



Rural Development Institute, Chinese Academy of Social Sciences

Agriculture Transition in China: Experiences and Lessons

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I. Background

Transition means from planned economy system to market economy system.

The question is why the government policymakers would like to select the planned economy system and how to establish it.

China was a very poor country in 1949. To speed up development of industries, particularly heavy industry, China had to maximize its collection of agricultural surplus because China was an agricultural country at that time.

Two approaches are available for collecting agricultural surplus: one is financial and the other is fiscal. A financial approach is built on a combination of accurate and flexible financial policies, well-structured financial organizations and flexible and multiple financial tools, which were unavailable in China at that time, so the fiscal approach became the unique choice.

There are two options for the fiscal approach, One is to strengthen tax and another is to control prices. Compared the two approaches, the price is more concealed, more flexible and easier to be accepted so the government selected the method of distorting trade conditions of industrial and agricultural products.



I. Background

There are two challenges to use this approach. One challenge came from private businessmen and industrial capitalists. In order to stop the businessmen buy agricultural products at a low price and sell agricultural products at a high price, and the capitalists get benefits from distorted prices but not to develop heavy industry, the government implemented a state monopoly system of purchasing and marketing agricultural products for getting all agricultural surplus.



I. Background

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One challenge came from private businessmen and industrial capitalists.

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I. Background

Another challenge came from the farmers. It was unrealistic for the government to scale up the policy to all agricultural products. In order to increase their income, farmers could take the strategy to reduce the production of state controlled products, and expand production of other agricultural products.

The government was unable to control individual farmers to realize its monopoly procurement and distribution plan, a new organization system enabling management of farmers would be necessary.

the people's commune system was able to discompose the state controlled procurement and distribution plan to each individual farm household, and the objective of conducting agricultural production in alignment with plans of the state controlled procurement and distribution was realized.

This was the major reason to establish the people's commune system.



I. Background

The discussion above shows, the trinity of trading conditions distortion, state monopoly for purchase and marketing and the people's commune system is a set of system for implementing the state strategy of enhancing industry development.

With this system, China pushed its accumulation rate to over 12%, and minimized its cost of raw industrial materials and salary of workers, and primarily established the industrial system in the very low income stage.

Although the prices were distorted, China was able to eradicate the phenomenon of rent-seeking with a tight set of financial accounting system.

Hence, the biggest problem of the planned economy was not corruption, but the capacity of agricultural production was not fully released, and farmers were trapped in a long-term poverty.



I. Background

Table 1 shows that over the 20 years from the introduction of the people's commune system in 1958 to the reform and opening up in 1978, neither per capita agricultural products nor per capita commercialised agricultural products of farmers showed visible increase. Annual increase of farmers' income was less than RMB 3 Yuan .

Table 1. National Per Capita Possession of Major Agricultural Products, 1957-1978 Unit: kg

	1957	1962	1965	1970	1975	1978
Grain	306	240.5	272	293	310.5	318.5
Cotton	2.6	1.15	4.95	2.8	2.6	2.25
Edible oil	6.1	3.6	5.05	4.6	4.95	5.45
Swine	6.25	2.9	7.7	7.3	8.7	8.95
Aquatic products	4.9	3.4	4.25	3.9	4.8	4.85

Source: *40 Years of China's Countryside*, Central Peasants Publishing 1989, page 132



II. Agriculture Transition in China

2.1 Transition from Collective Operation to Household Operation

Collective operation in agriculture had been questioned from time to time over the people's commune stage. Particularly, when drastic production reduction happened, farmers affected tended to get back to household operation to survive, which was even tacitly approved by some local leaders.

However, due to the influence of ideology, once the agricultural production bounced back, the government would fix the practice which was regarded as off the track of public ownership. The resurgence of household operation in late 1970s was actually another attempt by the farmers.

In this time the Central Committee of the Communist Party of China (CCCPC) tolerated it as an exception, though there was still no formal consent.

