food processing; organic certification; direct marketing	Product branding; sorting and packaging; green and hazard-free certification; direct marketing	Product branding; organic certification; hazard-free certification; geographical identification (GI) of raw materials (water bamboo)
Broadening strategy	Plan to develop agritourism	Flower Festival and agritourism	None
Regrounding strategy	Unified farming management	Unified farming management; collaborating with other FPCs in the same region to develop agritourism	Unified farming management; collaborating with other FPCs in the same region to transport products to larger cities

Deepening Strategy: All three FPCs have undertaken initiatives to increase the value of their products. Following Renting, Marsden, and Banks (2003), these initiatives can be considered to be new configurations of alternative food networks (AFNs). Three main types of deepening strategies were pursued. First, product branding was developed by all three FPCs with the goal of improving the reputation and market competitiveness of their products. Second, ecological and local characteristics of

products (certified organic, green, hazard-free and geographical identification) were simultaneously highlighted in all three FPCs. These formalized standards and labels show the attributes of product quality and can help diversify marketing channels (Renting, et al., 2003). Although organic certification was not continued in the Yuexi FPC after the GTZ project withdrew in 2003, all water bamboo produced in Yuexi county is hazard-free and geographical identification–certified. The Tonglu cooperative received hazard-free certification for 200 ha (949 acres) in 2005 and green certification for 67 ha (166 acres) in 2006. Peaches were sorted into two grades: first-class peaches for gift packages and second-class peaches for wholesale markets. The third type of deepening strategy, employed by the Daizhuang and Tonglu FPCs, was to use used direct-marketing strategies to sell most of their produce. The Yuexi FPC did not, due to the long distance from customers.

Broadening Strategy: At the time we conducted interviews, the Tonglu FPC was the only one among these three cases that developed a broadening strategy, although the leader of the Daizhuang FPC expressed strong interest in promoting agritourism. With the support of the Tonglu municipal government, the Tonglu FPC collaborated with several other FPCs in the same area to host visitors during the period of Flower Festival (lasting for four months from late March to mid-July). During the festival period, they organized many activities, including cultural performances, demonstrations of local agricultural products, tastings, sales, signing sales contracts, picking local fruits, and homestays with rural households. Agri-tourism (also called agritainment, experiencing life in a rural area) has become a popular form of rural tourism for many urbanites in China (Marsden, Yu, & Flynn, 2011). The leader of the Daizhuang FPC also viewed agritourism as a potential channel to sell its produce by hosting harvest festivals or other activities; it plans to develop agritourism in the near future. Agritourism was not mentioned in the Yuexi FPC, likely due to its distance from urban areas.

Regrounding Strategy: In terms of regrounding strategy, all three FPCs have developed and implemented unified farming management, which can reduce production and transaction costs on member farms by taking advantage of economies of scale. The FPCs made unified plans for farming activities (i.e., what, when, and how it is produced) to enable an adaptive response to increasingly differentiated market demand (such as quality requirements, seasons, product presentation). They also provided various services to their members, such as technical assistance and training; supplying ecological fertilizers and pesticides; supplying seeds and seedlings; and product processing, packaging and marketing. Collaborations among FPCs in the same region were adopted by the Yuexi and Tonglu FPCs to reduce the costs for

transportation and for hosting events, respectively, even though these collaborations were informal and very loose. The leader of the Daizhuang FPC planned to combine crop cultivation and breeding (geese in this case) to offset the low productivity of organic rice farming and to increase farmers' income.

Compared to the deepening activities adopted by all three FPCs, the broadening activities are far less developed except agritourism in the Tonglu FPC. The adoption of non-agricultural activities is more challenging for FPCs. The underdevelopment of the broadening activities can be explained by the following reasons. First, some initial conditions are required to develop these kinds of activities. For example, an initial but significant investment is needed for developing and organizing agritourism in making rural areas attractive, such as providing accommodation facilities, arranging activities, and offering suitable opportunities for spending (Gannon, 1994). Considering the significance of the investment and the uncertainty of economic returns, an FPC is often unable or reluctant to invest in these facilities. Second, government needs to play an important role in funding and facilitating agritourism at the initial stage (Fleischer & Felsenstein, 2000; Iorio & Corsale, 2010). This poses challenges for developing agritourism in poor areas (for instance, Anhui province in our case study) where the local government has a more limited budget. The third reason for the underdevelopment of the broadening activities is that, besides economic constraints, developing non-agricultural activities and in particular agritourism often requires new skills such as guest services, marketing, and advertising (Sharpley, 2002), which are unfamiliar to farmers. In addition, collaboration among FPCs in the same region is important in developing agritourism, as we saw in the Tonglu FPC case (see also van der Ploeg et al., 2012).

5.5.3 Membership and internal governance

Based on the contributions in terms of land, labour, financial capital, and other social assets, cooperative members in an FPC can be divided into two main categories: core members (who are full-time farmers, often farming at comparatively large scales) and common or affiliate members (who are part-time farmers[104]).

According to our research, core members are often the village elite, including large-scale farmers, entrepreneurial farmers, business owners, and local government officials. These members generally hold more shares in the cooperative and correspondingly enjoy a greater share of its profits. They play an

[104] Many "part-time" farmers in rural China work in cities during the slack farming season and return to their rural homes only in the busy farming season.

important role in initiating and promoting cooperative development by serving as the leaders of the cooperative and as members of the governing board. When we inquired about the qualities of an effective cooperative leader, the following characteristics were mentioned most frequently by cooperative members and leaders: having vision, business and management capacity, good education[105], and an enthusiasm for innovation; and being well-connected, open-minded, and committed to the cooperative. Local officials, who are also farmers in the villages, are often the best suited candidates to be cooperative leaders. Thus, as we saw in the Daizhaung and Yuexi cases, some village officials served as cooperative leaders. However, as we saw in these same two cases, the cooperative leader might not be the same person who initiates the cooperative, particularly in cases where cooperatives are initiated by external forces. The initiators often acted as an external connector in seeking out and providing financial, technical, and/or marketing support to the cooperative, while the leaders focus more on cooperative management and agricultural production.

Common members in all three FPCs appear to be similar in terms of their average size of land-holding, age, and part-time farming status. In asking the cooperative leaders about the age, gender, and education characteristics of farm members in their cooperatives, we found that most members are farmers over 50 years old who have limited education. The governing board and core members normally participate more in decision-making regarding all stages of production and marketing, whereas the common members participate mainly in the production domain and are seldom involved in operational decision-making (see Table 11; also see Liang & Hendrikse, 2013). According to the FPC law, everyone in the FPC has equal rights in decision-making (i.e., "one person one vote"), regardless of how much capital he or she has in the cooperative. The low participation of common members in FPC decision-making is largely due to lack of knowledge and information about technical innovations and marketing, being busy with off-farm work, and lack of interest (due to their small scale of farming and rapidly rising wages in non-agricultural sectors).[106]

[105] The education level of the rural population in China is relatively low, with an average of 6.5 years of schooling (Zhang, Huang, & Rozelle, 2002). Approximately 14 percent of the rural population in China is illiterate or semi-illiterate (Fan & Zhang, 2004). Considering the fact that migrants to urban areas are better educated than those who have not migrated (Zhao, 1999), the education level of the population who stay behind and continuing farming is lower. In this paper, the term "good education" refers to people with a level of secondary education or higher.

