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Getting the data right: main trends in China's agriculture and food sector

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Getting the data right: main trends in China's agriculture and food sector[1]

Jin Zhang

Abstract

This paper has four parts. The first part discusses the multiple agricultural production modes that currently can be observed in China. By dividing the existing modes into three types – household-led, cooperative-led and corporate-led, it will be shown that Chinese agricultural production still relies strongly on peasant farming. The key to understanding the agricultural production trends in China is to examine both internal changes within peasant household farming and external relations between peasant households and the newly emerging agricultural actors (other than peasants). Equally important is that the interactions between internal changes and wider external relations are taken into account. The second part explains that China's relation with the global food market is influenced by the domestic agrarian change. This implies that China's overseas food strategy and the domestic agrarian situation should be studied together instead of being separated from each other. The third part focuses on the internal changes of the agricultural production in China. Based on the thesis of "hidden agricultural revolution" as elaborated by Philip Huang, it is argued that dietary transition indeed plays a critical role in the restructuring of the agricultural production in China. But this is only an external condition. The internal drives of structural change in agricultural production is the rapid increase of land rent and labour costs in China. The agricultural structural change is a process of mutual interaction between the external conditions and the internal forces. Finally, the paper indicates that the current discussion on capitalization in Chinese agriculture needs a developed analytical tool to distinguish the source and property of investment capital groups in Chinese agriculture and the food sector. I will propose an agricultural investment capital typology to analyse the economic forces and power relations in the agrarian transition and food system in China.

Keywords: *agriculture and food sector, China, agrarian transition, land, labour, capital*

[1] This paper is the stepping stone of the author's Phd thesis. It is also expresses of the author's theoretical reflection and attitude towards the current agrarian discussion on China.

1 Introduction: getting the data right

In current literature on China's agriculture and food sector one can distinguish three main foci The first focus highlights the impacts of external forces. Since the global food price spike in 2007/08, much literature on global land rush and agricultural investments has been published. Herein China attracted a lot of attention due to its large consumer population, evolving dietary structure and fast industrialization. This literature refers to the double role of China in the global booms. The first role includes acting as a *large buyer*. China is the largest soy import country due to the Chinese diet customs and changed diet structure. Today more than 80 percent of its soy consumption is imported, and this occupies around 60 percent of the total global soy trade volume. The increasing soy demand of China is the main driving force of the widespread planting of soy in South America, where "soy is the 'monoculture starlet of the agro-export model'" (Oliveira and Schneider 2014, 168). This is also the case with oil palm. According to the statistics, China is the single biggest buyer of palm oil. The import quantity of palm oil increased fivefold from 1996 to 2007, and this stimulated the expansion of monocrop production of palm in Indonesia and Malaysia (Borras and Franco 2011). Besides, the sugarcane boom in Thailand, Cambodia, and Myanmar in recent years has close relations with the increasing Chinese sugar demand, the tremendous sugarcane crushing capacity of sugar mills located at the southwest border of China as well as with the political economic changes of sugarcane production inside China. The same goes for the "sustainable reforestation" across Southeast Asia: "a vast 300,000 ha of land in Cambodia, which was allocated for eucalyptus plantation to produce pulp for export to China" (Borras and Franco 2011, 34). Second, China is also a *direct investor* in global land and agricultural production. It is reported that China's land investments in Africa, including the private entities, were aimed to produce jatropha, sugar, and maize, most of which can be used for food, feed as well as biofuel (Braun and Dick 2009, Hall 2011). Without having a close examination of China's domestic agricultural production, this literature assumes that China has to supply its domestic demand with global resources. As a result, investment in foreign countries comes to the core as strategic (see the 'land grab' literature, e.g. Cotula et al. 2009; Zoomers 2010).

Opposite to the first approach, the other two blocks of literature focus on the changes in China's domestic agricultural production. One block of literature is headed by Philip Huang, who argues that Chinese agrarian change in the past thirty years is a "hidden agricultural revolution"that has "capitalization without proletarianization" as special characteristic. The Chinese "hidden agricultural revolution" is different from the classical western concept of 'agricultural revolution', which is exemplified by the English agricultural revolution in the eighteenth century and the 'green revolution' in India and Latin America during the 1960's and 1970's. The Chinese agricultural revolution is, on the contrary, represented by the great increase in total agricultural output value instead of the obvious rise of land productivity or labour productivity. The reason for this phenomenon is that Chinese peasants turned to produce more high-value agricultural products, like meat, poultry, fish, milk, eggs, vegetables and fruit (Huang 2010). According to Huang, the change of the Chinese agricultural structure is due to the fundamental restructuring of Chinese food consumption habits. This revolution is led by Chinese peasant farms that invest more capital and labour into farming, rather than by large capitalist farms. Chinese agricultural production thus grows as a consequence of capital and labour intensification by small family farms. Because this process does not involve many hired agricultural workers, it is characterized as "capitalization without proletarianization" (Huang 2011, Huang et al. 2012). The second block of domestic-focused literature is more influenced by the agrarian Marxist perspective. Herein, scholars argue that the capitalization in Chinese agricultural production implies capitalist relations and class differentiation. New institutions for capital accumulation as e.g. cooperatives, family farms and dragon-head enterprises, are emerging from above and below. It leads to a de-peasantization tendency (Yan and Chen 2015). In addition, peasant farming has changed into non-peasant forms of agricultural production even if a rural household is still the production unit. Zhang and Donaldson characterize this as "from peasants to farmers". The different types of peasants include commercial farmers, entrepreneurial farmers, contract farmers, semiproletarian farm workers with Chinese characteristics, semiproletarian farm workers and proletarian farm workers (Zhang and Donaldson 2010). As a result, the new agrarian class structure includes five social classes, that is, the capitalist employer class, the petty bourgeois class of commercial farmers, the dual-employment

households, wage workers and subsistence peasants (Zhang 2015). Thus, these two blocks of literature aim to explain the domestic agrarian transition in China by examining the mode of agricultural production. One block focuses on the internal changes of peasant household farming, the other pays attention to the new actors and the emerging capitalist relations in agricultural production. However, neither of the two approaches notice or explain well the changes in agricultural production factors, namely, land, labour, and capital. Besides, responding to the external focus thesis, the latter two approaches hardly touch on the domestic agricultural production situation and its interaction with the global market, which can strongly influence the agricultural production structure and modes in China.

In this paper, I engage with the three foci on agrarian change in China and the related food security issue. Most importantly, I will try to answer several, in my view, some overarching questions. These questions are: Which agricultural production mode does China currently rely on? Is the relation between China's domestic production and its demand for food really so bad that it can explain the land and agriculture investments abrad? What is the relation between the structural change in agricultural production and the restructuring of consumption habits, or more precisely, is the former caused by the latter, as Huang argues? Finally, I will argue that an approach of analysing the agricultural investment capitals needs to be developed to understand the economic forces and power relations in Chinese agrarian transition.

2 Agricultural production modes and the agrarian transition in China

According to *Green Book of Rural Area (2014-2015)*, until 2014 food production in China realized a successive increase during the previous eleven years. In 2014, the gross output of grain was more than 600 million tonnes and the increase rate was 0.9% compared to 2013. The meat production grew by 2.0% to 87 million tonnes of total output. Cash crops had shown great fluctuation due to domestic price policy adjustment (especially for cotton) and international trade (especially for sugar). In terms of employment, 2014 is the first year in which rural employment was below 50% of the total working population, but still as large as 49.1%. The proportion of agricultural gross output value in the national economy kept shrinking in relative terms, but just as the *Green Book* clearly states, the new dynamics e.g. the national demand for agricultural products, the presence of new actors in agricultural production and the emergence of new forms of rural employment, confirm the pivotal position of agriculture for national development (Rural Development Institute Chinese Academic of Social Sciences 2014).

In the *Green Book* it is pointed out that new actors in agricultural production have been emerging in recent years. Land transfer is not limited to small peasant households, but also open to specialized big households[2], family farms, rural cooperatives, urban industrial and commercial capital. In some typical land transfer regions, land tends to be concentrated by those new actors of agriculture. According to the *Green Book*, these new actors in agriculture contribute to agricultural modernization. They fill the vacancies of farming caused by massive rural labour migration, and thus solve the problem of "who will farm in China" to some extent. At the same time, it is mentioned that land enclosure by an alliance of local governments and industrial and commercial capital poses threats to stable food production and food security in the future (Rural Development Institute Chinese Academic of Social Sciences 2014).

In the *Green Book* three points are emphasized: First, food production keeps rising in China but the proportion of agricultural added value in Gross Domestic Product is small and keeps shrinking. Second, the rural population is still large and agriculture plays an important role in the employment of

[2] The Chinese term of "specialized big households" is zhuanye dahu. It is an old term referring the local big producers since 1980s.

the national population. Third, new actors in agriculture emerged and gradually form a new structure of agricultural production.

The rising food production, a large rural population and new actors of agriculture raise the following questions: what are the agricultural production modes in current China; what are the relations between them and which production mode does Chinese agricultural production rely on?