Following that, policies reflecting acceptance of the practice were formulated gradually. As a result, agricultural household operation was rapidly scaled up in China.



II. Agriculture Transition in China

2.1 Transition from Collective Operation to Household Operation

The specific policy change can be summarized as follows.

In September 1979, the household responsibility system was allowed to exist as a special case in CCCPC documents firstly whose role can never be underestimated.

In Sept 1980, A Document of CCCPC further points out in the poor and under-developed areas the household responsibility system should be granted, in the form of either household responsibility system or household-based contract system. **20%**

The document issued **in 1981 and 1982** regarding relaxing and lifting constraints on operation of agricultural households **respectively encouraged production teams below and above the average 30% to take the household responsibility system.**

The No. 1 CCCPC Document **in 1983** even explicitly pointed out the household responsibility system is a model of the socialism collective ownership economy. **15%**

In 1984, with the No. 1 CCCPC Document discussing measures and approaches to consolidate and optimise household responsibility system or household-based contract system, **4% top performance production teams joined in household operation, too.**



II. Agriculture Transition in China

2.2 Transition from Traditional Agriculture to Modern Agriculture

(1) To Develop Household Farm Starting from Land Circulation

Figure 1 shows that in 1992, transferred arable land accounted for less than 1% of the total household contracted arable land. By 2013, the indicator soared to 26%.

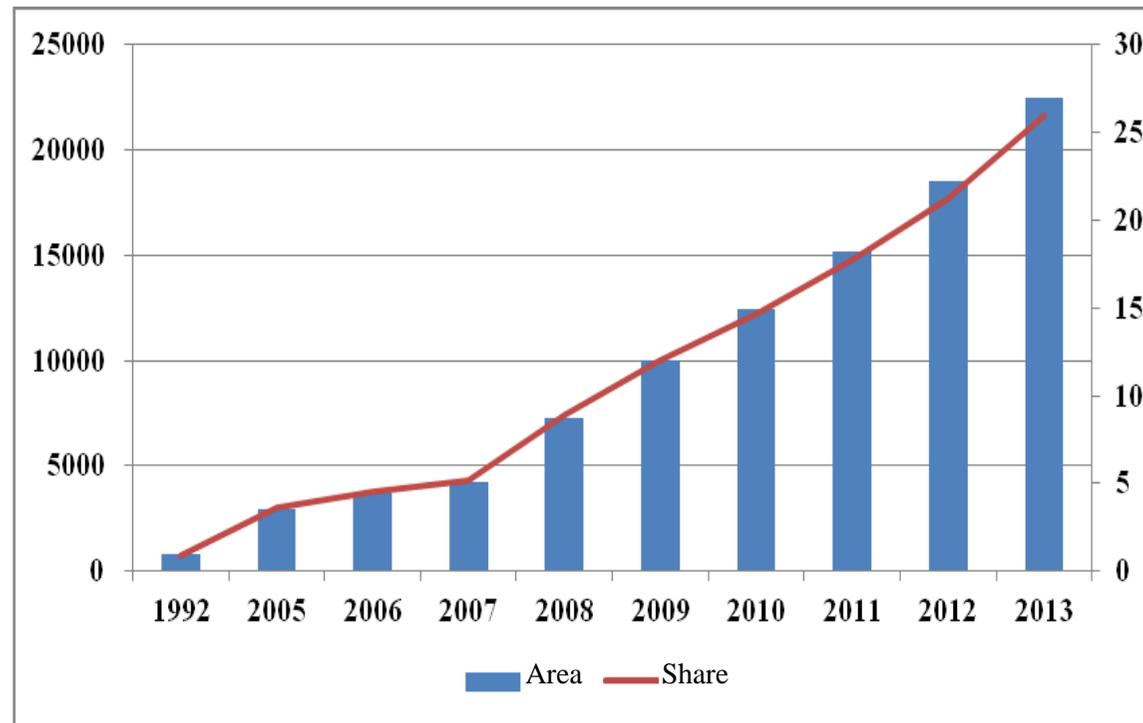


Figure 1: Change in China's Circulation Arable Land Area and Its Share in the Total Contracted Arable Land



II. Agriculture Transition in China

2.2 Transition from Traditional Agriculture to Modern Agriculture

(1) To Develop Family Farm Starting from Land Circulation

Land Circulation has boosted the development of household farms.

