

# **The Role of Government in Ecological Agricultural Development in China: Changing from State-driven to State-coordinated**

## **Abstract**

Along with the dramatic growth of ecological agriculture worldwide during the past several decades, actors involved in this process have attracted extensive academic interest. As one of the pivotal actors, the state has caught great attention and is usually portrayed as a latecomer in ecological agriculture studies in developed countries. Critical scholars often criticize state regulation for being one of the key reasons for conventionalization of organic agriculture. However, this is not the case in China. The Chinese government has been deeply involved and played a significant role since China's modern ecological agriculture genesis. By analyzing the role of the Chinese central government, this research analyzes the interactions between government and other actors by using first-hand data collected through interviews and conference participation on newly emerging bottom-up ecological agricultural development as well as historical data on development of China's ecological agriculture, including the Chinese Ecological Agriculture Project, Green Food System, Organic Agriculture Certification and Pollution Free Agricultural Product System, etc. This research argues that although the Chinese government has shown a strong appearance since the very beginning of China's modern ecological agriculture, the role has been changing significantly, moving from state-driven to state-coordinated. This move goes along with the neo-liberalization of China's market system and the slow but growing social power. The changing role of government also shows that the stakeholders

collaborating with the government are changing from farmers and village collectives to private actors, especially large-scale actors like dragon-head enterprises. By examining the changing role of government, a clear difference could be seen between the trajectory of ecological development in China with that in developed countries: the organic agriculture in developed countries has developed in a " $<$ " model (bifurcation). In contrast, ecological agriculture in China has developed in a " $>$ " model (convergence). By recognizing the changing role of government in ecological agricultural development in China, this research tries to contribute to the study on ecological agriculture development trajectory in Global South and enrich the study about the government role in ecological agriculture.

## **Key Words**

Chinese government; ecological agriculture; conventionalization

## **1 Introduction**

With the emergence of the detrimental consequences of Green Revolution, various sustainable agriculture has been put forward by Non-government Organizations (NGOs), civil society, scholars and activists especially in developed countries since the 1900s as responses to the crisis caused by conventional agriculture, including organic agriculture, natural farming, permaculture, regenerative agriculture etc. With the rising concern of food safety, environment protection and relationship between human and nature, this

sustainable agriculture has developed very fast especially since the 1980s around the world.

With the scale-up and rapid development of sustainable agriculture, these originally bottom-up initiatives began to be appropriated by large-scale agribusiness, and be regulated by governments, among which organic agriculture is a typical example since it is the most “mature” sustainable agriculture model in terms of the extent of industrialization and regulation. As other sustainable agriculture, organic agriculture was initiated from bottom-up, with the development of organic agriculture sector, some original playing actor began to grow larger and business actor began to enter this sector. With continued dramatic growth, the development of organic agriculture has attracted significant interest in the academic world. One of the most critical studies is to analyze the conventionalization and bifurcation of organic agriculture sector. This strand of literature falls into the classical debate on whether market mechanisms could go along with sustainability development. With the surge of organic agriculture since the 1970s, some scholars have begun to scrutinize the development of organic agriculture and question its transformative potential as the most far-reaching alternative initiative. Although Buck and Guthman are not the first scholars to raise this concern, their research on organic agriculture in California was the first to systematically document and analyze these problems. They introduced the concept of conventionalization and bifurcation to describe the ongoing structural trends in organics. Conventionalization means that modern organic agriculture shows signs of increasing intensification and specialization,

which is similar to trends in mainstream conventional industrial agriculture. Bifurcation is the result of conventionalization and refers to the emerging dual structure of organic agriculture. Guthman worked in details showing how governments have played significant role during conventionalization process by introducing regulations.(Guthman 2004a)