[106] Interview with the cooperative leaders and members in three FPCs in Anhui, Jiangsu, Zhejiang provinces, various dates, 2010-2011.

Table 11. Membership and Decision-making in Three Cooperatives

	Daizhuang FPC	Tonglu Peach FPC	Yuexi FPC
Membership	Core members (playing roles in coop. management and technical support) and common members; members farming in almost the same scale	Core members (large-scale; investing more capital) and common members (small-scale)	Core members (leasing large-scale land; investing more capital; delivering products to urban markets) and common members (small-scale)
Decision-making among members	Core members decide on technical innovations and marketing issues, while common members mainly just participate in production		

5.5.4 Government roles

The Chinese government has played an important role in promoting farmers' cooperatives by implementing the Cooperative Law and developing a series of favorable policies. This has been particularly significant at the provincial and local government levels, although the extent of support varies by province, based on economic capacity. In recognizing the potential to improve farmers' production and marketing capacities, local governments have used administrative procedures, financial support, and other incentives to encourage the development of farmers' cooperatives within their jurisdictions. This can involve hosting mobilization meetings, providing technical training, arranging site visits for key members, assisting in and providing subsidies for certification for various ecological food standards, providing tax exemptions, and other kinds of financial support.

In this study, we found that the Daizhuang and Tonglu cooperatives receive more government support and are economically stronger than the Yuexi cooperative. This can be partially explained by the fact that Zhejiang and Jiangsu provinces are wealthier.[107] However, we have too few cases in this study to be able to broadly conclude that cooperatives in wealthier provinces or regions tend to be stronger and receive more government support than those in less well-endowed provinces or regions. By asking how much funding the cooperative has received and via which channels, we found that subsidies and financial

[107] Interview with three government officials and two cooperative leaders in Anhui, Jiangsu, Zhejiang provinces, various dates during 2010–2011.

support are not equally distributed among farmers' cooperatives, even those in the same region. These funding opportunities have each been channeled to cooperatives via various government development projects, such as the Rural Poverty Alleviation program, the Upland and Mountainous Area Development Project, and the High-efficiency Agriculture Project. Our case studies found that cooperative initiators and/or leaders who have contacts in relevant government departments and are socially well connected have played an important role in acquiring funding information and preparing funding applications.[108]

Financial support and subsidies for rural development typically take the form of investment in rural infrastructure, crop storage, and processing facilities. This investment is especially important for cooperatives struggling to raise capital at the start-up stage. According to our interviews, in all three cases a significant amount of government funding had been used for improving village roads. Although this type of government funding was not explicitly linked to support for cooperatives, it has played an important role in better linking cooperatives to outside markets. The Daizhuang FPC received interest-free loans of US$35,000 to purchase rice processing equipment. Financing for the drip irrigation systems installed by the Tonglu cooperative was partially supported by the Zhejiang provincial and municipal government. The installation of a drip irrigation system helps minimize water contamination from fertilizer and pesticide runoff, and also reduces labour inputs by avoiding the need for irrigating by hand. To host a local agricultural festival, the Tonglu government had also provided substantial funding each year since 2008 to improve village infrastructure and increase the attractiveness of the village to tourists. Beyond protecting and promoting rural lifestyle and culture, this festival also works as a marketing strategy to help advertise the cooperative and expand the reputation of its products.

Local governments also support cooperatives by providing technical training and product promotion by establishing product brands. For the Daizhuang FPC, the municipal government assisted in establishing collaboration between the cooperative and several agricultural universities in the surrounding areas. The Tonglu FPC had four technicians, all of whom had attended technical training sessions organized and financed by the Bureau of Agriculture in Tonglu county. These training sessions were offered by experts and researchers from Zhejiang University and the Academy of Agricultural Science at the city and provincial levels. After attending training courses three to four times per year for two to three years, the leader and these technicians established an extension program in 2004 to provide on-site technical support to local farmers. The Yuexi FPC was mainly initiated by the GTZ project, and local

[108] Interview with the leaders of the Yuexi and Daizhuang FPCs, July 26, 2010, and June 1, 2011, respectively.

government agencies played a small role in the early stages. Since the GTZ project ended, local government has started to play a more important role, especially in assisting with hazard-free and GI (geographical indication) certification for all water bamboo produced in Yuexi county. The Yuexi county government established a special department to promote certified agricultural products, mainly hazard-free and green food, to take advantage of the county's abundant natural resources with low contamination.

In addition to these various forms of tangible support, local government has also provided public recognition to selected cooperatives as a reward for their good performance. The Daizhuang FPC was honored by the Ministry of Agriculture with national-level "Model FPC" recognition in 2012. The Tonglu FPC also received many awards and honors from the government, such as city- and provincial-level "Model PFC" recognition.

5.6 Discussion

5.6.1 Cooperatives' contributions to rural development

In this study we examined a series of diversified land-based activities adopted by three farmers' professional cooperatives engaging in ecological agricultural production in three provinces of China. These activities have a range of different expressions, including capturing greater value-added in production via certification, branding, processing, sorting, and packaging (found in all three FPCs); shortening supply chains (for example, providing home delivery and operating local specialty stores in the Daizhuang FPC); and expanding to other on-farm activities (for example, agritourism in the Tonglu FPC). Rural systems with strong multifunctionality can offer diverse opportunities for residents in terms of earning non-agricultural income (e.g., agritourism), maintaining high environmental quality, and increasing stakeholder involvement and rural democracy (Wilson, 2010). We categorized the diversified rural development activities into three alternative strategies: deepening, broadening, and regrounding. We assessed the economic, social, and environmental impacts of farmers' cooperatives associated with adopting these activities and strategies. This provided a sense of their contributions to agricultural multifunctionality and rural development.

In all three cases the economic contribution of FPCs to rural development is significant. Members in all three FPCs have reported a significant increase of their household income from agricultural production. For example, the average household income of members of the Daizhuang FPC increased by

approximately RMB 5000 (US$ 310) in 2010. By taking advantage of economies of scale FPCs help overcome the limitations of small-scale farming in terms of supplying input, marketing outputs, reducing transaction costs, enhancing the safety and quality of agricultural production, increasing market competitiveness, and expanding new markets or value chains. The "deepening" activities enhance the economic empowerment of small-scale farmers by linking them to value-added markets (e.g., ecological and organic products, branding, processing, sorting, and packaging). Beyond producing food, the Tonglu FPC also adopted a broadening strategy (i.e., agritourism) to help advertise the cooperative and increase the reputation of its products. Through united management and collective decision-making, the "regrounding" activities provide economic contributions to farm members by reducing production and transaction costs, and responding more effectively to market demand. These diversified activities contribute significantly to improving household incomes and living conditions of cooperative members, which are also the goals of current agricultural policies.

All three FPCs have experienced substantial growth in cooperative membership since their establishment. As the leader of the Tonglu FPC explained,

> *Since our cooperative was founded, many strategies have been adopted, such as branding, certification, sorting and packaging, direct marketing, etc. These strategies have helped increase the prices of our products. Our members now receive higher economic returns from farming. So farmers in our village and those in surrounding villages all want to join in our cooperative. But our cooperative only accepts new members who meet our stringent selection criteria, like willingness to follow the cooperative rules and our production standards, self-discipline, etc.*

Given the fact that farmers differ in their financial assets, skills, and social networks, economic benefits of the cooperatives are not distributed equally among members. In addition to selling agricultural products to the FPC, some core members also invest capital in the FPC that gets used for purchasing inputs, processing and sorting machines, and cold storage facilities. They have both user shares and investor shares[109] in the FPC. Therefore, these core members often hold more shares and correspondingly benefit more from the FPC, whereas common members only benefit by selling their products to the FPC (see also Liang & Hendrikse, 2013).