By end 2012, there were 877,000 family farms that operating arable land of 11.7 million ha, representing 13.4% of total contracted arable land.

On average, each household farm has 6.01 labors, among which 4.33 are family members and 1.68 are long-term employees.

Table 4 Structure of Family Farms

Area(mu)	number	Share (%)
<50	484200	55.2
50-100	189800	21.6
100-500	170700	19.5
500-1000	15800	1.8
>1000	16500	1.9



II. Agriculture Transition in China

2.2 Transition from Traditional Agriculture to Modern Agriculture

(2) To Develop Professional Agricultural Households

As a matter of fact, many households with their main labours being migrant workers are reluctant to cede their land operation right, instead they would employ various professional farmers for different kinds of farming jobs on their lands, such as ploughing, sowing, spaying, and harvesting etc.

This has fuelled the development of professional agricultural households. The total income of agricultural machinery households were RMB 59.3 billion in 1990, and RMB 447.9 billion in 2012.

Table 4 Income Change of Agricultural Machinery Households since 1990 (RMB million Yuan)

Year	Income	Year	Income	Year	Income
1990	59300	2003	226968	2008	346650
1995	103680	2004	242150	2009	389409
2000	200000	2005	260610	2010	424790
2001	204000	2006	281100	2011	450900
2002	215000	2007	298600	2012	477900

Source: Ministry of Agriculture



II. Agriculture Transition in China

2.2 Transition from Traditional Agriculture to Modern Agriculture

(3) To Develop Agricultural Businesses Starting from Industry Upgrading

Generally speaking, household farming model is more appropriate for land-intensive field crops, while company management model is more appropriate for capital-intensive agricultural products with balanced daily output, such as animal farming, aquaculture, vegetables, fruits and flowers.

Pork consumption accounts for 64% of total meats consumption in China. So it is suitable to analyze pig feeding as a case of agricultural company development. Till end of 20th century, over 90% of pigs were farmed by individual farmers. Over the past few years, large-scale pig farm has been developed rapidly.pigs produced by company accounted for 38% of the total in 2005, and about 70% in 2013.



II. Agriculture Transition in China

2.3 Transition of Agriculture from Planting-dominated to breeding-dominated

Figure 2 shows crop farming accounted for 85.9% of China's total agricultural output value in 1952, while breeding industry accounted for 12.5%; in 2012, crop farming dropped to 52.5%, in contrast to 40.1% of breeding industry.

China's agriculture would be breeding industry-dominated several years later.