However, China has a quite different pathway in ecological agriculture<sup>1</sup> developing comparing with the developed countries, especially when taking the role of government into consideration. In China, although traditional ecological agricultural<sup>2</sup> practice has been existing in some places(Cheng, Han, and Taylor 1992; Sanders 2018), they are generally just a follow of some agricultural tradition without a clear consciousness of contradicting modern conventional agriculture. The modern ecological agriculture in China emerged around the 1980s initiated by the government as a pilot project across the country(Sanders 2000, 2018; Cheng, Han, and Taylor 1992). But this initiative was not promoted any more due to lots of reasons which will be described in detail in Section 3. With the decline of this pilot project, Chinese government launched another initiative to promote Green Food and began to regulate on the increasing organic agricultural sector (described in Section 4). The Chinese government has provided various support to promote the ecological agriculture ranging from financial to technical measures. (Scott et al. 2014, 2018)

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<sup>1</sup> Even though having the similar meanings, the term ecological agriculture is more often used in China while the term sustainable agriculture is often used in the West(Cheng, Han, and Taylor 1992).

<sup>2</sup> Compared with the modern ecological agriculture emerged at the end of 20<sup>th</sup> century, China has a long history of traditional ecological agriculture. King had a quite detailed observation.(King 1911)

So far, research on the role of government in ecological agriculture development in China is not much. This research mainly focuses on different period, especially on the Chinese Ecological Agriculture (CEA) project in the 1980s and current period separately. This research tries to introduce the longitudinal dimension into the study to see the changing role of government in China's ecological agriculture development and its implications. Besides, this research also tries to explore the interaction between government and emerging bottom-up alternative agriculture niche.

The structure of this paper is as follows. First, the paper reviews literature on the role of government in ecological agriculture studies. Second, the driving role of the Chinese government from 1980s to 2000s is delineated by using Chinese Ecological Agriculture Project in detail. Next, the changing role of Chinese central government is analyzed by looking at the current certification structure in China and the interaction between the government and bottom-up initiatives. After showing the different role played by the government, then the paper discussed how the government has changed and its implications. Finally, the paper end with a brief conclusion.

## **2 Literature Review**

### **2.1 The Role of Government in Sustainable Development**

Faced with rising concerns on the degradation of environment caused by industrialization, states need to tackle the environmental problems and sustainable developmet began to become one of the key development objectives for developed countries since the 1960s. Green states and green politics has become an emerging topic

studied by scholars(Death 2016; Eckersley 2004, 1992). This body of research focusses on the environmental problems and social challenges faced by state and how they respond to these challenges and pressures, and the research mainly look at the politics and industrial sectors.

## **2.2 The Role of State in Critical Ecological Agricultural Studies**

Regarding the role of state in sustainable development in agricultural sector, the discussion mainly locates in the conventionalization debate in organic agriculture sector. Because organic agriculture is the most codified and regulated sector among the ecological agriculture, and the role of state is more important comparing to other eco-agricultural sectors.

### **2.2.1 Conventionalization debate**

In sociological studies on organic agriculture, the conventionalization thesis has attracted wide interest from academics and activists. The conventionalization thesis was brought up by Buck et al. in 1997 (Buck, Getz, and Guthman 1997). By employing the commodity system analysis methodologically as well as the concept of appropriationism and substitutionism borrowed from Goodman et al., Buck et al. systematically examine the structural change of organic vegetable in California and question transformative potential of organic agriculture which was taken for granted. They argue that with the explosive growth of the niche market, the new coming and upscaling agribusiness is finding a way to industrialize (conventionalized) the organic sector. (Buck, Getz, and Guthman 1997; Goodman, Sorj, and Wilkinson 1987; Goodman 2000)

Conventionalization refers to the process that organic agriculture has been more and more resembling modern conventional agriculture characterized by economy of scale, input substitution, profit maximization, concentration along the value chain, de-localization etc. Conventionalization thesis mainly scrutinizes the structural change of organic sector from a political economy perspective, which includes both economic issues such as corporate concentration and integration, and more political issues such as standard setting and regulatory processes. It is also a typical research strand of post-structuralism.

The introduce of the conventionalization hypothesis has sparked considerable debate, and much follow-up research has been conducted. Generally, these research could be divided into three threads.