[109] According to the FPC law, no single member can hold more than 20 percent of the total investor share in the cooperative.

Farmers' cooperatives have also made important social contributions to rural development. The social contributions revealed in our case studies can be categorized into four aspects: social integration, local and regional embeddedness, adoption of food quality standards and food safety, and rural democracy and governance. We will discuss each of these in turn. First, in terms of social integration, on the one hand, the farmers' cooperative model provides a platform for farm members to exchange experiences and gain new knowledge, which further reinforces the ties and enhances social integration among members. On the other hand, through collaborating with other cooperatives, universities, and research institutes, farmers' cooperatives have enhanced their capacity to network with other actors. However, in our case studies we found that the integration among cooperatives was still very loose, partially because the newly enacted Cooperative Law does not define a cooperative federation (i.e., a supra-cooperative network). This omission could pose significant constraints for cooperatives to grow and gain strength in the global market (Fleischer, 2012).

Second, in terms of local and regional embeddedness, direct-marketing strategies adopted by the Tonglu and Daizhuang FPCs helped reconnect producers and consumers and renegotiate the trust relationship between them, which further contributed to high levels of social embeddedness and relations of regard (Hinrichs, 2000; Milestad, Bartel-Kratochvil, Leitner, & Axmann, 2010). The degree of local and regional embeddedness of the food supply chain is an important indicator of rural development (Knickel, 2001) and a strongly multifunctional agriculture regime (Clark, 2003).

In terms of the third element of social contributions to rural development, each cooperative in our case study adopted certain types of food quality production standards and registered a brand for their products, which would facilitate food safety in China (see also Jin & Zhou, 2011). In addition, as the main actors in FPCs, farmers gained experience in cooperation and democratic governance by electing cooperative leaders and participating in decision-making (although this was limited to the production domain for common members in our case studies).

Environmental contributions of farmers' cooperatives to rural development can also be found in all three FPCs. All three engaged in ecological agriculture (green, hazard-free food and organic agriculture in our cases), which helps to build soil fertility and minimize environmental externalities. Localized food supply chains established by the Daizhuang and Tonglu FPCs reduce the distance that food travels from the site of production to consumption, thereby reducing the need for long-distance food

transport and its associated energy emissions (Goodman, 2004). Agritourism can help improve the awareness of environmental problems among both farmers and urban visitors (Brodt, Feenstra, Kozloff, Klonsky, & Tourte, 2006).

5.6.2 Challenges facing farmers' professional cooperatives

Although FPCs have developed rapidly in China over the past decade, progress has not been uniform across the country due to differences in farmers' education levels and varying economic and social situations among different regions of the country (Garnevska et al., 2011), as well as varying levels of government support, and of trust among farmers. FPCs face many challenges for developing further. In our study, the major challenges faced by cooperatives included limited access to land and capital, a massive loss of young and educated labourers in the agricultural sector, low market competitiveness, weak internal management, and limited government support.

Under the Household Responsibility System (HRS), China's agricultural sector is dominated by small-scale farms, with an average size of less then 0.5 hectares per household (1.2 acres), typically fragmented into four to six noncontiguous plots (Johnson, 2000). As a result of the small scale of land allocated to each household, the economic return of farming is low, which has in turn caused large-scale rural outmigration of young and educated people (Zhang et al., 2002). Part-time farming is very common in rural China, as we found in all three FPCs. For all of these reasons, it is not surprising to see low motivation for farming among cooperative members. In addition, farming has been viewed as "a low status occupation to be avoided" by the young generation (Rigg, 2006, p. 189). Therefore, young and educated people often choose to work in non-agricultural sectors.

Due to the small-scale units of production and low economic returns from farming, lack of financial resources is a common issue faced by farmers and farmers' cooperatives in China. FPCs have difficulty obtaining loans from banks using land as collateral because rural land is collectively owned and farmers have only limited land-use rights under the HRS.[110] In our study, none of the three FPCs mentioned that loans had been provided to their members. The absence of lending services in cooperatives in China might stem from credit not being included on the list of cooperative activities described in the

[110] Land in the countryside and in suburban areas is under collective ownership unless the law stipulates that the land is state-owned (National People's Congress 1982, Article 10).

newly enacted Cooperative Law (Deng, Huang, Xu, & Rozelle, 2010). Because cooperatives in China have limited financial resources and do not qualify for loans, the access to external financial support, often from government, is critical for FPCs in order to purchase expensive facilities and equipment. We found in this study that cooperatives with strong government support were better positioned for economic success. Moreover, by using their *guanxi* (informal networks) cooperative initiators can often play an important role in identifying and accessing government funding opportunities. However, relying heavily on the initiator for technical, financial, and marketing support may cause problems for FPCs when external forces withdraw. Members in the Daizhuang FPC expressed their concerns about the future of their cooperative when the initiator could not longer help with securing government funding and promoting their cooperative and its products.

Low market competitiveness was also a significant challenge for FPCs because of limited access to market information, difficulty in expanding markets, and lack of technical innovation. For most Chinese peasants, farming is the only area in which they have practical experience. Many organic farms in China face difficulties in further expanding markets, especially for value-added products (Pan & Du, 2011; Thiers, 2005). This challenge arose in all three FPCs. The leader of Daizhuang FPC mentioned the difficulties in expanding markets due to its low capacity to invest and the small volume of production to supply major food retailers. This also posed challenges for recruiting more members and expanding its production scale. The Yuexi FPC failed to sell its organic products on the international market with a price premium and had to discontinue organic certification after the GTZ project ended. Although all three FPCs have applied technical innovations to improve their market competitiveness, this could not have been achieved without strong external support. For example, to improve market competitiveness, the Daizhuang FPC introduced a new rice variety from Japan and the Tonglu FPC applied a new practice to stagger the harvest time of peaches to fill supply gaps in the market.

Weak internal management was also a key challenge for FPCs, consisting of low trust among members, lack of effective and dedicated leadership, and passive participation by members. These factors have further raised issues of trust among core and common members and cooperative leaders, an issue that was raised by all three FPCs. The effective operation of farmers' cooperatives requires a high level of cooperation among members to achieve the economy of scale as a single unit (Ortiz-Miranda et al., 2010). Questionnaire surveys in other contexts have found that the level of trust is significantly linked to economic performance (Knack & Keefer, 1997) and citizen participation (Brehm & Rahn, 1997). Lu,

Kormelinck, Muradin, Lu, and Ruben (2012) found that members in economically successful FPCs show a higher level of trust with fellow members than those in weakly performing ones. Conversely the low operational efficiency in some FPCs in China has been linked to a lack of trust between and among farm members and the cooperative (Guo, Yang, & Zhang, 2008; Zhang, 2010). The lack of trust has become a social problem and could inhibit the long-term development of Chinese FPCs (Zhang, 2010). In addition, Xu, Shao, Liang, Guo, Lu, and Huang (2013) also pointed out that many FPCs in China have internal governance problems, including overly informal management structures and financial systems. In addition, the part-time farming status limits the level of involvement of common members in cooperative activities. As one core member in the Daizhuang FPC explained,