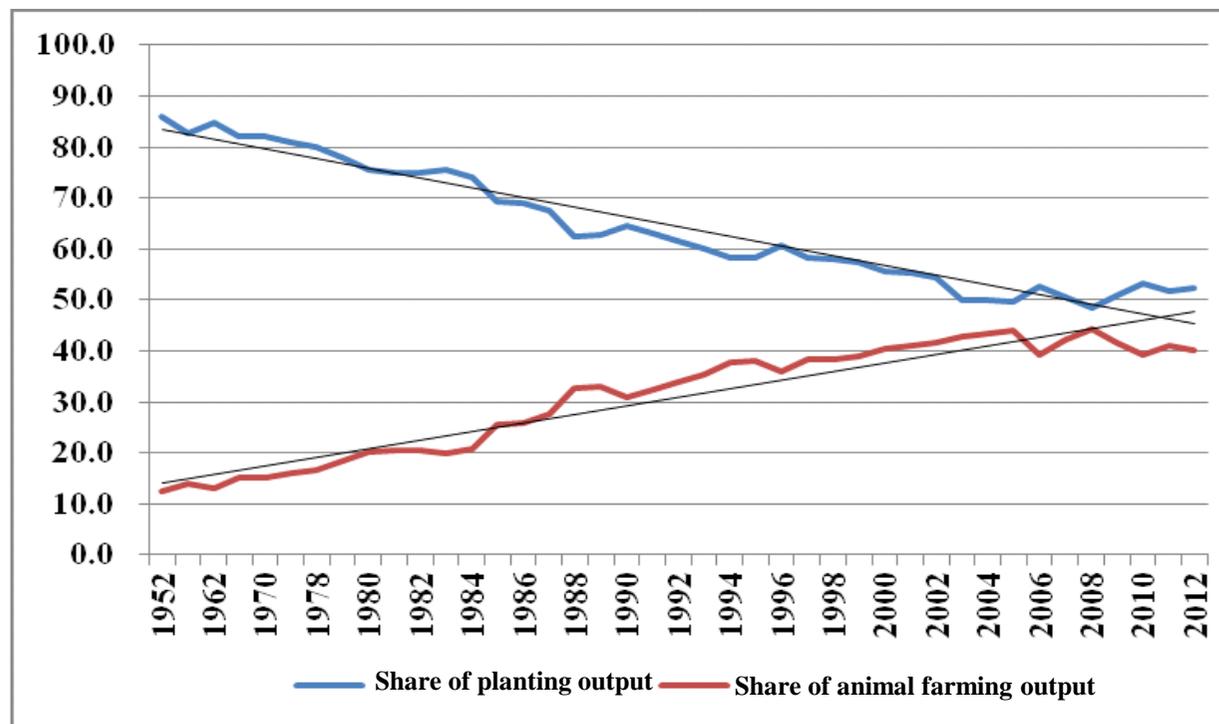


Figure 2. Changes in Share of China's Planting and Animal Farming in the Total Agricultural Output



II. Agriculture Transition in China

2.4 Transition from a Net Exporter to a Net Importer of Agricultural Products

Between 1953 and 1978, China's export value of agricultural products accounted for over 70% of China's total exports, being China's main source of foreign exchange income.

Table 5 shows that despite increases in export value and import value of agricultural products since 1980, their proportions in the national totals declined to 3.5% and 5.4% in 2013 from 34.4% and 21.7% in 1980.

Table 5 Basic Information of China's International Agricultural Products Trade

	Agricultural Trade (US\$ 100 million)				Share (%)		
	Total value	Export value	Import value	Net export value	Import and export	Export	Import
1980	105.9	62.4	43.5	18.9	27.8	34.4	21.7
1990	184.2	106.5	77.7	28.8	16.0	17.2	14.6
2000	218.6	126.6	92	34.6	4.6	5.1	4.1
2005	562.9	275.8	287.1	-11.3	4.0	3.6	4.4
2010	1219.6	494.1	725.5	-231.4	4.1	3.1	5.2
2011	1556.2	607.5	948.7	-341.2	4.3	3.2	5.4
2012	1757.7	632.9	1124.8	-491.9	4.5	3.1	6.2
2013	1866.9	678.3	1188.7	-510.4	4.5	3.5	5.4

Source: Ministry of Agriculture



III. Achievements of China's Agricultural Transition

3.1 More Stabilized Agricultural Growth

(1) Faster Grain Output Growth

During last 60 years(1952-2012), China's grain output increased from 160 million tons to 350 million tons in the first 30 years, an increase of 190 million tons; it further grew to 590 million tons from 350 million tons in the second 30 years, an increase of 240 million tons.

The grain output increase over the first 30 years was built on expansion of arable land, and more on productivity increase of unit arable land in the second 30 years.