A report published by Chongqing Survey Team of National Bureau of Statistics (National Bureau of Statistics 2014) categorizes the current agricultural production modes in China three types: "household-led", "cooperative-led" and "corporate-led". This classification of agricultural actors is based on the labour costs, fertilizer and machinery costs, energy and fuel costs, land costs and the supply-demand condition, all of which can influence the production costs of agricultural products . However, in the report an analytical explanation of the three types of production modes is lacking. In this paper, I adopt the three terms and make them into theoretical concepts to analyse the complexity of current agricultural production modes in China. "Household-led" refers to the agricultural production type that is organized by individual households. Here the family is the unit of agricultural production and economic calculation. In most cases, the production relies on family labour, but the family can also hire some seasonal or permanent labour. Thus, the 'household-led' type includes small peasant farms and scaled-up family farms (includes specialized big households).

Conceptually, the 'cooperative-led' type still refers to rural cooperatives. However, this type is essentially different from the cooperatives in the 1950's or the People's Commune during 1960's and 1970's in China. The new rural cooperatives emerged especially after the passing of "*Law of the People's Republic of China on Specialized Farmers Cooperatives*" in 2006, although a certain number already existed before. According to the official document, Specialized farmer cooperatives are economic mutual-help organizations that peasants join voluntarily and are managed in a democratic manner by the producers/operators, or by the providers/users of agriculture-related services on production and operation (Xinhuanet 2006)

The 'corporate-led' type can be divided into two sub-categories. The first one is the 'agriculture industrialized dragon-head enterprises' [*nongye chanyehua longtou qiye*]. Dragon-head enterprises have different linking forms with agricultural activities. The three most popular forms are company + households' , 'company + production base + households' and 'company + cooperative + households'. In the 'company + households' form, the company has the direct contract with scattered peasant households. With regard to the second and third forms, an intermediary agent exists between the company and peasant households. The difference between the two kinds of intermediary agents is that the production base is mostly a block of land that the company leases in to produce the needed products, while the cooperative is usually an independent agent owned by the village committee (Huanqiunet 2012). The second sub-category is the specialized farming/breeding companies and emerged with the support from the state policy of "industrial and commercial capital going into countryside", which was approved by the central government in 2013 in the 'No.1 Document' . Among these specialized farming/breeding companies, small or middle ones usually belong to private entrepreneurs while large farming companies are usually financed by large capital groups. But all of them are directly engaged in agricultural production. The proponents of these agricultural enterprises argue that they bring high-technology and a substantial amount of capital into the countryside and they therefore can raise the productivity and contribute to agricultural modernization (Li 2012). The opponents argue that industrial and commercial capital targets at land investment rather than agricultural production, which actually is the Chinese form of "enclosure". It not only makes peasants losing land but also results in the "non-food" phenomenon of rural land (He 2015)

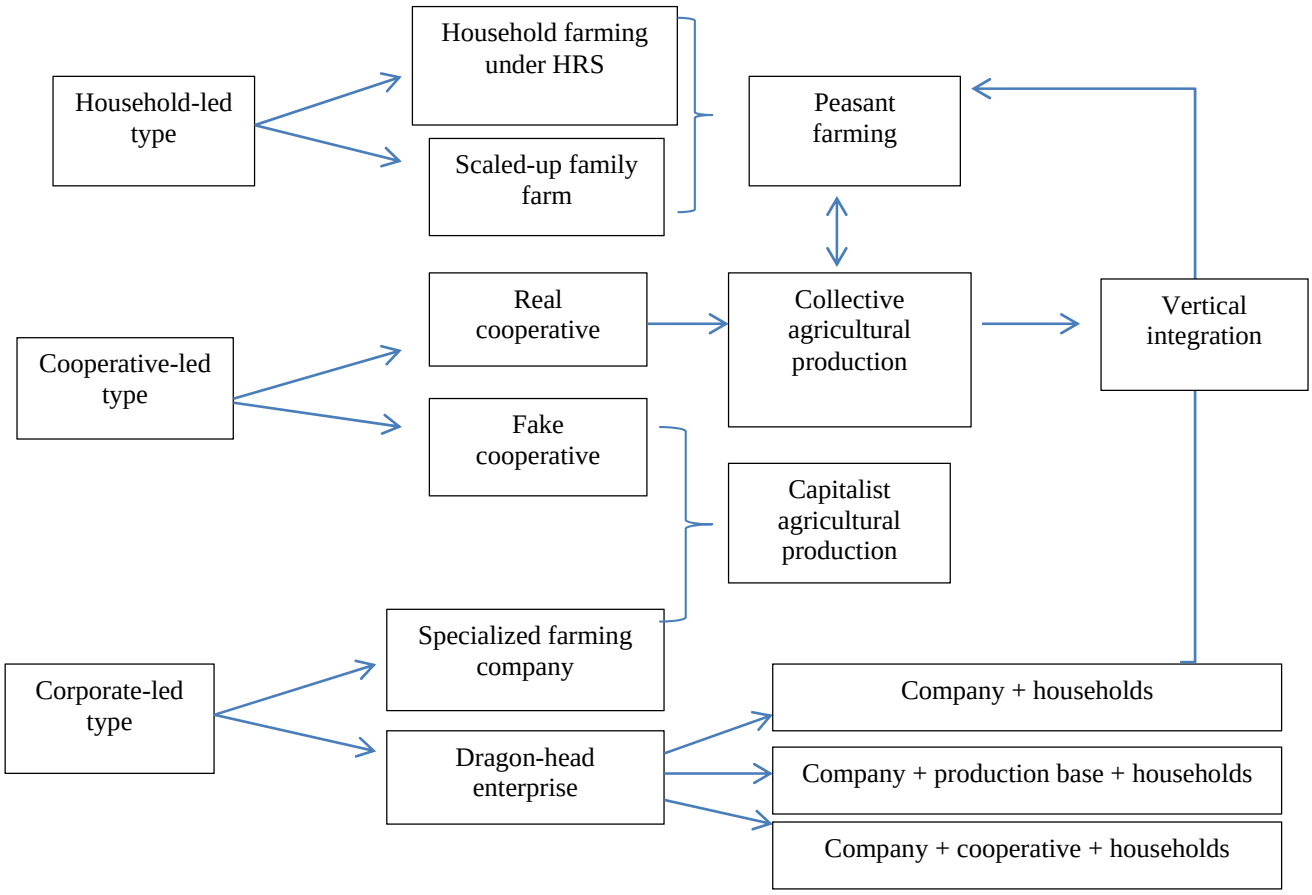

Figure1 Scheme of current agricultural production modes and their interrelationships in China

Note: Fake cooperatives refer to the situations that some of the cooperatives are controlled by several rich households or external investors, whereas others are registered for government subsidies (Zhang 2014).

The scheme above shows two trends. One trend is the change within rural household farming, which I refer to as internal change. It concerns a scaled-up family farm which has different characteristics from the conventional household farm under the Household Responsibility System (HRS). According to the Ministry of Agriculture, up to 2013 China had 268 million rural resident households (including 48 million in Tibet Province) while the number of family farms was 877 000 (excluding Tibet Province) . This means that out of every 1000 rural households there were 4.5 scaled-up family farms[3]. Their average scale is about 200.2 mu, nearly 27 times of the average scale of the rural household in China (NBS 2012; Xinhuanet 2013). Some scholars interpret the scaled-up family farm as entrepreneurial farming because they rent land, hire labour and produce for nonlocal markets (Zhang and Donaldson 2010). However, the scaled-up family farms are "simply large peasant farms" according to Van der Ploeg who recognized them as peasant farming because of the following facts: first, most of these family farms are not built on financial capital (i.e. loans from banks) but on the households' own savings. Second, their land is not originating from the free land market where land can be sold out and bought in with a market price. Instead, the land (use-right) owner can take it back. In fact, most family farms gain land through social networks inside their own communities and at a lower price compared to the price in the land transfer market. Third, even if they hire seasonal or permanent labour, the operation of family farms primarily relies on their own labour and techniques. Hired labour is to supplement a shortage of family labour rather than for creating surplus value. Fourth, the mechanism of farming is more based on peasant logic, meaning that they try to control the

[3] Since the statistical data of family farms does not cover Tibet province, for the percentage calculation the total rural households number should also exclude Tibet province as the corresponding denominator.

resource flow and avoid complete commodification in order to reducing the monetary cost. Their income mainly relies on their own effort, including the work in the fields, techniques, and management. Fifth, market is the outlet for their products, which however also applies for small peasant farming. Producing for the market doesn't change their way of farming and the market is not 'the ordering principle' for them. Finally, most family farms maintain a scale tailored to what the family can manage- instead of taking expansion as the final goal. In fact, once they expand beyond the scale they can manage, the family farm cannot function well (for many of the arguments above see Van der Ploeg and Ye, 2016). The covert change within peasant farming is related to their agricultural activities. Van der Ploeg and Ye point out the new strategies of intensification in small household farming, including labour investment in resource base, intensifying cropping schemes, embedded specialization, space reorganization and on-farm processing (Van der Ploeg and Ye 2016, 66-79). According to Philip Huang, as Chinese peasants turned to produce high-value products under the 'hidden agricultural revolution', small family farms have become more capital-labour intensive.