> *It's May and it's the time for rice seedling production now. Farmers only come back to the village for one or two days to do the work. Now you can see that there are no people in the field to take care of these seedlings. They all work in cities through the slack farming season, leaving their farmland unattended.…So, it's unrealistic for us to organize cooperative meetings regularly and let members participate actively.*

The results of this study echo the finding of Banaszak (2008) that initiators and leaders are critically important for the successful development of FPCs, especially in the context of China where the majority of farmers farm at a very small scale, have a low level of education and technical skills, and lack social and capital resources. Many cooperatives lack effective and dedicated leadership, as we found in the Yuexi FPC after the previous leader retired. The fact that village officials also serve as cooperative leaders (as in the Daizhuang FPC) might benefit the rural economy and consolidate their position as village officials, but it could also pose challenges for FPCs with respect to democratic management, limited personal energy, and difficulties in separating finance issues between the village as an administrative unit and the FPC as an economic unit. How to enhance internal management is a major issue both for FPCs and the Chinese government.

5.7 Conclusions

Several conclusions can be drawn from our comparative case study. First, in adopting the "deepening-broadening-regrounding" typology of van der Ploeg et al. (2002) for our analysis, we found that the deepening and regrounding strategies were more commonly applied by all three FPCs than the broadening strategy. Broadening activities, such as agritourism, are more challenging for China's FPCs

because of their high economic risks and the requirements for capital investment and new management and marketing skills. Second, our case studies demonstrate the potential of FPCs to make significant economic, social, and environmental contributions to rural development. However, our interviews suggest that economic gains are not shared equally among members in the cooperative. Common members only benefit by selling their products to the cooperative, whereas core members can benefit by both selling their products to and investing capital in the cooperative.

Third, FPCs in China also face enormous challenges, including limited access to land and capital, a massive loss of young talent, low market competitiveness, weak internal management, and lack of government support in poor areas. Fourth, the Chinese government has played an important role in establishing a supportive environment for cooperative development, mainly through (1) implementing the Cooperative Law and developing a series of favorable policies, (2) intervening directly in the establishment and operation of cooperatives, and (3) providing various forms of financial support (e.g., subsidies, tax exemption, and preferential loans) and nonfinancial support (e.g., technical and marketing assistance and public recognition). The strong government role in promoting FPCs we found in this study confirms previous research that rural development is spurred in large part by the Chinese government, which differs from European countries where rural development has been driven by farmers' initiatives and activities (van der Ploeg et al., 2012). Even though FPCs have played and can play an increasingly important role in rural development, we acknowledge that large enterprises (particularly dragon-head enterprises) will continue to dominate the Chinese agricultural sector and receive strong government support (Huang, 2011; Xu et al., 2013).

This research is just a starting point, and we hope it will inspire further research in this important field. It would be insightful to have follow-up research examine both successful and less successful cases of cooperatives to shed more light on the obstacles that cooperatives have encountered and the major elements behind successful cooperatives in China. Due to differences in economic and social contexts, the development of FPCs varies across regions and provinces in China. The impacts of FPCs on small-scale farms and rural development also vary in practice, so it would be valuable to do comparative studies of cooperatives in different regions and provinces. In addition, in this study we found that cooperative benefits are not equally distributed among members because of the differences in assets and resources. A fruitful direction for future research would be to explore whether there is a connection between these different "classes" of membership and the extent of decision-making in and economic benefits from FPCs.

Such research could challenge assumptions about how equitable FPCs are in practice.

Chapter 6
Conclusions

6.1 Overview

This research investigated China's organic agriculture sector and the various types of involvement of small-scale farmers in this sector. By comparing the development trends of the organic agriculture sectors in the Global North and Global South, this research analyzed China's characteristics in developing organic agriculture and explored the opportunities for more active participation of small-scale farmers in this sector in emerging economies, and in China in particular. The principle findings and contributions of this study are summarized in Table 12. The empirical research in this dissertation provides two important contributions that enhance the scholarly understanding of the development path of organic agriculture and strategies linking small-scale farmers to value-added markets. First, the findings regarding China's path in developing organic agriculture contribute to our understanding of the diversity and complexity of the development paths of organic agriculture. Second, the research findings about the different mechanisms for involvement of small-scale farmers in the organic agriculture sector, and the implications of these for farmers, point to recommendations for policy-makers to better support small-scale farmers and promote rural development.

The three research objectives posed at the beginning of the dissertation are reviewed in turn below. This research had three objectives: 1) to characterize the development path of China's organic sector, particularly in terms of the diversification of ownership structures and strong government roles; 2) to analyze the equity implications of the main ownership structures in China's organic for small-scale producers; 3) to identify the contributions of the farmers' cooperative model to rural development and its development challenges in China's organic agriculture sector.

Table 12. Principal findings and contributions

Main Chapters	Principal Findings	Contributions
Chapter 3	1. The development path of China's organic agriculture differs from the key trend of conventionalization in the Global North: from the dominance of government and agribusiness via contract farming to a co-existence of various models of the ownership structure; 2. There are three major types of ownership structure for organic farms in China, including the dragon-head enterprises contracting cooperatives model; the private company land leasing model, and the independent FPCs model; 3. There is an emerging values-based initiatives in China's organic agriculture sector; 4. The Chinese government, in cooperation with agribusiness, is a key actor in shaping the development path of organic agriculture in China; 5. China's path in developing organic agriculture is rooted in China's political economy in the 2000s, including the developed rural land rental market, agrarian transformation toward agro-industrialization and vertical integration, the expansion of the domestic organic market, and an emerging civil society.	1. This study contributes to our understanding of the complexity and diversity of the development path of the organic sector within divergent socioeconomic contexts; 2. This study sheds some light on the potential trajectories of developing organic agriculture in emerging economies with large and growing domestic markets; 3. This study contributes to our understanding of the government role in developing organic agriculture; 4. This study highlights the significance of political economy in shaping the development path of organic agriculture.
Chapter 4	1. The extent and type of the participation of small-scale farmers in China's organic agriculture sector vary in the three models; 2. All three models have played important roles in linking small-scale farmers to value-added markets and increasing farmers' incomes. 3. The independent farmers' cooperative model has shown a stronger inclusion of small-scale farmers in	1. The focus on China updates the literature; 2. It contributes to the organic agriculture study by systematically analyzing the extent and type of involvement of small-scale farmers in the organic agriculture sector in the case of China;

	terms of participation in decision-making and providing them with more autonomy compared with the other two enterprise models. 4. Farmers in the cooperative model have shown more comprehensive understanding of organic agriculture and demonstrated a stronger commitment to sustainable development in their daily operations than those in the two enterprise models. 5. China's unique rural land tenure system has an important impact on shaping the participation of small farming households in the three ownership structures in the organic agriculture sector.	3. It contributes to our understanding of the future of small-scale farmers in general and the opportunities for small-scale farmers in the organic agriculture sector in particular; 4. It offers valuable guidance for policy-makers in further developing the agro-food system and promoting rural development in China by providing more support to the farmers' cooperative model;
Chapter 5	1. Farmer members can be divided into two main categories: core members and common or affiliate members, based on the contributions in terms of land, labour, financial assets, skills, and other social assets; 2. Economic benefits of the cooperatives are not distributed equally among members; 3. Some FPCs have adopted alternative strategies and activities; 4. FPCs can make important economic, social, and environmental contributions to rural development; 5. FPCs also face great challenges for further development, including limited access to land and capital, a massive loss of labourers, low market competitiveness, weak internal management, and limited government support; 6. The Chinese government is a key actor in promoting sustainable rural development.	1. The focus on China is an important contribution to the rural development literature; 2. The focus on FPCs contributes to the rural development research by analyzing rural development at the regional level; 3. It contributes to our understanding of FPCs in the rural development in China; 4. It contributes to some of the internal governance issues related to the development of FPCs in China; 5. It emphasizes the critical role of the Chinese government, especially local government agencies, in supporting the development of FPCs in China.