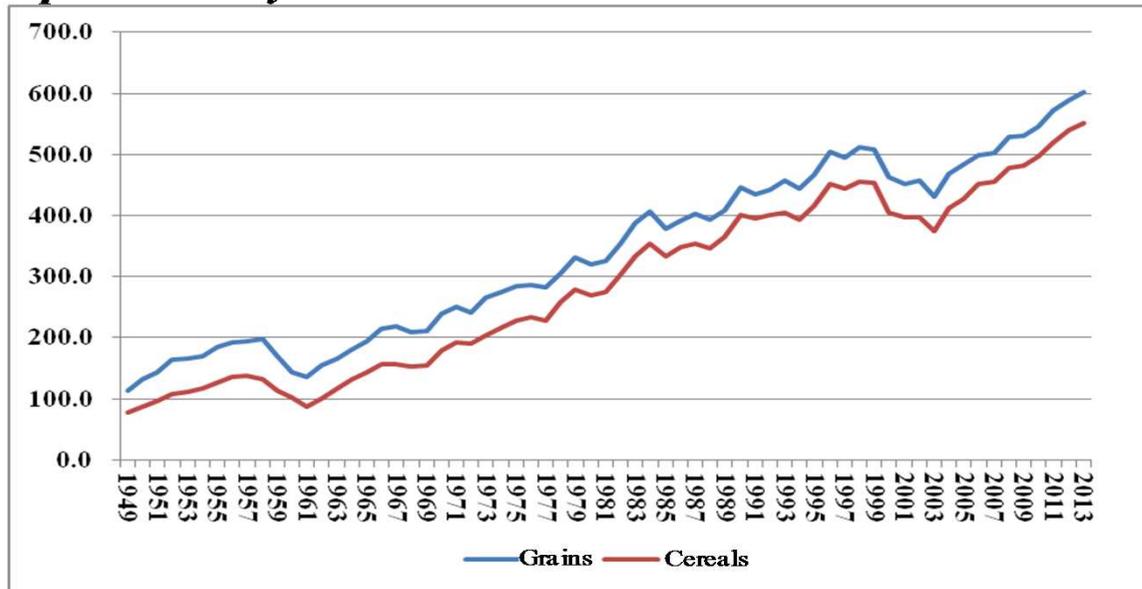


Figure 3. Changes in China's Grain and Cereal Yields



III. Achievements of China's Agricultural Transition

3.1 More Stabilized Agricultural Growth

(2) Stabilized Growth of Other Agricultural Products

From 1978-1999, China saw rapid agricultural production growth.

Since 2000, slowdown occurred with major agricultural products but total production were more stabilized.