The other trend is about the new actors and relations that are external to the unit of peasant household and which I refer to as external relations. These agricultural actors are cooperatives, specialized farming companies and dragon-head enterprises. Each of them has a different relation with peasant households. While peasant households become members in real cooperatives and organize their production and marketing together, the fake cooperatives and specialized farming companies mainly need the land from peasant households. In a different way, dragon-head enterprises integrate peasant households into the food industry chain but let them remain producers. Clearly, these production modes are not similar to peasant farming, but they differ from each other with regard to the way of agricultural production. Specialized farming companies and some fake cooperative (in the sense that some capital owners concentrate land from villages) organize agricultural production in a capitalist way, which means large scale, use of financial capital, high investments and new technologies (Van der Ploeg 2013; Van der Ploeg and Ye 2016). The real cooperatives are collective-oriented, which is the model of peasant economic organization and opposite to the capitalist organization of agricultural production, as argued by Chayanov (Chayanov 1987). The most misinterpreted production mode is the one with collaboration between dragon-head enterprises and peasant households. Most scholars refer to this as capitalization. But here we should distinguish between capitalist production and capitalist penetration into agricultural production. There is a clear tendency of capitalist penetration into agricultural production through the commodification of seeds, fertilizer, pesticides, and standardization of farm products (Goodman and Sorj 1987; Sanderson 1986). This capitalist penetration into agricultural production can threaten the autonomy and sustainability of peasant household farming (Van der Ploeg 2009). However, the dragon-head enterprise mode is definitely not a capitalist agricultural production mode since the basic production unit is the family household which is engaged in a peasant way of farming (see figure 1).

Although we don't know how much the capitalist modes of agricultural production (specialized farming companies and fake cooperatives controlled by capital investors) contribute to the national agricultural gross output, there is information on the underperformance of these large-scale farms. A large number of them are reported to go bankrupt despite substantial government subsidies. Meanwhile, it is reported that until 2014, more than 1.4 million rural cooperatives have been built and that the involved rural households are amounting to 100 million[4] (Nongjingnet 2015). However, 80-95 percent of them are considered to be 'fake cooperatives' (see Yan and Chen 2015; Liu 2010). The number of real cooperatives is thus very limited. Therefore, even if the agricultural production mode and the way of agricultural production in China are diversified , its agricultural production still relies on household-led modes whereas the dominant way of agricultural production is peasant farming. Nevertheless, Chinese agriculture production is very dynamic with regard to internal changes as well as external relations. While Philip Huang focuses on the internal changes of peasant farms and interprets it as "capitalization without proletarianization" (Huang et al. 2012), Yan and others try to

[4] According to the report, the number of rural cooperatives was 1.479 million and the involved rural households were 99.97 million until October, 2015.

understand the 'capitalist new actors with de-peasantization tendency' by examining the external relations (Yan and Chen 2015). I argue in this paper that there are two concurrent trajectories of agrarian change in China. Firstly, Chinese peasant households are adjusting their farming strategies or changing the production mode (scaled-up and specialized) to accommodate to the new markets and other socio-economic conditions. Secondly,, whilst new production modes and new ways of agricultural production are emerging, peasant households build new relations with external economic organizations. However, to fully understand agrarian transition in China we should not only look into both internal changes and external relations, but also pay attention to the interaction between the two trajectories. The latter is more complicated and important to study. For instance, will peasant farms be able to coexist with capitalist farms in the long run i.e. by taking use of their respective advantages, or will they compete with each other in the market until one way of farming will be doomed? How do peasant farms improve themselves or, in what way are they challenged by cooperatives or Dragon-head enterprises? What will be the new relation dynamics between capitalist farms, cooperatives, and dragon-head enterprises? All these questions are essential to understand the Chinese agrarian transition and the future of its agriculture and rural society.

3 Agricultural production inside China and China's overseas food strategy

As mentioned in the introduction, research carried out by scholars abroad assumes that China's increasing demand for food, feed, and energy is leading to its direct investment in land and agriculture abrod. The agrarian discussions hold outside China have a focus on China's impacts on resource acquirement, local agricultural production, and indigenous livelihoods abroad. But this research on China's overseas food strategy completely avoids looking into China's domestic agrarian transition. Yet, the domestic agrarian change is tightly related to China's relation with the global food market. So how to understand the agrarian transition inside China as well as its food strategy abroad ? Relating to this question, it is also important to figure out whether food insecurity is the reason for China's agro-food investment abroad and whether these investments are directly on land and agricultural production, as both of these assumptions have been confirmed in the land grabbing literature.

According to the official statistical categories, the main agricultural products in China are grain, cotton, oil crops, sugar crops, wood, fruit, and vegetables. This paper focuses on the farm products for food and feed, so cotton and wood are not included. The selected agricultural products can be divided into two groups: one group contains low-value agricultural products, including wheat, rice, corn, and soybean; the other contains high-value products, like oil crops, pork, sugar crops, fruit, and vegetables. The line charts below show the trends of the annual outputs of these agricultural products since 1990.

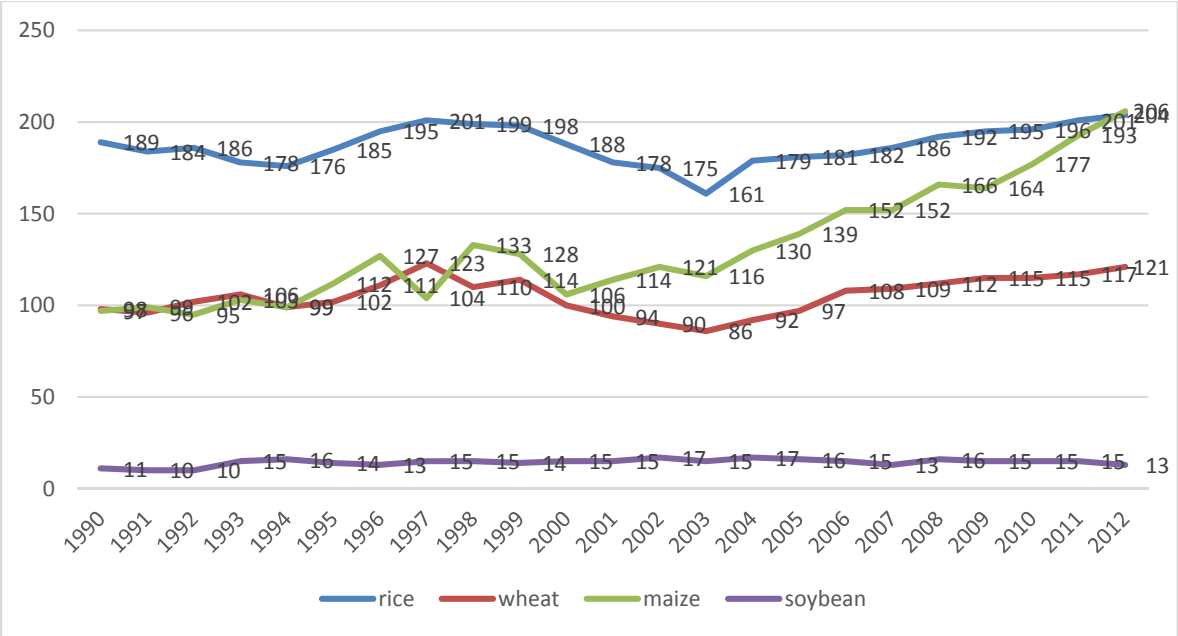

Figure 2 The annual outputs of low-value agricultural products since 1990 (unit: million tonne)

Data source: National Bureau of Statistics of People's Republic of China

Table 1 The annual import-export volumes of low-value agricultural products since 1990

(unit: 10,000 tonne; Data source: FAOSTAT)

	Rice (milled equiv.)		Wheat		Maize		Soybean	
	Import	Export	Import	Export	Import	Export	Import	Export
1990	5.89	32.60	1252.73	0.32	36.88	340.43	0.09	94.03
1991	14.27	68.88	1236.77	0.17	0.05	778.19	0.08	110.90
1992	10.36	95.28	1058.13	0.27	0.01	1034.02	12.07	65.82
1993	9.62	142.04	642.39	8.69	0.03	1109.73	9.86	37.32
1994	5.12	144.84	729.93	10.71	0.06	874.00	5.16	83.18
1995	164.03	4.63	1159.00	1.62	518.10	11.25	29.39	37.51
1996	76.04	25.44	824.60	--	44.11	15.87	110.75	19.17
1997	32.62	93.33	186.06	0.07	0.04	661.73	287.59	18.57
1998	24.38	372.57	148.94	0.60	25.06	468.63	319.25	16.99
1999	16.81	269.06	44.81	0.09	7.02	430.50	431.86	20.44
2000	23.86	293.38	87.60	0.25	0.31	1046.56	1041.91	21.08
2001	26.91	184.76	69.01	45.48	3.61	599.80	1392.95	24.84

2002	23.56	196.39	60.46	68.76	0.63	1167.35	1131.44	27.59
2003	25.69	258.50	42.42	223.75	0.12	1639.95	2074.10	26.75
2004	75.64	88.10	723.29	78.39	0.24	231.82	2023.00	33.46
2005	51.40	65.74	351.01	26.03	0.40	861.10	2659.00	39.65
2006	71.82	121.84	58.41	111.41	6.52	307.05	2827.00	37.90
2007	47.06	130.35	8.34	233.66	3.52	491.66	3081.72	45.65
2008	29.33	94.68	3.19	12.59	4.91	25.25	3743.63	46.51
2009	33.27	76.21	89.37	0.84	8.36	12.95	4255.17	34.66
2010	36.32	59.89	121.87	<0.01	157.24	12.76	5479.78	16.36
2011	57.50	48.91	124.88	3.98	175.28	13.60	5245.29	20.83
2012	233.44	26.66	368.86	0	520.71	25.73	5838.26	32.01