Based on the findings, three main arguments have been made: 1) the development of certified organic agriculture in China is becoming more diverse in ownership structures. This is a different trend from the phenomenon of conventionalization in some countries in the Global North; 2) the Chinese government has played an important and active role in developing organic agriculture; and, 3) compared with the two enterprise models, the independent farmers' professional cooperative model has demonstrated a stronger inclusion of small-scale farmers in decision-making and provided them with greater autonomy.

The three main manuscript chapters developed the arguments that the development paths of organic agriculture are dynamic and complex and impacts of organic agriculture on small-scale farmers vary depending on the extent and type of their involvement in this sector. In the Conclusion Chapter, I re-visit conditions shaping China's organic agriculture and reflect on: (1) how this more detailed understanding of China's path might contribute to discussions about the development trends in organic agriculture, which has to date been predominantly based on experiences in the Global North; (2) what opportunities are available for small-scale farms to benefit more from engaging in organic agriculture and to promote sustainable rural development; and (3) how the government can play a more active role in developing organic agriculture and promoting rural development.

6.2 Research findings

In response to the first objective regarding China's path in developing organic agriculture, this dissertation has shown that certified organic production in China has undergone significant changes over its short period of development. Unlike the trend toward conventionalization and the erosion of values of original organic producers in the Global North, China's organic sector has shown a trend of diversifying ownership structures and an emergence of values-based initiatives. There are three major models of ownership structures in China's organic agriculture sector: the large agribusiness contract farming model, the independent farmers' cooperative model, and the private company land-leasing model. Among them, there is an emergence of values-based initiatives that pay attention to the broader values of organic production and highlight the importance of direct interactions between consumers and farmers to re-build relationships of trust.

Organic agriculture in the Global North emerged mainly through initiatives by individual farms and NGOs in response to challenges caused by the conventional farming system for small-scale

farmers and the ecosystem. With the exception of some European countries that instigated policy support, governments in the Global North overall have played a limited role in the organic sector, aside from setting common standards. In contrast, the Chinese government, at various levels, has played an important and active role in the organic sector.

To explain the changes that occurred in China's organic sector, this research identified four aspects of the political economy that account for these changes: the developed rural land rental market, agro-industrialization and vertical integration, expansion of the domestic organic market, and an emerging civil society. Although rural land ownership has not changed since the 1980s, long-term land leasing has been promoted by the Chinese government and the rural land-leasing market has developed since 2000. Through leasing land from small farming households and rural villages, the company land-leasing model has developed rapidly to meet the increasing domestic demand for organic products.

In response to the second objective regarding equity implications on small-scale farmers, my research examined three major models of ownership structure in China's organic sector: the model of dragon-head agribusiness contracting with farmers' cooperatives, the independent farmers' professional cooperative model, and the private company land-leasing model. By investigating the extent and type of participation of small-scale farmers, my research shows that all three models have played an important role in linking smallholders to value-added markets and have contributed to boosting farmers' incomes. Unlike the contract farming and land leasing models in which enterprises play a dominant role and make most (if not all) decisions, farm members in the independent cooperative model have played an active role in decision-making and enjoyed more autonomy. Small farming households are the main actors in decision making at all stages of the supply chain in the independent cooperative model, rather than relying on other actors to sell their products or to earn wages as we discussed in the other two enterprise models. Farmers in the independent cooperative model showed a comprehensive understanding of organic agriculture and demonstrated a stronger commitment to sustainable development in their daily operations. The model provides small-scale farmers more opportunities to improve their livelihoods and ensures a long-term viability of local communities by involving small-scale farmers in decision-making.

Based on the findings in Chapter Four, I further examined the potential contributions of farmers' professional cooperatives (FPCs) to sustainable rural development. The study showed that FPCs demonstrated great potential in making significant economic, social and environmental contributions to rural development. However, the case study also found that economic gains were not shared equally among members in the cooperative. Common members only benefited through selling their products to the cooperative, whereas core members benefited through both selling their products and investing capital in the cooperative. FPCs in China also faced enormous challenges, including limited access to land and capital, a massive loss of young and educated labour, low market competitiveness, weak internal management, and a lack of government support in poor areas.

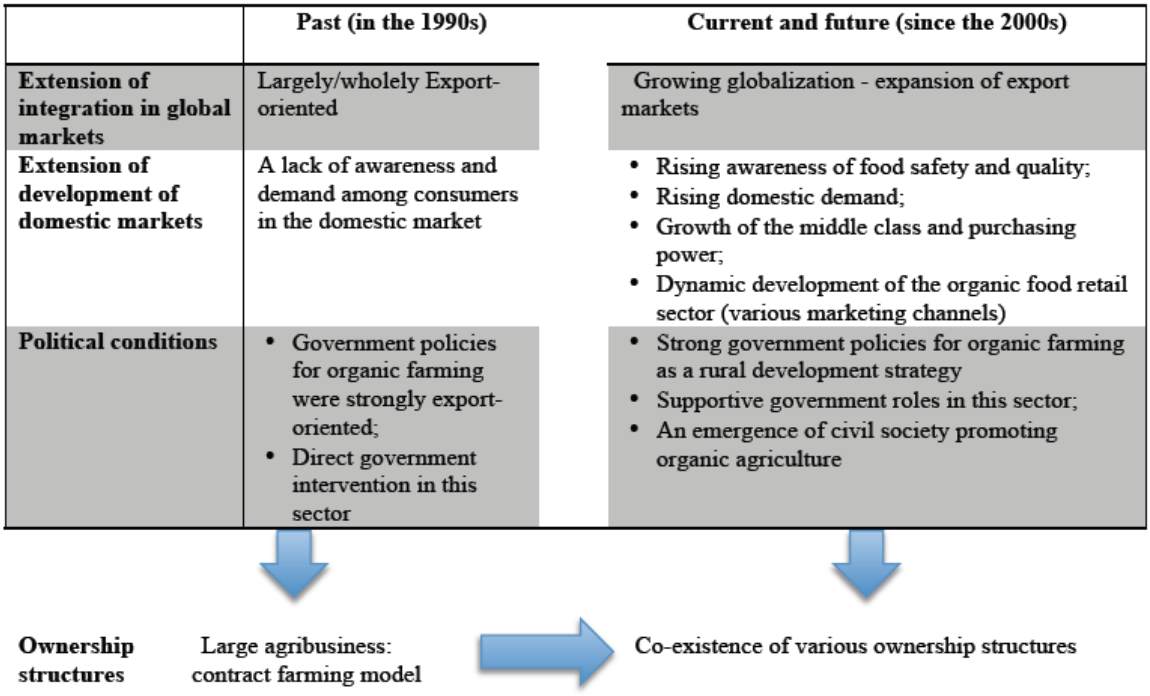
The Chinese government played an important role in establishing a supportive environment for cooperative development, mainly through (1) implementing the Cooperative Law and developing a series of favorable policies, (2) intervening directly in the establishment and operation of cooperatives, and, (3) providing various forms of financial support (e.g., subsidies, tax exemption and preferential loans) and non-financial support (e.g., technical and marketing and providing public recognition). The strong government role in promoting FPCs I found in this study confirms previous studies which found that rural development is spurred in large part by the Chinese government, as opposed to in European countries where rural development has been driven by farmers' initiatives and activities (van der Ploeg et al., 2012). Even though FPCs can play and have played an increasingly important role in rural development, I acknowledge that large agribusinesses (particularly dragon-head enterprises) will continue to dominate the Chinese agricultural sector and receive strong government support (Huang, 2011; Xu et al., 2013).