First, soon after introducing the conventionalization concept, a lot of research was done to examine whether this hypothesis could be identified at other locations, and different findings turned out. Lyons employed the Actor Network Approach and did research in Australia by looking into the case of Uncle Tobys, showing the involvement of the agribusiness indeed change the understanding of organic and influence other actors. (Lyons 1999) Hall and Mogyorody researched in Canada and found the trend of conventionalization in the field of crop farming while little support in fruit and vegetable farmers. (Hall and Mogyorody 2001) Other studies in the United Kingdom, West Germany also show supportive evidence of conventionalization hypothesis. (E. Smith and Marsden 2004; Best 2008) But there are also some other findings; for example, Lockie and Halpin didn't find the conventional takeover in Australian organic

agriculture.(Lockie and Halpin 2005)

The second thread of research focus on the result and implication of conventionalization. Bifurcation among organic growers has been identified by researchers and is regarded as the key implication of conventionalization in the organic sector. (Buck, Getz, and Guthman 1997; Guthman 2004a) However, this bifurcation hypothesis has attracted more criticism comparing with the conventionalization one. Bifurcation refers to the two development directions of organic agriculture under the context of conventionalization: on the one hand, the big agribusiness employs a more conventional like approach through industrialization and intensification; on the other hand, the true organic farmers are marginalized in the growing organic market and characterized by artisanal, small-scale, life-style organic agriculture. By looking at the case in Australia, Lockie and Halpin throw doubt on the simplistic dichotomy and uncritical dualism of bifurcation thesis. (Lockie and Halpin 2005) Hugh Campbell et al. also rebut the bifurcation thesis arguing that instead of marginalized by the large-scale agribusiness, small-scale organic farmers are coexisting and they are complementary in the export and domestic organic sector.(Rosin and Campbell 2009; H. R. Campbell and Coombes 1999; Coombes and Campbell 1998)

The third thread of research following the conventionalization thesis emerged more recently, trying to go beyond the question of whether the conventionalization is occurring and to what extent. With the conventionalization/mainstreaming of organic agriculture, some scholars trying to go deeper into the actors involved in the process, such as civic



consumers (Goldberger 2011) and role of government (more details in section 2.2). And some scholars try to look at the relationship between ongoing mainstreaming organic sector and the mainstream sector. By showing the conventionalization process of organic sesame in Burkina Faso, Glin et al. found the shrinking of organic sesame due to the weak coherence between the production and marketing nodes in the organic sesame chain. (Glin, Mol, and Oosterveer 2013) Freyer and Bingen look at the development trend of organic sector arguing there would be more conversion instead of convergence between organic and non-organic sector. (Freyer and Bingen 2014) Smith analyzed the mainstreaming of organic food in the United Kingdom to see the dialectical relationship between sociotechnical niches and regimes. (A. Smith 2006) This conventionalization of organic agriculture also echo the Corporate Environmental Regime proposed by Friedmann. (H. Campbell 2009; Friedmann 2005; D. H. Constance, Friedland, and Marta 2014)

Apart from the specific case studies on conventionalization, some literature review also have been conducted regarding conventionalization. Through these literature review and extensive literature mentioned above, it appears obvious that almost all the research are conducted in the Anglo-Saxon areas including North America, Europe, Australia, New Zealand etc. (Lockie et al. 2006; Darnhofer et al. 2009; D. H. Constance, Choi, and Lara 2015; D. Constance, Choi, and Lyke-Ho-Gland 2008; D. H. Constance, Friedland, and Marta 2014)

Few research has been done in the less developed areas regarding

conventionalization. This might be due to two reasons: First, the organic agriculture in other countries are still at preliminary stage and didn't catch too much attention. Second, the non-Anglo-Saxon countries are overwhelmed by and still obsessed with the modernization, industrialization and developmentism discourse, the voice of critical study is quite small.