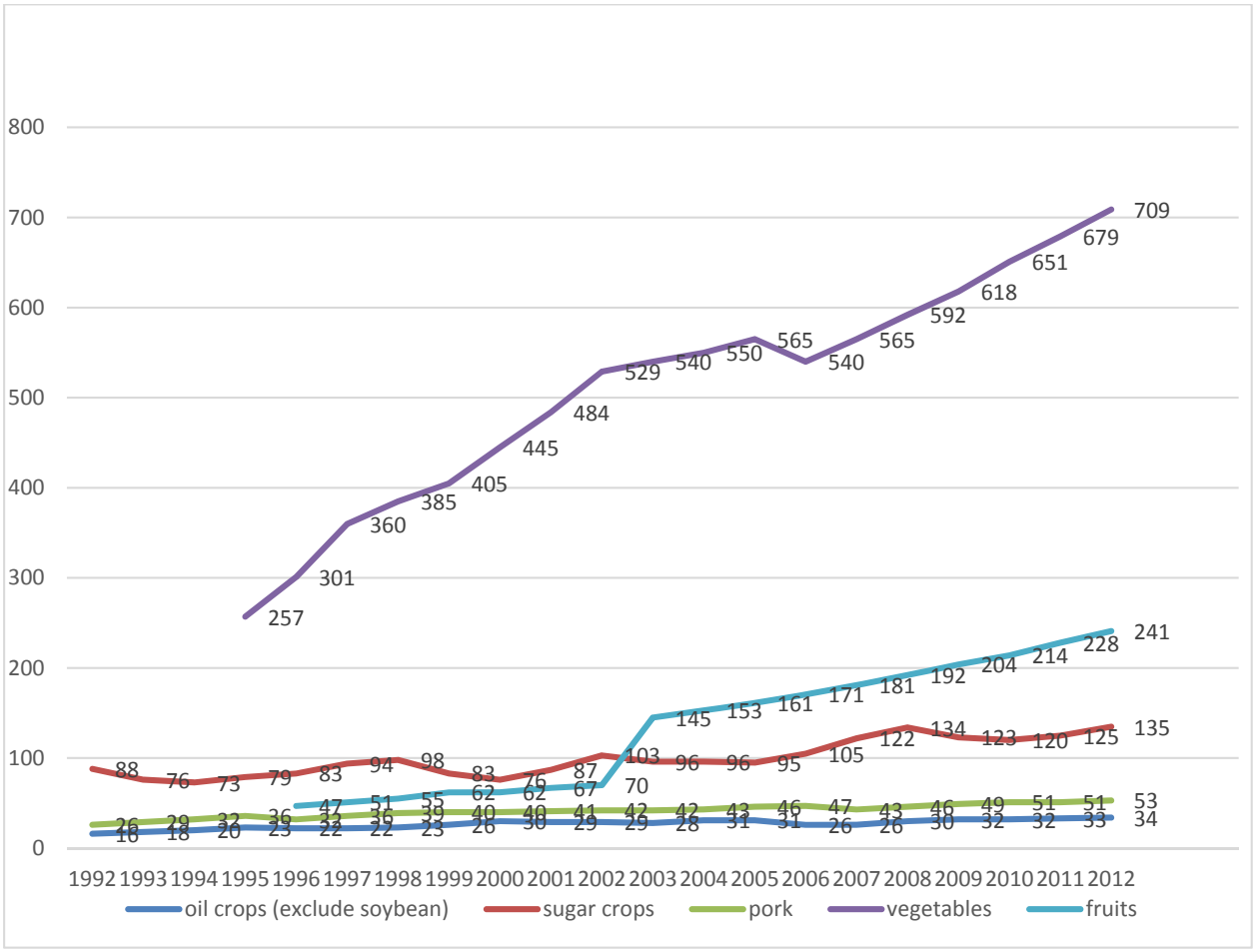

Figure 3 The annual outputs of high-value agricultural products since 1990 (unit: million tonne)

Data source: National Bureau of Statistics of People's Republic of China.

Table 2 The annual export-import volumes of high-value agricultural products since 1990
(unit: 10,000 tonne; Data source: National Bureau of Statistics of PRC and FAOSTAT)

	Edible oil		Sugar, Total (Raw Equiv.)		Pork		Vegetables (fresh, nes)		Fruits (fresh, nes)	
	Import	Export	Import	Export	Import	Export	Import	Export	Import	Export
1990	--	--	114.72	61.97	<0.01	24.11	0.02	27.45	0.06	0.32
1991	--	--	101.77	37.27	<0.01	28.09	0.02	30.53	0.02	0.18
1992	--	--	110.34	180.84	0.03	12.84	0.09	18.35	0.04	0.49
1993	--	--	45.38	200.93	0.03	16.99	0.21	21.46	0.21	0.27
1994	163.00	27.03	155.79	102.65	0.06	22.57	0.32	28.99	0.70	0.64
1995	213.00	49.60	298.75	52.01	0.15	28.01	0.49	28.41	0.98	0.82
1996	264.00	47.35	125.91	72.06	0.22	21.70	0.63	37.05	2.33	0.88
1997	275.00	82.29	79.02	41.05	0.30	18.88	1.29	44.71	1.09	1.23
1998	206.00	30.92	48.70	47.26	1.63	19.17	2.17	52.44	2.03	2.31
1999	208.00	9.66	42.16	39.85	7.10	13.84	1.44	39.12	5.21	5.67
2000	179.00	11.15	64.76	45.04	16.60	13.98	0.81	35.87	8.96	5.40
2001	165.00	13.40	121.44	21.21	11.51	21.37	0.26	34.39	15.49	3.22
2002	319.00	9.74	119.36	35.34	17.51	29.04	0.13	42.62	12.90	6.53
2003	541.00	5.97	78.74	11.12	17.98	37.61	0.04	39.52	10.97	3.22
2004	676.00	6.52	123.08	9.19	8.49	51.26	0.08	35.06	12.90	3.69
2005	621.00	22.52	140.60	38.86	3.77	48.23	0.42	36.27	18.33	4.99
2006	669.00	39.92	136.99	16.69	2.88	52.74	2.12	39.12	21.81	4.56
2007	838.00	16.63	122.57	11.93	10.31	35.27	0.07	40.59	23.10	7.24
2008	816.00	24.76	80.15	6.29	44.83	22.62	0.05	41.88	34.81	7.17
2009	816.00	11.40	107.73	6.91	16.26	23.58	0.14	42.68	51.59	12.83
2010	687.00	9.25	178.36	10.22	23.83	28.24	0.06	45.26	57.57	12.12
2011	657.00	12.16	295.03	6.41	53.27	25.05	0.10	49.18	73.82	11.90
2012	845.00	9.95	377.51	5.08	55.52	23.65	0.03	51.52	87.74	9.76

Note: only the figures of edible oil are drawn from National Bureau of Statistics of PRC.

From figure 2 and table 1, it can be derived that in the past twenty-two years the rice and wheat annual outputs show a similar trend . The domestic rice and wheat production had great achievements in the 1990's and kept rising after a slight decline at the beginning of the 2000's. The trade data show that China has changed its role of rice exporter and wheat importer, and that both the rice export volume and the wheat import volume declined. This reflects the results of long-term government intervention policy that aims to equilibrate the balance of supply and demand of rice and wheat in the domestic market. Maize is probably the fastest growing low-value crop in China as its output has more than doubled during a short period. The trade data also reveal large maize exports in the past, but the export volume kept decreasing. One reason is the domestic maize price which is protected by the Chinese government and which is higher than the global market price. As a result, Chinese maize lost competitiveness in the global market[5]. Another reason is that the increased maize output can be largely consumed by the domestic large demand for feed in livestock breeding and raw material in energy, medicine, chemistry and bio industry i.e. intensive husbandry (National Bureau of Statistics 2015). Although there is a rising demand for soy as feed and raw material for industry, the soy production inside China witnesses a continuous decline whilst the soy import volume rose rapidly since 2000. It implies that low-value crops that lack government-set prices are not the crop choices of Chinese peasants anymore. This situation also applies to oil crops and sugar crops, that turned from relatively high-value crops into low-value crops due to the shrinking profit margin between the medium price in the market and the rising labour costs during production. Therefore, we can see in table 2 that the import volume of oil and sugar kept growing year by year. Just as Huang argued, Chinese peasants turned to high-value agricultural products like meat, vegetables, fruits, etc. Figure 3 shows the dramatic boom of vegetables and fruits production in China, which results in the noticeable export increase of vegetables and fruits. Pork, the most consumed meat in China, also doubled in output in the past two decades, but the import volume still went up considering the fast enlarged demand.