6.3 The development path of organic agriculture in China and beyond

By comparing the development trend of conventionalization in the Global North, this research has found that the development of China's organic agriculture sector has shown a different trend at this point in time: diversification from the dominance of large agribusinesses in the form of contract farming at the initial stage to the co-existence of various ownership structures in the 2000s, including the contract farming model, the farmers' professional cooperative model, and the private company land-leasing model. Among these models, there is an emergence of values-based initiatives, such as community-supported agriculture, buying clubs, and ecological farmers' markets. Current discussion about development trends in organic agriculture – specifically the phenomenon of

conventionalization – has focused only on the Global North (mainly in the US and some European countries). Although China has also shown the same characteristic of diversifying ownership structures in organic agriculture as reported and discussed in the Global North, the overall development trend differs greatly, as we have discussed in Chapter 3. The conditions shaping China's path in developing organic agriculture are illustrated in Figure 6.

Figure 6. China's Path in Developing Organic Agriculture



The results of my findings on China's characteristics in development of its organic agriculture sector contribute to our understanding of the diversity and complexity of the development paths of organic agriculture. The findings may also be relevant for further comparisons of development paths of organic agriculture in other countries in Brazil and India, among other emerging economies in which organic agriculture was initiated for export but where domestic organic markets have been growing recently. It is promising to conduct further comparative studies of development paths of organic agriculture in other countries in emerging economies. Some major countries in the Global South such as India and Brazil, among other emerging economies have faced similar conditions as China in developing organic agriculture. These include (1) an export orientation; (2) underdeveloped domestic organic market at the initial stage; 3) increased food safety awareness

and rising demand in the domestic market in the 2000s; (4) increasing government support, but mainly for exports; and 5) numerous small-scale farmers involved in the organic agriculture sector, mainly through contract farming and a few through Participatory Guarantee Systems (PGS) (Blanc, 2009; Menon et al., 2010; Blanc and Kledal, 2012; Osswald and Menon, 2013).

Civil society in India and Brazil has also played a strong role in engaging small-scale farmers in the organic agriculture sector. For example, with the strong promotion of civil society, PGS have been institutionalized for organic certification and widely adopted by small-scale farms and small enterprises in both countries (Fonseca et al., 2008; Willer and Kilcher 2012; Osswald and Menon, 2013). The number of farmers working with PGS in the Indian organic agriculture sector is significant (Willer and Kilcher 2012). Aside from these opportunities, however, these countries also face great challenges in further promoting the organic sector due to an absence of a strong government role in this sector. For example, the term "organic" so far has not been legally protected for use in Indian domestic retailing, which means that non-certified products can also use the organic label (Osswald and Menon, 2013).

6.4 The inclusion of small-scale farmers in organic agriculture and its implications

The research characterized various ownership structures in the organic agriculture sector. By comparing the extent and type of involvement of small-scale farmers, I revealed that the independent cooperative model showed a stronger inclusion of small-scale farmers, although no significant differences were found in economic returns among farmers and farm workers in the three models. Compared with the two enterprise models, the cooperative model provided a platform for small-scale farmers to participate more actively in decision-making and gave them more autonomy, however this model faces greater challenges in converting to organic agriculture. This finding deepens our understanding of the contributions and challenges of organic agriculture to small-scale farms and rural development.

Previous studies on organic agriculture and small-scale farmers focused on the following three issues: (1) challenges of linking small-scale farmers to value-added markets (Egelyng, 2009; Barret et al., 2001; Nordlund and Egelyng, 2008; Blanc, 2009; Blanc and Kledal, 2012); (2) strategies to link small-scale farms to global organic markets (Jaffee and Bintein, 1996; Dolan and Humphrey,

2000); (3) ways to make markets benefit poor and small-scale farmers (Fan et al., 2000; Henson and Reardon, 2005; Giovannucci, 2005; Bacon, 2005; Kruijssen et al., 2009). Given the dynamics and complexities of the developments of the organic food system, it is important to understand the opportunities for, and the extent and type of involvement of, small-scale farmers in the organic agriculture sector. I examined China's organic agriculture sector and provided answers to these questions based on multiple research methods. The study on various strategies linking small-scale farmers to organic agriculture contributes to the substantive argument over the future of small-scale farmers around the world, and in China in particular. In addition, the research findings can lead to recommendations for policy-makers and other stakeholders to better benefit small-scale farmers and rural development in developing organic agriculture. I recognize, however, that China's unique land tenure system – featuring the separation of land ownership and land use rights – impacts the extent and type of involvement of small-scale farmers in the organic agriculture sector.

6.5 Government roles in promoting organic agriculture and rural development

The case study of China's organic sector illustrated the important role of government authorities in promoting organic agriculture and rural development. The literature regarding certified organic agriculture has limited discussion about the government roles. This study highlighted the importance of government roles in promoting organic agriculture and rural development, which contributes to our understanding of government roles in developing organic agriculture and promoting rural development when civil society is limited.

Organic agriculture in the Global North has been mainly initiated by individual farmers and non-government organizations in response to the challenges caused by the conventional farming systems. In the Global South, organic agriculture has been mainly promoted by exporters, with a significant role played by civil society organizations in some countries (e.g., India and Brazil). Previous studies found that states in general have played limited roles in the organic agriculture sector. In contrast, the Chinese government has played an important and strong role in organic agriculture development.

Although China is rather unique in terms of its strong government and limited civil society, there may still be lessons from China's successes in organic agriculture development for other countries to learn. One key lesson from my study for other countries in the Global South is that

government can and should play a larger role in linking small-scale farmers to value-added food systems and in promoting organic agriculture. However, I acknowledge that the intervention of the state in the organic agriculture sector has been criticized for accelerating the transformation of organic agriculture from an ecological and social movement to organic conventionalization in many countries in the Global North (Buck et al., 1997; Tovey, 1997; Guthman, 1998, 2004; Goodman, 1999; Allen and Kovach, 2000; Michelsen, 2001b; Pugliese, 2001). Nonetheless, organic agriculture is still an important strategy in alleviating rural poverty, enhancing food safety, and developing sustainable agriculture.

In pursuing a policy based on the Chinese model, many countries in the Global South might face great challenges. One outstanding challenge is that many of the countries in the Global South, especially those poorer developing countries in sub-Saharan Africa, do not have a strong government. To overcome this challenge, civil society organizations in these countries should play important roles in the organic agriculture sector, such as by providing technical and marketing supports to small-scale farmers. At the same time, the emerging civil society in China can also gain experience from other countries where civil society organizations have played an active role in developing organic agriculture and promoting rural development.