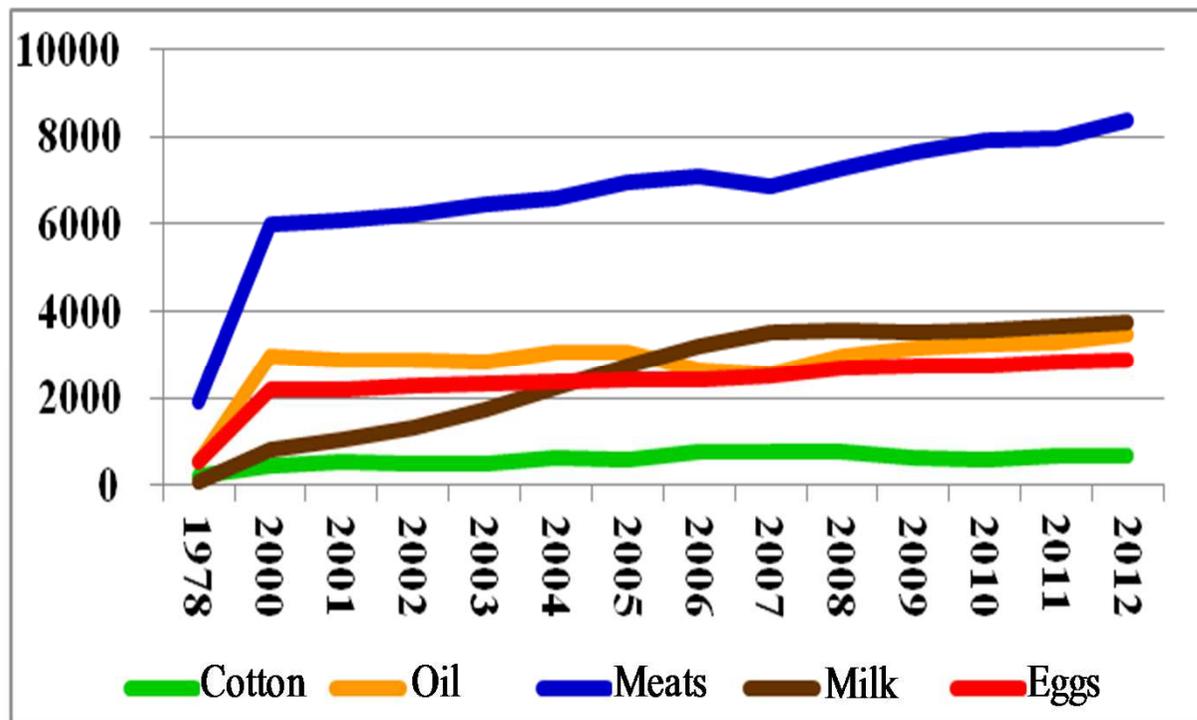


Figure 4. Growth Trends of Other Major Agricultural Products since 1978



III. Achievements of China's Agricultural Transition

3.1 More Stabilized Agricultural Growth

(3) Stabilized Growth of Major Agricultural Products Per Capita

The combination of faster grain production increase and slower population growth brings China's grain output per capita to 433.5 kg in 2012, increasing 116.4 kg and 69.3 kg more than that in 1978 and 2000 respectively.

At the same time, meat products per capita increasing 45.5 kg and 17 kg more aquatic products, 38.7 kg and 14.2 kg more; milk, 27.7 kg and 21.1 kg more; oil, 20.2 kg and 2.3 kg more; and cotton, 2.8 kg and 1.6 kg more.



III. Achievements of China's Agricultural Transition

3.2 More Sufficient Non-agricultural Employment for Farmers

Figure 5 shows that the number of migrant labors employed in non-agricultural sectors increased from 59.6 million of 1985 to 2.6261 billion of 2012.

Figure 5 also reveals that the Global Financial Crisis imposed a noticeable negative effect on employment of migrant labors.