Looking at the domestic output, import and export data of the main agricultural products it becomes clear that China's agro-investments abroad are related to the structural change in domestic production, and not to food insecurity. The grain self-sufficiency rate is sufficiently high in China. The contradiction is between non-grain low-value crops (soy, oil crops, and sugar crops) and high-value products (meat, vegetables, and fruits). Chinese peasants increased the production of food for both the domestic market and the global market. For the supply of soy, oil and sugar China increasingly turned to the global market (see figure 4). Therefore, the argument that food insecurity is forcing China to invest in land and agricultural production abroad is doubtful. Structural change in domestic agricultural production is the reason why China turned to an oversea food strategy. The structural imbalance of Chinese agricultural production cannot be simply equated with food insecurity. Although China's import volume of soy, oil, sugar and other low-value crops is very large, its deficit on the balance of agricultural trade is not impressive . This is mainly because China exports high-value agricultural products to the global market.[6]

[5] Sina news. 2016. Chen Xiwen, return maize price to market. Available from: http://news.sina.com.cn/c/2016-01-28/doc-ifxnzanm3750780.shtml [in Chinese][accessed on 26th August, 2016]

[6] For instance, in 2014 China imported about 100 million tonnes of low-value crops and products (include grains, soy, vege-oil and sugar), with a total value of 59 billion USD. The export value of vegetables, fruits, aquaculture, herbs, tea and tobacco is 44 billion USD. Data source: National Bureau of Statistics of China. Available from: http://data.stats.gov.cn/index.htm

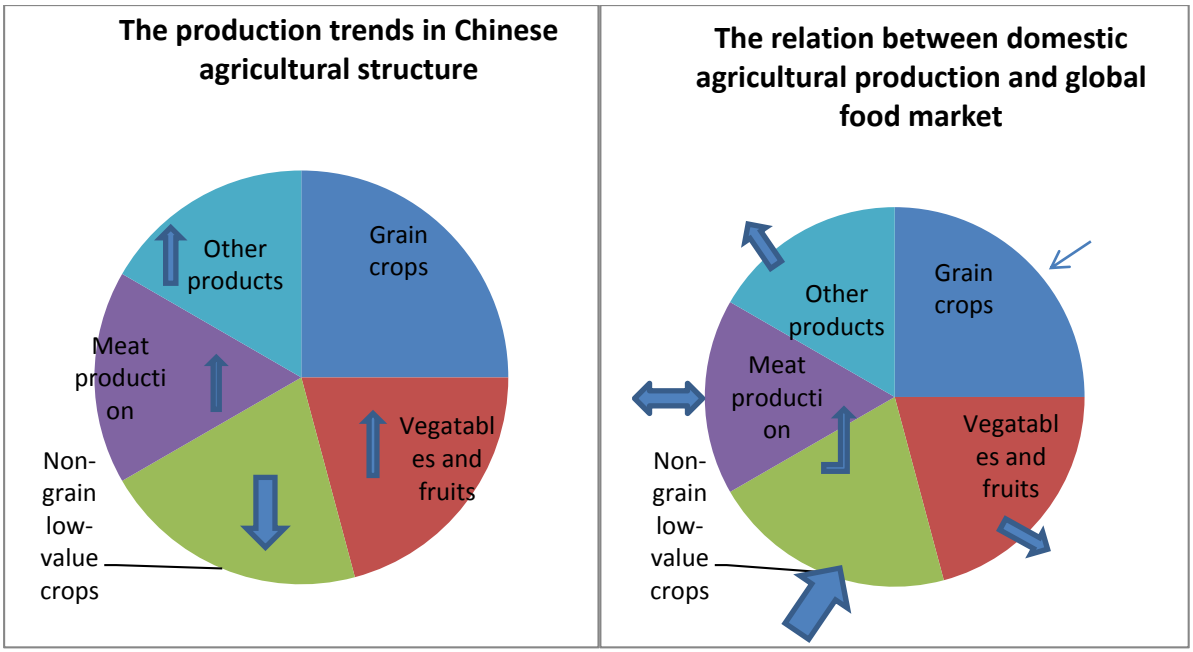

Figure 4 Diagrams on domestic agricultural production trends and the relations of domestic agricultural production and global food market.

Note: "meat production" includes intensive husbandry and aquaculture; the double-direction arrow in the right pie chart reflects that China imports pork, beef, mutton, and poultry while almost equivalently export aquaculture products . "Other products" mainly refers to other high-value farm products that Chinese farmers produce, including herbs, tea, tobacco, nuts, silk, and etc.

The domestic agricultural structural change pushed China to seek for large amounts of low-value crops from abroad, which is the core of the 'Agricultural Go Out' strategy. But the question is whether China's overseas food strategy critically depends on direct investment on land and agricultural production as the land grabbing literature argued (Braun and Dick 2009, Hall 2011). Cotula and Vermeulen explained, "Acquisition of foreign land for domestic food security is not part of China's mix of policies for national food security. In 2008 a draft policy document drawn up by China's Ministry of Agriculture did advocate the acquisition of foreign land for food security purposes, and the proposal was intensely debated; but finally it was not adopted because of the perceived high political risks related to dependency on outsourced agricultural production for domestic food security" (Cotula and Vermeulen 2009). In fact, the goal of China's overseas food strategy is not direct land investment and agricultural production, but to get autonomy in the global agricultural commodity trade. The ABCD food companies control about 90 percent grain trade in the world, and also have great power in global sugar and oil market (Murphy et al. 2012). As the largest buyer, China is at the disadvantage in the global commodity value chain. Therefore, China's overseas food strategy is to compete with the global agribusinesses on purchase, processing, trade and transportation. For instance, to expand overseas China's sugar business 'COFCO' took over 'Australian Tully Sugar' and the 'Noble Agri Group' in 2011 and 20147. The sugar business covers a broad range of activities from sugarcane processing to transportation and not land investment and sugarcane production.

[7] China Daily: COFCO owns 99% of Tully Sugar. Available from: http://www.chinadaily.com.cn/bizchina/2011-07/20/content_12943795.htm ; Caijing website: COFCO took over Tully Sugar, bet on??? its "sugar industry dre am". Available from: http://stock.caijing.com.cn/2013-04-15/112674840.html[In Chinese]

Food 1 news: COFCO and Noble discuss on a joint venture. Available from: http://www.foods1.com/content/2496174/[In Chinese] [accessed on 29th August, 2016]

To summarize, the agrarian discussion hold abroad on China's overseas food strategy and its domestic agrarian change should be understood together. China is not a food insecure country. Its increasing import of agricultural products (mainly low-value products) is caused by the domestic agricultural structural change. In addition, it exports high-value agricultural products, like vegetables, fruits, aquaculture products, herbs, tea, tobacco, nuts, and etc. China is not a threatening land grabber either. The Chinese agribusiness focuses more on food processing and trade rather than on direct land investment and agricultural production. The controlling of the agricultural commodity chain and the value appropriation by giant global agribusiness should be understood using the "food empire" framework (Van der Ploeg 2009), Chinese food companies are just the same as other global agribusinesses .

4 The truth of agricultural structural change in China

The 'hidden agricultural revolution' (Huang 2010) mainly refers to the agricultural structural change. Its driving force is the transformation of the food demand rather than the factors internal to agriculture (such as seeds, fertilizer, new machiney, etc.). The diet structure of grains, meat-fish, and vegetables-fruits changed from the traditional 8:1:1 to 5:2:3 in the past thirty years (Huang 2010). The rising demand for meat-fish, vegetables-fruits and their higher added value property attracted peasants to produce these products. Huang argues that the change in agricultural production resides in the output value instead of productivity. The output value of meat-fish and vegetables-fruits was about two thirds of the total agricultural output value in 2007 compared with only one sixth in 1978. Besides, these agricultural products boosted the whole output value of agriculture. In 2007 the total output value of agriculture was 5.1 times of that in 1980 (Huang 2010). Many scholars reach the same conclusion, i.e. that Chinese food demand has turned to less grain and more meat-fish-milk-vegetables-fruits, through different studies, e.g. the rising consumption of meat and milk, nutrition transition, the impact of income on food demand and the tendency of eating outside etc. (see Delgado 2003, Du et al. 2002, Guo et al.. 2000, Ma et al.. 2006). However, the question arises to what extent the product structural change in agricultural production is caused by the external force of the diet structure transition?

Table 3 The main food products consumed per capita in the diet structure of urban and rural residents in China since 1990 (unit: kg, data source: National Bureau of Statistics of PRC)

		Grains	Vegetables	Veg oil	Pork	Eggs	Milk	Aquatic products	Fruits
1990	Urban	130.72	138.70	6.40	18.46	7.25	4.63	7.69	41.11
1995	Urban	97.00	116.47	7.11	17.24	9.74	4.62	9.20	44.96
2000	Urban	82.31	114.74	8.16	16.73	11.21	9.94	11.74	57.48
2005	Urban	76.98	118.58	9.25	20.15	10.40	17.92	12.55	56.69
2010	Urban	81.53	116.11	8.84	20.73	10.00	13.98	15.21	54.23
2012	Urban	78.76	112.33	9.14	21.23	10.52	13.95	15.19	56.05

1990	Rural	262.08	134.00	3.54	10.54	2.42	1.10	2.13	5.89
1995	Rural	256.07	104.62	4.25	10.58	3.22	0.60	3.36	13.01
2000	Rural	250.23	106.74	5.45	13.28	4.77	1.06	3.92	18.31
2005	Rural	208.85	102.28	4.90	15.62	4.71	2.86	4.94	17.18
2010	Rural	181.44	93.28	5.52	14.40	5.12	3.55	5.15	19.64
2012	Rural	164.27	84.72	6.93	14.40	5.87	5.29	5.36	22.81

Table 3 verifies that Chinese food demand has turned to less grain and more high-value added products, like meat, dairy products and fruits, but the vegetable data seem not to match with Huang's argument. The facts about vegetables are that although the per capita consumption by both urban and rural residents declined, the fast urbanization and the increased population in China[8] imply that total demand increased. Thus, the diet structure transition is one reason that drives Chinese peasants to produce more high-value products. However, from the trade data in the third section we have seen that China also exports large amounts of vegetables, fruits and aquaculture products. Besides, Chinese peasants also turned to produce more herbs, tea, tobacco, nuts, silk, and etc., which are high-value crops but have little relation to the dietary structural change in China. Therefore, it is necessary to look also into the changes inside agricultural production to figure out the internal drivers of agricultural structural change. Figure 5 shows the average monthly wages of peasant workers between 1993 and 2014[9], with the wage of peasant representing workers the rural labour price. The annual data of the average monthly wage of peasant workers indicates that the labour price in rural China is nearly eight-fold of the labour price two decades ago.