6.6 Future research

Considering that this is exploratory research on the development path of China's organic sector, I opted to employ qualitative methods to understand contextual details in this sector. However, the use of qualitative methods meant that only a small number of cases were investigated in this study. The limited number of cases poses challenges for generalizing from the research findings. In this study, based on a small number of cases, the results of the trend of diversifying ownership structures of organic farms and equity implications for small-scale farmers should be considered tentative. For future research, a mixed methods approach is recommended to collect both quantitative and qualitative data to back up the study on these issues.

We had trouble recruiting young farmers to be interviewed for this study. One reason is that younger generations have migrated to urban areas for non-agricultural job opportunities and they are not involved in agricultural production in China in general. A second reason could be that the time when we conducted the fieldwork was in the slack farming season, which made it more difficult to

recruit young farmers. For further research, it would be ideal if researchers can have their fieldwork arranged in both slack farming and harvest seasons. In the slack farming season, farmers are more willing to spend time sharing their farming practices and thoughts, according to our fieldwork experience. In harvest season, the researchers might be able to find more diverse farmers (e.g., different ages, working/farming experiences, and education levels).

Several implications for future research flow from my study on organic agriculture and rural development. To provide better understandings of organic agriculture and rural development in the Global South, it would be informative to conduct further research in the following areas.

First, this exploratory research on emergence and evolution of organic agriculture in China is just a starting point. Beyond the limited investigation in the Global North, the analysis of China's organic agriculture opened up our understandings of the diversity and complexity of the development trends and paths of organic agriculture within different contexts. More case studies in the Global South need to be conducted to reveal a general development path that is applicable in more countries in the Global South.

Second, future studies could focus on the emerging values-based initiatives in China's organic sector by comparing them to the alternatives food networks in the Global North. Given that some of these values-based initiatives in China have been modeled on others in the Global North (e.g., Community Supported Agriculture farms), it would be valuable to compare alternative food systems under the different social-economic contexts in China and in the Global North (building on Si et al., in press). This research can offer insights into the current discussion on alternative food networks that so far has drawn only on cases in the Global North.

Third, future research on farmers' cooperatives could examine both successful and less successful cases of cooperatives to shed more light on the obstacles that cooperatives have encountered as well as the major elements of successful cooperatives in China. Furthermore, in this study we found that cooperative benefits were not equally distributed among members because of the differences in assets and resources. It would be insightful to have follow-up research to explore whether there is a connection between these different 'classes' of membership and the extent of

decision-making in and economic benefits from FPCs. Such research could challenge assumptions about how equitable FPCs are in practice.

Appendix A

Sorted interview data

In total 66 interviews were conducted between April 2010 and June 2011. Two people were interviewed twice, and one was interviewed four times; some sites were visited on more than one occasion.

Farmers' cooperatives: leaders (10) and members (9)

Government officials: 10

CSA Organic Farms: 3 (owners of Green Cow, Little Donkey Farm, Biofarm)

Export-oriented organic farms: 2

Private organic farms (not CSA model, only for the domestic market): 10 (9 owners of these farms + 1 farm manager)

Demonstration organic farms (with purposes for education and research): 1 (Sunqiao Hi-Tech Agricultural Demonstration Park)

Researchers: 10

Certification agencies: 6 (OFDC, COFCC, WIT)

Consultants in this sector: 2 people, one person has been interviewed twice (Steven Scoones at Shanghai)

Organic restaurants: 1 (A Dai at Hangzhou)

Others: Mac Fan, Daniel Wang, and TianLe (with a NGO)

Guiding Questions for In-Depth Interviews

1, Selection of interviewees

According to the objectives of this proposed research, four groups of people are interviewed:

- Government officials
- Agro-enterprises and farmers' cooperatives
- Small farming households and farm workers
- Others, such as NGOs and certification bodies

Criteria for selection:

- Having experience in ecological and/or certified organic production
- Being interested in telling the "true" story for their experience
- Reflecting a variety of dimensions, such as geographical location, ownership types, size/scale of operation

2, Interview questions

3.2.1 A list of interview questions for government officials

1, What kinds of roles have been played by Chinese government in developing and promoting domestic markets for green and organic foods? What are the main actions? Are there some specific actions related to educating public about ecological farming systems and ecologically produced food?
在开拓和推动中国国内的有机／绿色食品市场方面，政府部门起到了什么样的作用？具体做法有哪些？其中，对公众教育方面有没有特定的举措？

2, How and why has organic/ecological farming become a policy commitment in China?
在中国，生态耕种模式（有机／绿色／无公害）分别有哪些政策方面的支持？有没有政策的偏向性（例如，更对支持那一种／几种耕种方式）？ 为什么？

3, How is the Chinese government dealing with the implicit criticism of the conventional system that the organic system contains?
中国政府是如何看待和处理目前有机农业系统中内含的一些传统农业问题（例如，消费者对商品的信心不足）？

4, Are farms consolidating and getting bigger?
在中国，农场／农业耕作面积有没有逐渐增大的趋势？

5, Within the organic and ecological food sector, what at the advantages and challenges faced by larger vs. smaller-scale producers. Is there any advantage to managing large organic farms compared to small ones?
大农户和小的生产者在发展生态和有机农业方面面临什么样的有利因素和挑战？在多大程度上，商业规模的运作模式主导有机／绿色食品市场？相对于小规模的有机耕作，大规模的有机农场有没有优势？如果有，您认为有哪些？

6, Does the government help to promote local organic or green foods? How? How are small farmers organized/coordinating efforts in terms of marketing (or how could they be)?
政府部门有没有推动本地的有机／绿色食品的发展？如何推动的（有哪些具体措施？）？在市场销售方面，小农户是如何组织／联合起来的？

7, How about the support/incentive policies, are they more oriented to large or small-scale farms (or are they not scale-specific)? Does the government subsidize farmers equally?
政府的农业支持政策对那类规模的耕作（小农场&大农场）更有利？政府对农户提供相同的补助么？

8, How are the relations between central and local governments in terms of managing ecological and organic farming (e.g., land use management decisions, supports/subsidies for producers)?
在有机和生态农业管理方面，中央和地方政府的关系如何（例如，土地使用的决定，对生态农业的支持政策／补助）？

9，To what extend ecological and organic farming systems in China have been influenced by international forces?
中国的生态和有机农业的发展在多大程度上受到了国际势力的影响？

3.2.2 A list of interview questions for agro-enterprises/farmer's cooperatives

1, Tell me about you – what did you do before operating the farm? What's your education level?
关于你的信息：你之前从事的行业，受教育程度

2, Tell me about your farm - where is it? How big is it? How long have you been farming organically?
关于您农场的信息:地点、面积、经营多久了