Research regarding conventionalization in China is also quite limited. Gao et al. studied the conventionalization by looking at the development history of organic agricultural company in Yunnan Province. (Gao, Park, and Sakashita 2017)

### **2.2.2 The role of government in conventionalization thesis**

The role of state has been touched upon in the analysis of conventionalization process in the literature. The state and the regulation on organic are seen as one of the key drivers of conventionalization and facilitate the penetration of agribusiness into the organic sector. (Guthman 2004a) And Guthman also calls for actions "to take seriously the sort of politics and policies required to enable organic agriculture to be what it is imagined". (Guthman 2004b) From the perspective of mainstreaming organic agriculture, the UK government also plays a significant role through strategic niche management in the process. (A. Smith 2006) Tomlinson also looked at the case of UK trying to find out the role of UK government and argued that the government intervention is actually a process of containment. (Tomlinson 2008)

Comparative studies have been conducted regarding different measures of supporting organic agriculture across different countries or regions. Organic subsidies

provided by the United States and Europe are often brought up to make a comparison.(D. H. Constance, Choi, and Lara 2015; Guthman 2004b; Dimitri and Oberholtzer 2005) In her response to the criticisms of conventionalization thesis, Guthman also pointed out that “the policy environment of organics matters tremendously”, “the type and degree of state support organic farming has received, along with the agrarian structures on which it has been built” would lead to a large variation on organic agriculture across locations. (Guthman 2004b)

In the study of China, scholars also try to find out the role played by the government in sustainable development in China. Li and Shapiro employ a holistic and political economy perspective to look at the measures taken by Chinese government both at domestic and international level regarding sustainable development, and they argue that the rise of authoritarian environmentalism in China is actually aim to consolidate the control of the government. (Y. Li and Shapiro 2020)

Regarding the role of government in development of ecological agriculture, by taking China as a different case comparing to the West, Thiers looked at the establishment of Green Food Development Center and the Organic Food Development Center in China, and he found that the political economy of rural China could be regarded at a fragmented entrepreneurial state facing conflict of interest, but direct state intervention may overcome some of the public-goods and collective-action problems. (Thiers 2002) In contrast, Scott et al. cast doubt on the role of Chinese government in sustainable development and ecological agriculture development, arguing that the government’s

commitment to ecological agriculture is quite superficial and state-led developmental approaches have failed to address sustainable rural development which opens up spaces for various non-state actors to take actions resulting in a top-down and bottom-up forces in food system transformations.(Si and Scott 2019; Scott et al. 2014)The role of local government in ecological agriculture has also been examined by scholars. (Zinda and He 2019; Qiao et al. 2018)

These studies regarding role of Chinese government in ecological agriculture development are usually done in a short period, and there is a lack of chronological study to see if and how the role of government has changed. Besides, in the conventionalization literature, the government are often portrayed simplistically as a negative actor to facilitate the conventionalization of organic sector. There is a need to take the government to go beyond the conventionalization circumstance and put it in a broader context to examine how the government deal with the multiple complicated goals.

### **3 The Driving Role of Government in the 1980s to 2000s**

#### **3.1 Background**

China has a long history of planting agriculture dating back to around 10,000 years ago in the Neolithic era (People Education Press, Textbook Institute, and Research Center of History Textbook, n.d.; P. Li 1984; Yan and Yin 1992). Traditional Chinese knowledge and technology of agriculture have accumulated over time including tillage, irrigation, crop rotation, multiple cropping, intercropping, composting, use of night soil, legumes etc. And these traditional agricultural practices have been introduced into the West world

by scholars as inspirations for and substantive source of ideas of doing sustainable farming. And King was one of the most prominent one among them(King 1911). The traditional way of agriculture in China pursued for the harmony of human with nature with Taoism as the underlying eco-philosophy. Taoism is the indigenous religion for China and argues that human should work with and follow nature, rather than manipulate or dominate nature. One of the key arguments of Taoism is that “Humanity follows the Earth, the Earth follows Heaven, Heaven follows the Tao, and the Tao follows what is natural”<sup>3</sup>.

After the establishment of People’s Republic of China in 1949, the Chinese government attached great significance to food security for political stability as well as economic and social development. For Chinese government, ensuring national food security generally equals to food self-sufficiency, which put great pressure on domestic food production. To meet the intense pressure, Chinese government has made great efforts. Particularly, the Chinese government has carried out a series of agricultural reforms aiming at the industrialization and modernization of agriculture which is characterized by greater external inputs reliance and more petrochemical based agricultural technologies especially after the 1970s (Cheng, Han, and Taylor 1992; Schmalzer 2016).