Figure 5 Average monthly wages of peasant workers annually since 1990s

[8] The urban population rate went up from 26.41% in 1990 to 52.57% in 2012. In 1990, the urban population counted 301.95 million people and the rural population 841.38 million. In 2012, the urban and rural population counted respectively 711.82 million and 642.22 million people.

[9] Data before 1993 are not based on a survey, but can be found in Lu's paper "Wage trends among Chinese migrant workers: 1979-2010", 2012.

There are no nationwide statistics on land price due to wide divergences in geographical location, land quality, economic influences and local government intervention. However, official reports and some regional studies have noticed the rapid rise of rental price in the farmland transfer market. As early as 2008, a report by the Investigation Team of National Bureau of Statistics in Jilin province, already pointed out that the increasing land transfer price started to influence the production costs of crop planting, which became a restrictive condition to the production of low-value crops, like maize (NBSC 2008). In the following year, the Investigation Team of National Bureau of Statistics in Fujian province published a report on the situation of rural land transfer in Fujian. It proved that the land transfer price had doubled within a few years (NBSC 2009). One media reports that the survey on the land transfer price in Anhui province shows that the land transfer price increased five times between 2003 to 2013 (China Economic Herald 2013). Meanwhile, more discussions about increasing land prices on agricultural production can be found in the media. Since growing grain crops has been non-profitable due to the high land costs[10], turning to high-value products planting and rural tourism became popular[11]. The increased (shadow-) prices of rural labour and agricultural land have driven the peasant households towards an ongoing intensification. They opted to plant the high-value crops, invested in new technologies, buildings and machinery. By doing so they responded on the one hand to the increased prices of land and labour and, on the other, provided the cities with their need for high-value food.

Huang neglected the change of the most important factors inside agriculture production – the rising market prices of land and labour. It is not logical that cropping structural change leads to a change of land and labour prices , it is rather the opposite . Furthermore, Huang's analysis is limited to the production activities within rural households, which means that he left out the external relations of peasant farms i.e. with new agricultural production actors. Wth regard to the argument of 'emerging capitalist actors with de-peasantization tendency', Yan and Chen neither pay much attention to the changes of land and labour costs. It is critical to figure out how these new actors of agricultural production could develop themselves with the increasing land rent and labour costs, and which production mode is able to succeed and to last in the long run. As mentioned in the second section, although peasant household farming is still dominant in Chinese agricultural production, this mode is experiencing fundamental change inside and outside its production unit. The key to understanding current agrarian change in China is to examine the internal change of household farming, its external relations with new agricultural production actors and the interaction between the two trajectories.

5 A typology analysis on investment capital in the agriculture and food sector

Although many scholars have noticed the flow of capital rushing into agricultural production in China, there is no systematic analysis of agricultural investment capital groups. The investment capital groups in the agriculture sector originate from different sources and properties, and the relations among the different capital groups are complex. As Zhang et al. mentioned in their article, "Legend Holdings, the corporate group that owns the world's largest PC maker, Lenovo, for example, has established a new agribusiness, Joyvio, which has quickly become the country's biggest grower-processor of blueberries and kiwi fruits." (Zhang et al.2015, 303). Therefore, investigation of the investment capitals in agriculture and the food sector is critical to understand the economic forces and power relations in the agrarian change in China and its food system. In other words, capital property determines the characters of agrarian transition – exogenous or endogenous, top-down or bottom-up,

[10]SJZdaily. High land transfer cost challenges the grain farmers. Available from: http://www.sjzdaily.com.cn/finance/2015-04/09/content_2398451.htm [in Chinese] [accessed on 23rd Dec. 2015]

[11]Sdnews. Scaled-up land turns to growing economic crops or tourism, the "non-grain oriented risk" of land transfer. Available from: http://f.sdnews.com.cn/sdcj/201404/t20140423_1589738.htm[in Chinese] [accessed on 23rd Dec. 2015]

gradual or abrupt, class consolidation or class degradation, and etc. Similarly, the (trans-) national food system is rooted in a capital power structure that is determined by the source, property and influence of the investment capitals in agriculture and food sector.

There are several terms used for referring to different types of capital investment in the current literature, such as urban industrial and commercial capital, dragon-head enterprise/capital accumulation from above, family farm/specialized big household/capital accumulation from below (Yan and Chen 2015) . However, these terms cannot capture the diversity and complexity of investment capitals in the agriculture sector. For instance, in the discussion about accumulation dynamics by Yan and Chen, 'industrial and commercial capital going to countryside' and ''dragon-head' enterprises are recognized as capital 'from above'. But the capital groups 'from above' are different in terms of sources and properties, ranging from individual-private capital, state-owned capital to foreign capital. Therefore, in this paper I mention four standards of categorizing investment capitals: external or internal as concerns the agriculture-industry relations;, 'from above' or 'from below' in regard to social structure; state-owned or individual-private in regard to the economic structure; and, foreign or domestic capital with reference to international relations. The four standards and analytical angles are synthesized into the typology figure below.

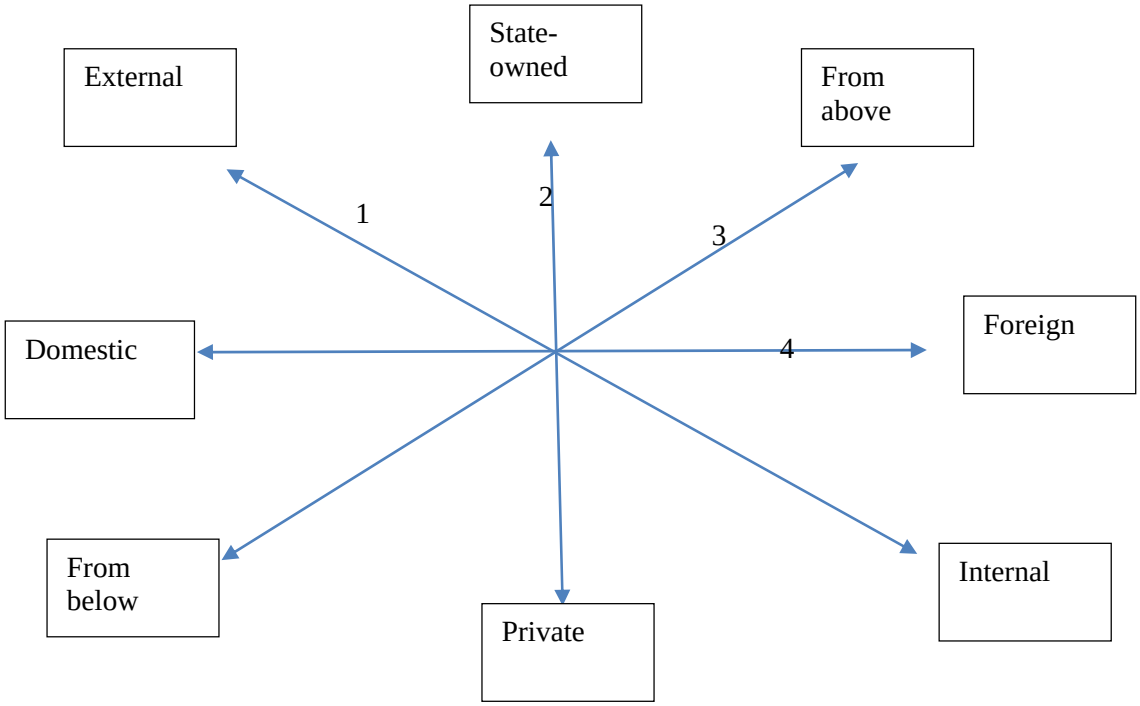

Figure 6 The typology of investment capitals in agriculture sector

Note: The four standards stand for four angles of agricultural investment capital analysis. They are: 1. Agriculture-industry relation 2. Economic structure 3. Social structure 4. International relation.

The aim of this typology is to explore the power relations in agricultural activities. In the domain of production , the capital groups engaged in Chinese agricultural production are becoming fragmented and diversified. As explained in the first section, alongside the traditional peasant households, Agricultural Industrialized Organizations (AIO), cooperatives, and scaled-up family farms are the newly emerging actors in agricultural production. AIO's include state-owned 'dragon-head' enterprises, private farming companies, public and private joint institutions, etc. Investments in rural cooperatives and scaled-up family farms might be financed by internal rural residents or external urban private capital groups. For instance, in the sugarcane production sector which I mainly focus on, it has changed from small peasant households as exclusive producers to multi-form production actors,

including specialized farming companies, cooperatives, scaled-up family farms and the combined type of these new actors. Thus, the capitals invested in sugarcane production are of different sources. In fact, the main actors in production and investment capitals are mutually reflected by each other. Table 4 below shows the capital typology analysis applied to sugarcane production in China.