3，How does your farm operate? Who is in charge? Does your farm apply for organic certification? Do you plan to apply for or continue or withdraw organic certification in the near future? Why or why not? Who is responsible for applying? How do you ensure all farmers farming according the standards and requirements? What are the penalties if they fail to follow the standards? What kinds of productive assets do your company/cooperative provide (e.g., land, labour, capital)? What kinds of responsibilities do your company or cooperative take? How do small-farms or farm workers have been involved in your company/cooperative? How do you distribute the profits? What are the advantages and disadvantages of the operating model of your farm? Do you know there are other kinds of operating models? What's your opinion about other models?
农场是如何运行的？由谁主导？你们有申请有机认证么？你们农场在不愿的将来准备申请，继续或停止有机农业的申请么？谁负责申请？你是如何确保所有农户遵循有机标准和要求的？如果没有遵循有机标准生产，有哪些惩罚措施？你的公司／合作社提供哪些生产要素？运行中，你们公司／合作社的主要职责有哪些？在农村运行中，小农户或农民工人是如何发挥作用的？利润是如何分配的？你们农场的运作模式的优势和不作有哪些？你知道还有其他的运作模式么？你对这些模式怎么看？

4, How does the government (both central and local levels) play roles in supporting organic agriculture in your company or cooperative? What kinds of support have your company or cooperative received from the government, including providing technical services, funding supports (subsidies, loans & tax exemption), helping in marketing products, and negotiating in land

leasing/contracting? What's your opinion about the government involvement in ecological agriculture? How is it helping you and how is it presenting difficulties?
就你们公司／合作社而言，政府在推动有机农业发展方面发挥了什么样的作用？你们公司／农场从政府那里得到了什么样的支持，例如提供技术支持，资金支持，市场支持，或者协助土地转让？你是如何看待政府介入有机农业发展的？对你有帮助还是带来障碍？

5, How do your farm practice ecological agriculture? Tell me a bit about some of the farming practices you use, such as fertilizers, seeds, pest control, rotation and cover crops? What are some of your farming challenges? What is your experience with the Chinese organic standards and the certification process?
您如何开展生态农耕？能否告诉我一些您的耕种措施，例如有机肥料，种子，杀虫，或者轮作?你们农场碰到的主要挑战有哪些？您对中国有机标准和认证过程有什么看法?

6, Can you tell me about how your company/cooperative market the products? Do you sell products domestically or globally? What are the major marketing channels? Do you sell or consider selling products directly to consumers? Why or why not? What is your opinion about the low trust of consumers on organic certified products?
能否告诉我你们的销售途径？你们依赖国内市场还是国际市场？你们目前主要的销售渠道有哪些？你们正在或者考虑和消费者建立直接的销售关系么？为什么（不）？你是如何看待目前消费者普遍对有机认证的产品的不信任？

7，Can you tell me about the consumer information? Can you describe briefly about the characteristics of the consumers who purchase products from you (e.g., age, education, gender, occupation, income levels)? How do you establish relations with them? Do you need to educate them about organic agriculture? Why do them purchase products from you instead of shopping in supermarkets? What kinds of opportunities do you see in future marketing (e.g., agro-tourism)?
能告诉我一些关于你们客户的情况么？你能够简单地描述一下他们的特征么（例如年龄，教育水平，性别，职业，和收入水平）？你是如何和客户建立关系的？为什么他们从你们农场购买而不是去超市？您还有哪些销售产品的方式或提高农场收益的方式（比如旅游)？

8, What is your opinion about the low trust of consumers on organic certified products? How do you address this issue in your farm (e.g., establishing own brand, opening the farm gate to consumers for visiting and monitoring)? Have you though about the CSA or home delivery marketing model? Why or why not?
你是如何看待目前消费者普遍对有机认证的产品的不信任？你们是如何对待这个问题的，采取了哪些措施？你们考虑过社区支持农业或者家庭配送的销售模式么？为什么（不）？

9, How do your company/cooperative contribute to local development? Could you provide me some examples and data on these?
你们农场对本地发展的贡献有哪些？请举例

10, What are the major challenges did your farm encounter in converting to organic agriculture (e.g., technical supports, funding shortage, difficulties in expanding markets, difficulties in up-scaling, others conflicts)? How did you address these challenges?
你们农场在有机种植和发展过程中遇到的主要挑战有哪些？你们是如何应对的？

3.2.3 A list of interview questions for small farmers or farm workers

1, Tell me about yourself – how long have you been farming? What's your education level? Do you have allocated land? Do you (or your family members) do non-agricultural work? If yes, do you (your family members) work in local or migrate to other areas and for how long? How do you (your family members) mange the farming work? Who take care farmland when you are away? Do you or family members come back during the harvest seasons?
关于你个人的信息：你从事农业生产多久了？你的教育水平？你有自己的农地么？你（或家人）从事非农工作了？如果从事的话，你（或家人）是在本地还是到其他地方？你们是如何管理农事的？你不在时，谁管理农田？农忙时节你或家人回来帮忙么？

2, Do you farming organically or ecologically friendly? How long have you been involved in organic agricultural production? What are your major incentives? Tell me about your roles in decision-making, organic agricultural production, and marketing? How? Do you farm on your allocated land or work for companies? Do you lease out your allocated land to the company?
你从事有机或生态农业生产么？从事多久了？你主要的动机是什么？你发挥的主要作用有哪些？你是在自己的农地上从事有机农业生产还是为有机农业公司打工？你有流转土地给公司么？

3, Tell me about your experience of organic farming (e.g., seeds, pest control, fertilizers, rotation and crop covers)? Where do you access the knowledge about organic agriculture? Do you get trained about organic farming? How? Do you participate in the application for organic certification? If yes, say how? What's your understanding of organic agriculture? For example, what are the major benefits of organic agriculture?
告诉我一些你有机生产的经验？你是如何获得关于有机农业的知识的？你参与有机认证的申请么？如何参与的？你对有机农业的理解？比如，有机农业生产的主要益处有哪些？

4, Tell me a little bit about the impacts of organic farming on your income? What are the main sources of your incomes? How would you think about the contribution (share) of farming in your total income? Does the conversion to organic agriculture have an impact on your income? How and to what extend?
请告诉我从事有机农业生产对你家庭收入的影响？你家庭收入的主要来源有哪些？农业收入占家庭收入的比重是多少？从事有机农业生产对你收入的影响？

3.2.4 A list of interview questions for others (e.g., organic certifiers & NGOs)

1, Tell me about yourself – education? Your work? How long have you been in developing organic/ecological agriculture?
关于你的一些信息：教育水平？工作？从事推动有机农业发展方面的工作多就了？

2, What's your experience about organic agriculture? What kinds of organic agricultural projects have you been involved? What are your roles? What's your understanding of organic agriculture? What's your opinion about the development of organic agriculture in China? What's your opinion about the government involvement in organic agriculture sector? What are the opportunities and challenges?
请谈谈你的有机农业的经验？你多做过哪些有机农业相关的项目？主要工作内容的什么？你对有机农业的理解？你对中国发展有机农业的认识？你对政府干预的认识？面临的主要机遇和挑战是哪些？

3，To what extend ecological and organic farming systems in China have been influenced by international forces?
中国的生态和有机农业的发展在多大程度上受到了国际势力的影响？

4, What are some main management structures in China's organic agriculture sector? What's your opinion about these different management structures? What are their advantages and disadvantages? What are their main concerns/needs in converting to organic agriculture?
中国有机农业这一块有哪些主要的组织形式？你对各种组织形式的看法是什么？各自的利弊有哪些？他们各自的需求是什么？

5，What organic farms have you worked with or for? Can you refer me/us to these farms, so I/we can interview them and have a visit on their farms?
你和哪些有机农场合作过？你可以推荐我／我们去访谈这些农场么？

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