Although the adoption of modern conventional agriculture in China since the 1970s increased the agricultural output significantly, it resulted in destructive impacts on the environment and an increased reliance of agriculture on fossil-fuel energy. China began

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<sup>3</sup> 人法地，地法天，天法道，道法自然。

to face serious vegetative destruction, soil erosion, water pollution and water resource depletion in the 1980s (Cheng, Han, and Taylor 1992). Under the pressure from both environment and food security, the Chinese government try to find a middle way between the traditional ecological agriculture and modern high-yield yet environment-polluted agriculture. The result come to be a hybrid project – Chinese Ecological Agriculture (CEA, 生态农业, shengtai nongye).

Before the late 1970s, the concept of ecosystem had not been acknowledged widely in China. Most efforts to increase yield and cropland neglected the ecological consequences. This intensified the problems of soil erosion and desertification. (Luo and Han 1990)

However, this has gradually raised concern especially among academics. In 1981, Ye Qianji proposed the concept of ecological agriculture as a development strategy for China’s agriculture. In 1982, Ye Qianji present his paper titled “Agroecological Agriculture: A Green Revolution in China” in an academic conference on agricultural ecological economy, and proposed the term “ecological agriculture (生态农业)”. This was the first time that this term appeared in China. Several years later in April 1987, a national scientific conference on ecological agriculture was held in Guangdong Province. Chinese scientists suggested that development of ecological agriculture should be adopted as a national policy.

### **3.2 CEA Project and the Driving Role of the Government**

After the academic discussion, preparation and some pilot cases, the government

gradually began to involve in and launched the CEA Project in the 1980s. As the National Environmental Protection Agency (NEPA) explains, CEA is: “a comprehensive agricultural production system of intensive management with multiple layers and with multiple structures and functions. It was established on the basis of summing up successful experiences of various agricultural practices applying ecological and economic principles, modern and scientific and technological methods. In a word, eco-farming is a comprehensive agricultural production system which is managed intensively according to the principles of ecology and eco-economics.” (NEPA 1991, Sanders, 2018) It is an attempt to combine the Chinese traditional ecological agricultural practice such as the intercropping, crop rotation, application of organic manures etc. with the modern agricultural science and technology.

This CEA project are being undertaken in over 1,100 demonstration villages in the 26 provinces across China since the 1980s. These experiments were conducted at the farm, village, or county levels with the involvement of farmers, village leaders, scholars and local officials in agriculture and environmental protection authoritarian. These projects were often implemented in a holistic and systemic way to make use of natural resource and often had a biogas digester to facilitate the transfer of raw materials into energy, fertilizer, and feed resources. These pilot projects are also place specific. For example, some villages had fishponds or eel ponds while some mountainous villages are more of a stere forestation style programme.

According to Li Zhengfang (Li, 1994), the development of CEA could be generally

divided into three phases. The first phase was from 1980 to 1983, concentrating on academic preparation of basic concepts and major functions and organizing and training scientific and technical staff. In 1980 the government held the first nationwide conference on agro-economics in Yinchuan City, Ningxia Hui Autonomous Region (NEPA, 1991), in which the term shengtai nongye (ecological agriculture in Chinese) was used for the first time. The second phase was from 1984 to 1986 focusing on experimentation and demonstration with heavy government involvement in promotion and extension, leading up to the establishment of many demonstration sites and research institutes. Between 1984 and 1987, NEPA established 19 demonstration projects in 17 provinces and autonomous regions. The third phase was from 1987 to 1994 characterized by substantial further demonstration and extension of the project.

The Concept of ecological agriculture in China is somewhat different with the one in Western countries at least in three points. First, most ideas about ecological agriculture in China do not totally avoid external inputs, such as synthetic fertilizer and herbicide. Second, ecological agriculture is not confined to only small scales or to the farm level.(Luo and Han 1990) Third, the Chinese government is highly involved in the discourse of ecological agriculture since the beginning.