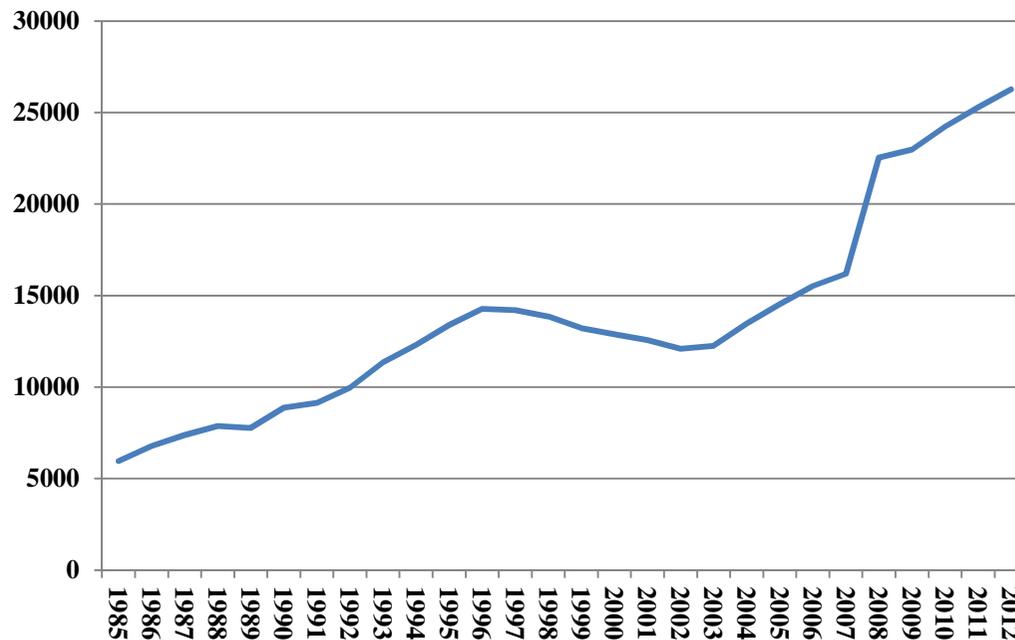


Figure 5 Number of Migrant Workers Employed in Non-farm Sectors in China



III. Achievements of China's Agricultural Transition

3.2 More Sufficient Non-agricultural Employment for Farmers

With the expansion of migrant workers' employment opportunities, their contribution has extended from agriculture to non-agricultural sectors, from rural to urban areas.

During 2008-2012, GDP created by migrant workers has increased from 32.1% to 38.6% against the national total GDP, a 6.5% growth within four years.

Table 6 Changes in Share of GDP Created by Migrant Workers in the National Total GDP

Year	Number of migrant workers (10,000)	Average monthly income of migrant workers (RMB /month)	Total salary of migrant workers (RMB 100 million)	GDP created by migrant workers (RMB 100 million)	National total GDP(RMB 100 million)	Share of GDP created by migrant labors against the total GDP (%)
2008	22542	1340	36247.5	100687.6	314045.4	32.1
2009	22978	1417	39071.8	108532.8	340902.8	31.8
2010	24223	1690	49124.2	136456.2	401512.8	34.0
2011	25278	2049	62153.5	172648.7	472881.6	36.5
2012	26261	2290	72165.2	200459.0	519322.0	38.6

Source: Monitoring Survey Reports on Migrant Workers issued by National Bureau of Statistics in recent years.



III. Achievements of China's Agricultural Transition

3.3 Better Social Benefits for Farmers

From 1978 to 2012, farmers' income per capita has increased from RMB 133.6 to RMB7,917. Calculated with comparable prices, it is a 10.77 times increase. In addition, farmers enjoy a much better social benefits.

Firstly, free compulsory education. China kicked off its free compulsory education from 2006. It was promoted across China in 2007. Funding provided by the government. The annual expenditure of governments is about RMB 230 billion

Secondly, new rural cooperative medical system. In 2003, the new rural cooperative medical system was promoted rapidly and covered all rural residents by 2008.

At the beginning, RMB 30 was raised for each individual per year, among it, RMB 20 was subsidized by governments. It was raised to RMB 410 per person per year in 2014, RMB 90 from the farmer covered and RMB 320 subsidized by governments.

Farmers covered will be reimbursed for up to 75% for hospitalization, with an annual accumulated reimbursement amount of RMB 80,000 to RMB 150,000 (different provinces might have different reimbursement caps).



III. Achievements of China's Agricultural Transition

3.3 Better Social Benefits for Farmers

Thirdly, infrastructure supply equalization.

(1) Safe drinking water supply for farmer. This work has been fully completed.

(2) Power supply in rural areas. This work has been fully completed.

(3) Rural roads. This work has been fully completed.

(4) Rural cultures. Communication services such as post, broadcast, television, telephone and internet have all been provided.

Fourthly, rural residents' minimum living security system. China started the rural minimum living security system in 1996, and in 2014, rural residents enjoy a minimum living security of RMB 180 to 450 per person per month (depending on living costs and financial status of different areas).

Fifthly, social pension scheme for rural residents. By 2011, over 326 million rural residents have participated in this program, with 85.25 million aged above 60 receiving benefits.



IV. Lessons Learned from China's Agricultural Transition

4.1 Adhering to the Reform's Gradual Progressive Nature that Builds on Small Wins and Grows into A Final Victory

China adopts a gradual progressive reform strategy which is built on small wins and grows into a final victory.

To be specific, it starts from the weakest linkage of the national economy, to ensure a minimized loss in reform; to deepen the reform when small tests succeed, till a top level goal achieved step by step.