Table 4 The typology analysis of investment capitals in sugarcane production in China

Agricultural investment capital typology		Actors in production					
		Small peasant households	Sugar companies	Specialized farming companies	Cooperatives		Scaled-up family farms
					Collective land (real)	Through land transfer (fake)	
Agriculture-industry relations	External or internal	Internal	External	External	Internal	External	Both
Economic structure	State-owned or private	Private	Both	Private	Collective	Private	Private
Social structure	Above or below	Below	Above	Above	Below	Above	Both
International relations	Domestic or foreign	Domestic	Both	Domestic	Domestic	Domestic	Domestic

The typology approach highlights the character and property of the investment capitals, from which power relations in the current agrarian transition can be derived. The sugarcane case shows that the emerging actors in agricultural production mainly stem from domestic, private, non-agricultural capitals from above. It shows that the agrarian change in China is exogenous and top-down oriented.

The capital typology approach can also be used for power relation analysis in food processing and trade , which relates to the (trans-) national food system. For instance, the Chinese government controls firmly on procurement, international trade and domestic circulation of grain and edible oil through large state-owned companies. In the meat and sugar sector, foreign and domestic private capital groups dominate the whole commodity chain as a historical result of the economic institutional reform in China [12]. However, recently the state-owned capital is trying to get the production and circulation power back from private capitals, and even to expand its own power in the global market for the sake of national food security. Again, the sugar sector offers a typical example, see table 5 and 6 below.

[12] I studied China's domestic circulation and marketing of grains, edible oil, sugar and meat in detail, but in this paper I cannot go into full details .

Table 5 The main sugar companies in China, foundation time and capital property

Main sugar companies	Foundation time	Capital property (mainly)
Nanning East Asia Sugar Group	1993	Foreign capital (Thai)
Yangpu Nanhua Sugar Group	2002	Domestic private capital
Guangxi State Farms Sugar Industrial Group	Existed already before the 1980's, but greatly developed since around 2000	State-owned capital
Guangxi Feng Sugar Group	2001	2001-13 domestic private capital 2014 merged by state-owned capital
Guangxi Nanning Sugar Group	1999	State-owned capital
Guangxi Boqing Food Company	1995	Foreign capital (British)
COFCO Tunhe Co. Ltd (Guangxi sugar companies)	Since 2010	State-owned capital
Guangxi Laibin EastSugar Co. Ltd	Since 2003	Domestic private capital equals Guangxi Laibin Government capital

Data source: A list of Guangxi sugar enterprises published by Jianliquan Sugar Tech. Co. List of sugar Enterprises in Guangxi. Available from: http://www.jlqsugar.com/ReadArt.asp?Id=447 [in Chinese] [accessed on 11th Jan. 2016]

Table 6 The expansion of state-owned agro-companies in the sugar industry

State-owned Agro-company	Time	Expansion events
COFCO	2011	Bought out Australian Tully Sugar
	2014	Bought out the sugar mills of Noble Agri. in Brazil
	2014	Merged with China National Sugar & Alcohol Group (the largest sugar sale and marketing company in China)
	2014	Built up Caofeidian Sugar
Bright Food Group	2009	Bought out Yingmao Sugar Industry Company (the largest sugar company in Yunnan province)
	2014	Bought out Guangxi Feng Sugar Group (in table 5)
	2013	Built up Yunnan Yingmao Sugar Refinery

Note: The table is synthesized by the author according to the information from COFCO and Bright websites and related news reports (references)

The rise and fall of foreign capital, domestic private capital and state-owned capital in the food process, trade and circulation shows the restructuring of the domestic food system as well as the dynamics of the global food system. Furthermore, the change of power relations in the (trans-) national food system is of great impact on the domestic agrarian transition. This is because the food processing industry, international trade, and domestic marketing increasingly influence the domain of production . Indeed, if we summarize the information in table 4, 5 and 6, it shows that the presence of large capital groups in and especially around the agricultural sector is ubiquitous. Therefore, it is important to study its differentiated impact. In order to do so, we need a typology that correctly distinguishes between the different capital groups and carefully examines the power relations among these groups.

6 To reach conclusions

This paper presents a critical analysis of the current agrarian discussion on China. It tries to reinterpret the empirical data and reflect on the theoretical discussion.

In the production part, I categorized three general types of agricultural production in China – 'household-led', 'cooperative-led' and 'corporate-led', and distinguished different production modes in each type. Even though Chinese agriculture still relies on peasant farming, changes within peasant farming, emerging new actors in agriculture and new relations between peasant households and the new actors are happening. In this paper I argue that it is necessary to look into both internal changes and external relations, and to pay attention to the interactions between the two trajectories to fully understand transitions in Chinese agriculture.

The data on China's domestic production and international trade show that the structural change of domestic agricultural production turned China into a large buyer of low-value agricultural products (like soy, vege-oil and sugar) from the global market. However, China cannot be simply entitled as a food insecure country since it exports large amounts of high-value agricultural products (like vegetables, fruits, aquaculture products, herbs, tea, tobacco, nuts, etc.). Besides, the Chinese overseas food strategy focuses more on food processing and trade rather than on land investment and agricultural production. Therefore I argue that the focus studies on China carried out abroad and the domestic agrarian debates can and should be taken together.

In terms of agricultural structural change in China, Huang pointed at the external cause – the restructuring of Chinese food consumption. As a complementary argument, this paper pointed out the internal production factors of land rent and labour price are also important drivers of structural change in Chinese agricultural production.

Finally, in this paper I turned to the investment capital groups in the agriculture sector and proposed a typology to understand the fragmentation and diversity of capital in agriculture production and the food business. The significance of identifying capital property is to further analyse the capital dynamics and power relations of agrarian change in China. The capital power structure is a crucial aspect to understand the character of agrarian transition and the structure of the (trans-) national food system.

References

Bernstein, H. 2010. Class dynamics of agrarian change (Vol. 1). Kumarian Press.

Borras Jr, S. M., Franco, J. C., Gómez, S., Kay, C., & Spoor, M. 2012. Land grabbing in Latin America and the Caribbean. Journal of Peasant Studies, 39(3-4), 845-872.

Borras, S. M., & Franco, J. C. 2011. Political dynamics of land-grabbing in Southeast Asia: Understanding Europe's role. Amsterdam: Transnational Institute.

Braudel, F. 1977. Afterthoughts on material civilization and capitalism (Vol. 7). Baltimore: Johns Hopkins University Press.

Chayanov, A.V., 1987. The Theory of Peasant Economy. Oxford University Press.

Chen, Y. Y. 2013. Rethinking the rise of capitalist family farms and differentiation among farming entities – with rice cultivation as the example (Ziben zhuyi jiating nongchang de xingqi yu nongye jingying zhuti fenhua de zaisikao – yi shuidao shengchan weili). Open Times, (4): 137-156. [in Chinese]

Chongqing Survey Team of National Bureau of Statistics. 2014. Research on the price relations of main agricultural products during production, distribution and consumption. Available from: http://www.stats.gov.cn/tjzs/tjsj/tjcb/dysj/201406/t20140612_567159.html [in Chinese]

China Daily: COFCO owns 99% of Tully Sugar. Available from: http://www.chinadaily.com.cn/bizchina/2011-07/20/content_12943795.htm; Caijing website: COFCO took over Tully Sugar, bet on its "sugar industry dream". Available from: http://stock.caijing.com.cn/2013-04-15/112674840.html[In Chinese] [accessed on 29th August, 2016]

Cotula, L., Vermeulen, S., Leonard, R. and Keeley, J., 2009. Land grab or development opportunity. Agricultural investment and international land deals in Africa, p.130.

De L.T. Oliveira, G., & Schneider, M. 2014 The Politics of Flexing Soybeans in China and Brazil. Transnational institute (TNI), Amsterdam.

Delgado, C. L. 2003. Rising consumption of meat and milk in developing countries has created a new food revolution. The Journal of Nutrition, 133(11), 3907S-3910S.

Du, S., Lu, B., Zhai, F., & Popkin, B. M. 2002. A new stage of the nutrition transition in China. Public health nutrition, 5(1a), 169-174.

Food 1 news: COFCO and Noble discuss on a joint venture. Available from: http://www.foods1.com/content/2496174/[In Chinese] [accessed on 29th August, 2016]

Green Book of Rural Area (*nongcun lvpishu*) 2014-2015. 2015. Chinese Academy of Social Sciences.

Goodman, D. and Sorj, B.W., 1987. From Farming to Biotechnology: A Theory of Agro-Industrial Development (No. 631.523 G6).

Guo, X., Mroz, T. A., Popkin, B. M., & Zhai, F. 2000. Structural change in the impact of income on food consumption in China, 1989–1993. Economic Development and Cultural Change, 48(4), 737-760.

Hairong, Y., & Yiyuan, C. 2015. Agrarian Capitalization without Capitalism? Capitalist Dynamics from Above and Below in China. Journal of Agrarian Change, 15(3), 366-391.

He, X. F. 2013. *Stand for Peasants* (*Xiaonong lichang*). China University of Political Science and Law Press, Beijing.