Despite the success of some pilot projects, CEA was not expanded on a large scale further across rural China at the end. This is due to a lot of reasons: limited knowledge of CEA among farmers; the unstable supply of biogas raw materials around the year, low incentives due to the lack of price premiums on ecological food products; and the scheme



being driven and dominated by village leaders rather than farmers etc. (Scott et al. 2018; Sanders 2000, 2018)

Several years later, however, there was still a large gap between the projects that had been announced after 2008 and those realized on the ground. Woertz (2013, p. 227) identifies several reasons for this ‘implementation gap’, such as reduced funding options due to the financial crisis, issues regarding the legal frameworks, business environments, and natural resource situation encountered in targeted countries, as well as political resistance by some bureaucracy and civil society.

## **4 The Changing Role of the Chinese Government Since the 2000s**

### **4.1 Main Certification Regarding Ecological Agriculture in China**

Since the 1990s, the Chinese government began trying to promote the ecological agriculture in a different way. With the increasing demand of quality agricultural products from both abroad and domestic, certificates for ecological agricultural products are required by the market as in more developed countries. The modern ecological agriculture business in China was first inspired by the need to meet the increasing demand in organic exporting market. In order to meet the demand both abroad and domestic, the Chinese government put forward some unique certifications in China. The current structure of officially certified quality food in China could be illustrated as the pyramid in Fig. 2. And the development of these certifications is shown chronologically in Fig.3.

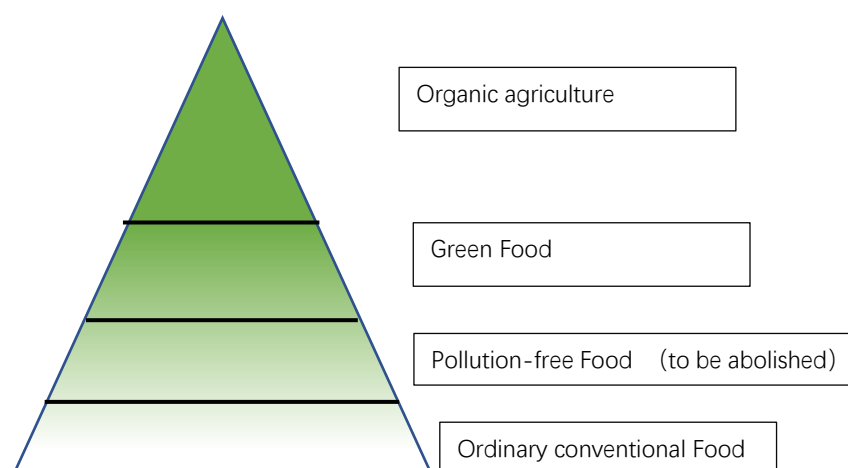


Fig 2. Pyramid of certified quality food in China (drawn by the author according to the regulations in China)

## 4.2 The Changing Role of the Chinese Government

Fig 3. Comparison among different initiatives and the role of government

	China	Organic Agriculture	Green Food	Pollution-free Food
	Ecological Agriculture			
Year established	1980	1990	1990	2001
Initiated by	government	Domestic and foreign trading companies; the Research Institute of Environment and Science in Nanjing, NEPA	Ministry of Agriculture (MoA)	Ministry of Agriculture

First implemented at	Liu Min Ying Village, Daxing County, Beijing	A Dutch and Chinese trading company for tea	State-owned farm system	Market access admission pilot projects at Beijing, Tianjin, Shanghai, Shenzhen
Unique to China	Yes	No	Yes	Yes
certifiers	---	Third party certification	Ministry of Agriculture's Green Food Development Center	Ministry of Agriculture's Center for Agri-Food Quality and Safety (2001-2018) Government agency at the county level since 2018
Current situation	decline	popular	popular	Will be abolished in the near future

According to Fig. 3, it is clear to see that the regulation and involvement of government in the ecological agriculture in China has been moving from farmers and communities to agribusiness and ecological agricultural market.

