AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Thirty Years of Agricultural Transition in China (1977–2007) and the 'New Rural Campaign'

Xiangping Jia[1] Achim Fock[2]

[1] Department for Agricultural Economics and Social Sciences in the Tropics and Subtropics (490a), University of Hohenheim, Germany. Correspondence should be addressed to xpjosephjia@googlemail.com

[2] The World Bank, Office Beijing/China. afock@worldbank.org

Paper prepared for presentation at the 106th seminar of the EAAE

Pro-poor development in low income countries:

Food, agriculture, trade, and environment

25-27 October 2007 – Montpellier, France

Disclaimer: The findings, interpretations and conclusions expressed in this paper are entirely those of the authors, and do not represent the views of authors' affiliation. Copyright 2007 by the authors. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.

ABSTRACT

Agriculture in China has experienced a compelling growth in the early 1980s, a buoyant upbeat in the early 1990s, and an extended period of low growth after 1995. Decollectivization, market reforms, public investments and technology have played a critical role during this overall successful process. However, the transition has also led to increasing inequalities between the agricultural and non-agricultural population, and substantial institutional issues remain to be fully addressed. The Chinese government is now reemphasizing agriculture and rural development under its "New Rural Campaign" with the objective to address rural-urban inequalities, but a stronger emphasis on participation and tenure reforms is warranted.

Keywords: agriculture, rural development, transition, institutions, China.

JEL classification: O43 P21 P32

1 INTRODUCTION

The understanding of the role of agriculture in the national economy has been changing over the past half century. While agriculture was mainly regarded as a resource to be tapped for urbanization and industrialization in the 1950s, development economists in the 1960s and 1970s started to view agriculture as a more active force for development and drew insights in the process of agricultural growth per se. Far from being just a declining sector, agriculture makes important contributions to the structural transformation in developing countries; it can provide labor, capital, foreign exchange, and food to a growing industrial sector and market for domestically produced industrial goods (Johnston & Mellor, 1961). In *Transforming Traditional Agriculture*, Schultz (1964) claims that small farmers are efficient, provided sufficient education and training are offered. Underpinned by this intellectual rethinking, the "Green Revolution" of the 1960s and 1970s led to great increases in agricultural production caused by technological change – though there are some debates about its unequal impact on farmers of different scale (Eicher & Staatz, 1998). In the 1980s, the failure of numerous public interventions and international development projects showed that a growth-oriented strategy should be pursued persistently, rather than trying to lift the growing population out of poverty merely by redistributing existing assets. Poverty remained high on the agenda in the 1990s, in the presence of globalization and its controversial outcomes.

This development of thinking is partly reflected – though with some delay – in the development of China's agriculture and agricultural policies over the last thirty years. Given its limited natural resources, China deserves credit for feeding over one-fifth of the world population and lifting millions of rural poor out of poverty. A large factor of this success is agricultural growth, which itself is generally attributed to the institutional reforms (in the early 1980s), market reforms, technology progress and increasing public investments. While after the initial success of the early- to mid-eighties, the role of agriculture was often downplayed as one of "feeding industry", the political agenda shifted again towards agriculture and rural development with the beginning of this decade. From 2006 onwards Chinese leaders are following a strategy led by the "New Rural Campaign" to overcome the long-lasting depression of the rural economy (relative to non-rural) and to ease the increasing political unrest due to the rising inequalities.

The resurgence of agriculture and rural development strategy fits the "developmental paradox" where the tendency for support to agriculture increases with the level of economic de-

velopment (measured by the per capita GDP) (Anderson & Hayami, 1986). However, this resurgence also invokes agricultural fundamentalism in encouraging farm price policies and other inefficient policy instruments which have been ubiquitously applied by politicians to achieve their domestic policy objectives in favor of specific pressure groups. In agricultural transformation, it is of central importance that technological progress frees rural labors, resulting in increased productivity but declining prices in real terms. The long-term decline in agricultural product caused by increased total factor productivity pushes labor out of agriculture. Governments therefore have focuses on offsetting the adverse effects of the structural adjustment in transition. Many of ineffective policies and programs have been found that the government support was based on production and was not directly on the needs of individuals to facilitate movement out of farming at lower costs (de Gorter & Swinnen, 2002).

This paper aims at providing a retrospective on China's agricultural transformation process over the past thirty years and, based on this, assessing how its current "New Rural Campaign" addresses the remaining, current and future challenges. It begins with a brief review of China's agricultural transition from 1977 to 2007, by grouping these past 30 years into four stages according to different key contributing factor of development. Section 3 elaborates the decline of agriculture in national economy by examining the real price of farm produce and intersectoral movement of labor. Section 4 describes the ongoing "New Rural Campaign" and in how far it addresses the current challenges of China. Some conclusions are drawn in the final section.

2 KEY CONTRIBUTING FACTOR AT STAGES OF CHINA'S AGRICULTURAL TRANSITION

Agricultural development in China since the late 1970s can be broadly divided into four phases (See Figure 1). The first is associated with incentive reforms and delegation of decision-making power from the commune to individual agricultural households, i.e. the introduction of the so-called Household Responsibility System (HRS). After substantial local-level piloting, the HRS was formally adopted at the national level in the late 1981 (Du, 2006; Lin, 1992). By the end of 1983, almost all of rural China had adopted the HRS.