Take household responsibility system for example, it was tested among 20% of the worst performing production teams, then promoted to the mid-low 30% when the test succeeded, then the mid-up 30%, then the good 15%, and then finally the top 4% step by step.

For those rural communities that haven't adopted the household responsibility system, tolerance has been given till now.



IV. Lessons Learned from China's Agricultural Transition

4.2 Adhering to the Reform's Pareto-Improvement Nature or Kaldor-Improvement Nature

China's reform strategy sees no losers but only beneficiaries. The initial household responsibility system is a typical reform that benefits all and hurts nobody. Reforms of this kind are Pareto-improvement in nature.

However, with the deepening of the reform, agricultural reform loses the nature of Pareto improvement, for instance, personnel streamlining in rural institutional reform, and some reform measures taken with an aim to protecting ecological environmental such as returning farmland to forest land, grassland, lakes and returning timber forest to natural reserves.

In response to these, the Government introduced the economic compensation polices and ecological compensation system for persons who are impacted, to make the reform featured by Kaldor improvement.



IV. Lessons Learned from China's Agricultural Transition

4.3 Adhering to the Reform's Market Orientation

China's agricultural reform has been market oriented from the very beginning.

Priority at the beginning was to loosen control on agricultural product market, and then the focus turned to factor market, to give full play to the decisive role of market mechanism in agricultural resource allocation.

Among these, labor market is the most developed, followed by land management rights circulation market, and capital market being lagged behind.



IV. Lessons Learned from China's Agricultural Transition

4.4 Adhering to the Unification of the Reform's Endophytism, Symbiosis and Competitiveness

China's agricultural reform values not only explorations made by farmers, but also promotion of the replicable experiences and lessons learned, for instance, the household responsibility system, township and village enterprises development, urban migrant workers and the election system.

For those unsuccessful explorations, the Government will help farmers fix and solve problems.

As all the practices are from China's own experience, rather than copied from other countries, they have a noticeable indigenous feature.



IV. Lessons Learned from China's Agricultural Transition

4.5 Agricultural Development Imposes More Pressures on Resources and Environments

Land resources constraints. China's arable land per capita is 1.38 mu, only 40% of the world average. With continuous growth of population and occupation of arable lands due to industrialization and urbanization, arable land per capita will drop further.

Since 2004, grain and other major agricultural products have harvested for 10 years the longer agricultural harvest period extends, the more intense demands imposed on various resources.

Fresh water resources constraints. China's water resource per capita is 2,100 cubic meters, only 28% of the world average. With increased water demands for industrial, urban and ecological purposes, shortage for agricultural usage is getting worse. Agriculture is suffering from water resource shortage.

Environmental capacity constraints. Presently, China's unit area fertilizer usage is twice that of the upper limit set by FAO, and pesticides, 2.5 times of the world average. According to the *Environmental Bulletin 2010* by the Ministry of Environmental Protection, rural non-point source pollution has exceeded urban industrial pollution, and the rural areas released 43% of the total COD, 57% of the total nitrogen and 67% of the total phosphorous.



V. Conclusions

- ◆ **China is a developing country with a huge rural population. Agricultural development has played an important role in China's economic transition. The transition has significantly improved agricultural output and productivity, and lifted hundreds of millions of farmers out of absolute poverty. It has promoted economic growth and the process of industrialization and urbanization and supply effectively the food of one fifth population in the world with seven percent of the arable land in the world.**
- ◆ **The Characteristics: from collective operation to household operation; from small scale agriculture to suitable scale agriculture through developing family farm, professional farmer and agricultural company; from planting-dominated agriculture to breeding industry-dominated agriculture; from closed agriculture base on national resources to open agriculture based on national and international resources.**
- ◆ **Achievements: more stabilized agricultural growth ; more sufficient non-farm employment, and more social benefits for farmers.**
- ◆ **Experiences: gradual progressive strategy; Pareto-improvement or Kaldor improvement nature; market orientation; unification of endogeneity, symbiosis and competitiveness**
- ◆ **Lessons : more pressures on resources and environments**



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Thank You!