### 4.3 Government and the Bottom-up Ecological Agricultural Niches

Apart from the government-initiated niches, many ecological agricultural niches are also driven by the NGOs, civil society, and private actors from bottom-up especially over the past two decades. The most well-known initiative probably is the Little Donkey Farm established by Doctor Shi Yan, Huang Zhiyou and others recognized as the first community-supported agricultural (CSA) farm in China in 2008. Since then more and more CSA farms, ecological farms and cooperatives arise across China. In 2012 Doctor Shi Yan and her husband Doctor Cheng Cunwang left the Little Donkey Farm and established another CSA farm called the Shared Harvest Farm as a social enterprise. Now with help of this couple, the CSA farms across China are establishing a CSA Alliance. The CSA Alliance has a close relationship with Prof. Wen Tiejun and the New Rural Reconstruction Movement in China. At the end of 2018, the CSA Alliance planned to establish a nationwide cooperative. It consists of two levels of organizations: the national one and the provincial ones. As of the end of September 2021, there have already been 19 provincial cooperatives established and the number is keeping increasing rapidly. They take “Hansalim” in South Korea as their learning model.

Meanwhile, other forms of bottom-up initiatives also began to emerge in China. With the increasing concern over food safety and pursuing more nutritious food, many urban consumers work together and establish buying clubs and some even work closer with ecological farmers trying to establish production and consumption cooperative.

I collected four different production and consumption cooperative cases from Beijing, Shanghai, Chengdu, Dongguan through online interview and activity

participation. They are at different stages of development ranging from pre-establishment to large scale and face various difficulties. One of the largest difficulties they all are facing is the lack of law and regulation regarding ecological agricultural consumption cooperative. There is no law or regulation about civil consumption cooperative, so they couldn't officially establish consumption cooperatives. Instead, they registered as corporation, social enterprise etc. so that they could operate smoothly. For example, according to my interview with one of the founders, the Chengdu Love Family is registered as a civil society, but it in fact operates as a cooperative. And in order to operate smoothly in the market, it also registers a corporation. The lack of regulation made the situations complicated and ecological agricultural initiatives have to deal carefully. And one of the leaders of Beijing Tingbei cooperative has once privately asked an official about the enactment of the law when she was attending a meeting. The official said that the sector is still burgeoning, and the government might enter and make regulations when after it grow more mature. So, the government actually leave space for the initiatives to develop while keep a close eye on it.

## **5 Discussion**

From the historical development of ecological agriculture in China and the involving role of the Chinese government, some trends could be identified in this process as follows.

Firstly, the government is gradually withdrawing from the ecological agricultural initiatives, changing from a state-led pathway to a state-coordinated pathway. In the 1980s, the government especially the local agriculture and environment protection authorities

were highly involved in the CEA project and led the systemic project. In 1990, the MoA launched the Green Food Project officially which was primarily implemented in the state-owned farms system. Although the Green Food certification could be applied by private actors, the certifiers are still government bureaucracy. Meanwhile, the main players in organic agriculture sector are come from private sector.

Secondly, the stakeholder collaborating with the government is changing from farmers and village collective to private actors, especially large-scale actors like dragon-head enterprises.

Thirdly, the government is becoming more rely on market measures like certification and standardization rather than context specific projects in the CEA.

Fourthly, although the government is quite prudent to the new bottom-up initiatives, they are actually leaving some spaces to them to grow and would enter into the niche when enough experience is accumulated.

Last, the trajectory of ecological development in China is quite different with their counterparts in developed countries. the organic agriculture in developed countries may in " < " model (bifurcation), while in developing countries (at least in China) may in " > " model (convergence). Other possible reasons for this is China's unique agricultural conditions including the unique land tenure system and the large amount of small-scale farmers. In China, farmland in rural areas is collectively owned by the village as a whole which is an obstacle for large scale agribusiness. On the other hand, the land assigned to farmer families are too small scale and scattered. The ecological farmers must scale up

their farmland to an appropriate scale to main their farms economically sustainable.

## **6 Conclusion**

With the increasing reflection and rethinking on neoliberalism, the import role of government is also under reconsideration by scholars. However, the role of government in ecological agriculture development are usually portrayed as an evil to help the large-scale agribusiness seize the fruit of ecological initiatives particular in developed countries. The Chinese case has shown us that the government might have a totally different trajectory and is multifaceted in the development of ecological agriculture.

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