He, X. F. 2015a. Agricultural modernization for whom? (weishui de nongye xiandaihua). Open Times, (5). Available from: http://www.opentimes.cn/bencandy.php?fid=399&aid=1916 [in Chinese]

He, X. F. 2015b. Three main schools on policies for "three rural issues" in current China (Dangqian zhongguo sannong zhengce zhongde sanda paibie). Pengpai News. Available from: http://www.thepaper.cn/newsDetail_forward_1302826 [in Chinese]

Huang, P. C. 2010. China's Hidden Agricultural Revolution (zhongguo de yinxing nongye geming). Rural China, 8(1), 1-10.

Huang, P. C., Yuan, G., & Peng, Y. 2012. Capitalization without proletarianization in China's agricultural development. Modern China, 0097700411435620.

Huang, Y. 2015. Can Capitalist Farms Defeat Family Farms? The Dynamics of Capitalist Accumulation in Shrimp Aquaculture in South China. Journal of Agrarian Change, 15(3), 392-412.

Huang, Z. Z. 2012. Introduction of "*Peasant Economy in the New Era of China*". Open Times, (3). Available from: http://www.opentimes.cn/bencandy.php?fid=332&aid=1579 [in Chinese]

Huang, Z. Z. 2014. Is "family farm" the future of China's agriculture?. Open Times, (2). Available from: http://www.opentimes.cn/bencandy.php?fid=374&aid=1802 [in Chinese]

Huang, Z. Z. 2015. Two blind spots of rural cooperative trajectory choice: inspiration from the East Asian historical experience. Available from: http://www.opentimes.cn/bencandy.php?fid=399&aid=1915 [in Chinese]

Huanqiunet. 2012. Organization modes of agriculture industrialized managements. Available from: http://finance.huanqiu.com/mba/2012-08/3048672_3.html [in Chinese]

Ifeng net. 2014. The total of rural cooperatives in China closes to one million. Available from: http://city.ifeng.com/cskx/20140222/404963.shtml [in Chinese]

Jianliquan Sugar Tech. Co. List of sugar Enterprises in Guangxi. Available from: http://www.jlqsugar.com/ReadArt.asp?Id=447 [in Chinese]

Lang, T., & Heasman, M. 2004. Food Wars: The Global Battle for Mouths, Minds and Markets: Earthscan.

Laoshi, Liu. 2010. Social Practice of Rural Cooperatives and Local Evaluation Criterion. Kaifang shidai, (12): 53-67.

Lu, F., 2012. Wage trends among Chinese migrant workers: 1979-2010. Social Sciences in China, (7): 47-67. [in Chinese]

Ma, H., Huang, J., Fuller, F., & Rozelle, S. 2006. Getting rich and eating out: consumption of food away from home in urban China. Canadian Journal of Agricultural Economics/Revue canadienne d'agroeconomie, 54(1), 101-119.

McFerron, W. 2013. China may take South American soy meal share as crush expands. *Bloomberg*, March 4. Available from: http://www.bloomberg.com/news/articles/2013-03-04/china-may-take-south-american-soy-meal-share-as-crush-expands

McMichael, P. 2000. The power of food. Agriculture and human values, 17(1), 21-33.

National Bureau of Statistics of China. n.d. Available from: http://www.stats.gov.cn/english/ [accessed on 10th Sept. 2015]

Murphy, S., Burch, D. Clapp, J. 2012. CEREAL SECRETS: The world's largest grain traders and global agriculture. Oxfam research reports. Available from: https://www.oxfam.org/sites/www.oxfam.org/files/rr-cereal-secrets-grain-traders-agriculture-30082012-en.pdf

National Bureau of Statistics of China. 2015. Domestic food supply and the trend forecast for "Thirteenth Five" Period. Available from: http://www.stats.gov.cn/tjzs/tjsj/tjcb/dysj/201503/t20150313_693961.html [in Chinese]

Nongjinnet. 2015. Chines rural cooperatives amount to 1.479 million in 2015. Available from: http://news.1nongjing.com/a/201512/123803.html [in Chinese]

Oliveira, L. T. and Schneider, M. 2014. The politics of flexing soybeans in China and Brazil. Think piece series. Amsterdam: Transnational Institution. (TNI)

Qiang Ma. 2006. Comparative study on the organizational modes of agricultural industrialization (Master Dissertation). Shanxi University of Finance and Economics. Retrieved from CNKI Dissertation Database. [in Chinese]

Rural China net. 2014. Various kinds of agricultural industrialized organizations have reached 330,000 in China. Available from: http://www.xinnong.net/news/20141104/1212152.html [in Chinese]

Rural Development Institute Chinese Academic of Social Sciences. 2014. Analysis and forecast on China's rural economy (2014-2015).

Sanderson, S. 1986. The emergence of the "world steer": Internationalization and foreign domination in Latin American cattle production. In Tullis, F.L. & Hollist, W.L. (Eds.) Food, the state, and international political economy (pp. 123-148). Lincoln, NE: University of Nebraska Press.

Schneider, M. 2011. Feeding China's pigs: implications for the environment, China's smallholder farmers and food security.

Schneider, M., & Sharma, S. 2014. China's pork miracle? Agribusiness and development in China's pork industry. Institute for Agriculture and Trade Policy. http://www. iatp. org/documents/china% E2, 80.

Sdnews. Scaled-up land turns to growing economic crops or tourism, the "non-grain oriented risk" of land transfer. Available from: http://f.sdnews.com.cn/sdcj/201404/t20140423_1589738.htm[in Chinese] [accessed on 23rd Dec. 2015]

SJZ daily. High land transfer cost challenges the grain farmers. Available from: http://www.sjzdaily.com.cn/finance/2015-04/09/content_2398451.htm [in Chinese] [accessed on 23rd Dec. 2015]

Sina news. 2016. Chen Xiwen, return maize price to market. Available from: http://news.sina.com.cn/c/2016-01-28/doc-ifxnzanm3750780.shtml [in Chinese][accessed on 26th August, 2016]

Van der Ploeg, J. D. 2009. The new peasantries: struggles for autonomy and sustainability in an era of empire and globalization. Routledge.

Van der Ploeg, J.D., 2013. Peasants and the art of farming: A Chayanovian manifesto (No. 2). Fernwood.

Van der Ploeg, J.D. and Ye, J. eds., 2016. China's Peasant Agriculture and Rural Society: Changing Paradigms of Farming. Routledge.

Von Braun, J., & Meinzen-Dick, RS 2009. Land grabbing "by foreign investors in developing countries: risks and opportunities. Washington, DC: International Food Policy Research Institute.

Wei Guo & Laiwu Wang. 1998. The food provincial governor responsibility system: the contradictories and problems. Agricultural Economic Problems, (12).

Wen, T. J. 2012. Agricultural production sector obviously shows up excessive industrial capital. China Business Journal. Available from: http://www.farmer.com.cn/xwpd/jjsn/201212/t20121217_785757.htm [in Chinese]

Xia Zhang. 2015. SINOGRAIN, where to go?. Sothern Weekly. Available from: http://futures.hexun.com/2015-09-06/178867295.html [in Chinese]

Xiaoshan Zhang. 2014. The normalization of development and trajectories of specialized farmers cooperatives. Journal of Hunan Agricultural University (social science), (142): 25-26.

Xinhuanet 2013. Family farms in China up to 877,000. Available from: http://news.xinhuanet.com/xiangtu/2013-06/05/c_124814602.htm [in Chinese]

Xinhuanet. 2014. Remarkable achievements and new characters of agricultural industrial production in China. Available from: http://www.hb.xinhuanet.com/2014-11/02/c_1113080936.htm [in Chinese]

Yan, H., & Chen, Y. 2015. Agrarian Capitalization without Capitalism?: Capitalist Dynamics from Above and Below in China. *Journal of Agrarian Change*, (15), 3.

Ye, J. 2015. Land Transfer and the Pursuit of Agricultural Modernization in China. Journal of Agrarian Change, 15(3), 314-337.

Yining Li. 2012. Hopes rise for the double-way of rural-urban integration. Beijing Daily. Available from: http://theory.people.com.cn/n/2012/1112/c40531-19551177-1.html [in Chinese]

Yongzhi Zhang. 1994. The Primary discussion on agricultural joint stock partnership. China Economic & Trade Herald, (6). Available from: http://www.doc88.com/p-7058344862013.html [in Chinese]

Zhan, S. 2015. From Local State Corporatism to Land Revenue Regime: Urbanization and the Recent Transition of Rural Industry in China. Journal of Agrarian Change, 15(3), 413-432.

Zhang, Q. F. 2015. Class Differentiation in Rural China: Dynamics of Accumulation, Commodification and State Intervention. Journal of Agrarian Change, 15(3), 338-365.

Zhang, Q. F., & Donaldson, J. A. 2010. From peasants to farmers: Peasant differentiation, labor regimes, and land-rights institutions in China's agrarian transition. *Politics & Society*, *38*(4), 458-489.

Zhang, Q. F., Oya, C., & Ye, J. 2015. Bringing Agriculture Back In: The Central Place of Agrarian Change in Rural China Studies. Journal of Agrarian Change, 15(3), 299-313.

Zongzhi, Huang. 2010. China's hidden agricultural revolution. Law Press, Beijing. [in Chinese]

Zoomers, A., 2010. Globalisation and the foreignisation of space: seven processes driving the current global land grab. The Journal of Peasant Studies, 37(2), pp.429-447.

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