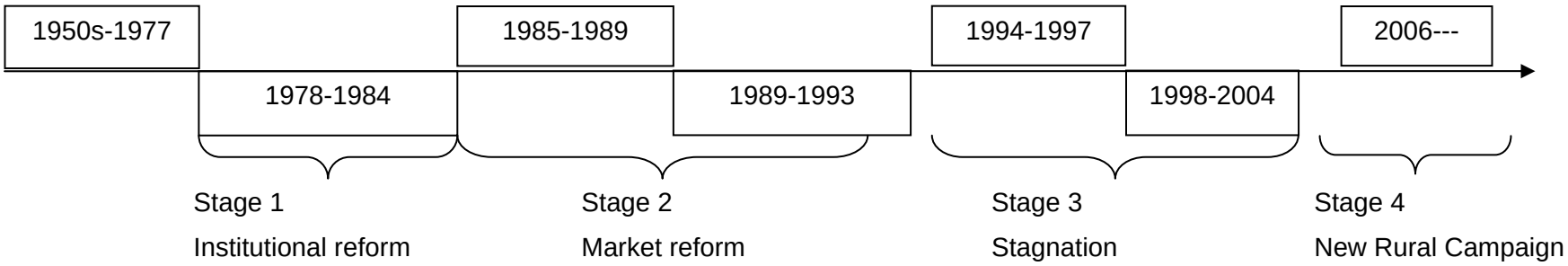
The second stage of China's agricultural development since the country's opening up features the domestic market liberalization by developing market institutions. From 1977 onwards farmers were allowed to trade grain on markets once they fulfilled their delivery quotas to the state procurement system (trade in urban areas was still restricted in the initial stage). Nevertheless, markets were still substantially controlled by the government (Holton & Sicular, 1991). In 1978, the procurement prices were raised to give substantial incentive to farmers, though the control on the retail prices in urban areas was seldom lifted in favour of urban sector. Consequently, the fiscal burden rose substantially. To secure low consumptive price in favour of urban areas and industry, the domestic grain market was rationed until the early 1990s when procurements prices were raised to market level and the parastatal marketing system was broken.

Figure 1 Agricultural transition in China (1977—2007)

▪From 1977 onwards, farmers can trade grain on free market once they had fulfilled their delivery quotas.
▪ In 1978, the procurement prices were raised to give substantial incentive to farmers.
▪Incentive reforms and decollectivization, inter alia, HRS (de Brauw *et al.*, 2004; Fan, 1991; Lin, 1987; Lin, 1998).

▪No mandatory production plans in agriculture would be set. The obligatory procurement quotas were replaced by purchasing contracts (Holton & Sicular, 1991).
▪Decollectivize grain companies
▪It was until 1993 that both the procurement price in rural areas and sale prices in urban areas were decontrolled (Rozelle et al., 2000).
▪Due to the rapid inflation in grain price, retrieved administrative control in 1994 (Lin, 1992).
▪Contribute to the agricultural growth (de Brauw et al., 2004)

▪Stagnated growth in agriculture
▪Robust public investments (Fan et al., 2004)
▪Technology progress (Johnson, 1998)
▪At the price of environmental sustainability

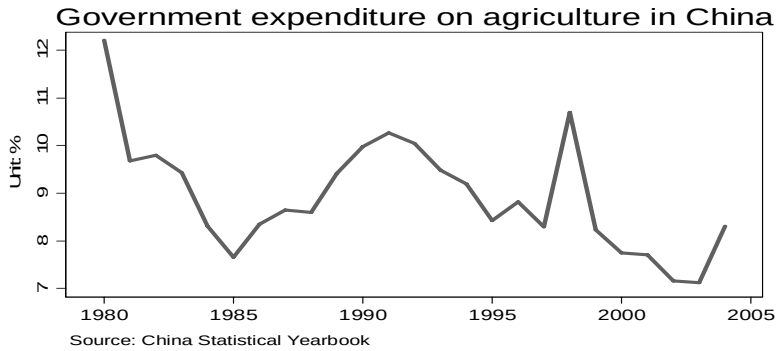


Source: Authors' illustration.

While the "marketization phase" of agricultural development started together with the first phase, the climax of market reform was the declaration, at the beginning of 1985, that no mandatory production plans in agriculture would be set and that the obligatory procurement quotas were to be replaced by purchasing contracts. A wide-ranging commercialization of the procurement grain system was promoted in the early 1990s and the decollectivized grain companies were allowed to claim half of their profits. Transactions among private and commercialized traders accounted for most of the movement of China's grain (Rozelle et al., 2000). In this context, though the grain production was depressed well into the 1980s, agriculture still witnessed a sizable growth. However, depressed agricultural production triggered political unease in the late 1980s and reignited further administrative intervention (Lin, 1992).

The third development stage, starting around 1995, is characterized by a long-lasting period of relatively slow agricultural growth as well a growing rural-urban inequality. Though some studies attribute the growth of the late 1990s to public investments (Fan et al., 2004), public investments in agriculture of less than 10 percent (see Figure 2) can hardly be called substantial considering a 70 percent share of the rural population.

Figure 2 Share of government expenditure on agriculture



Starting with the current decade, the political tide began to turn in favour of agriculture and rural development. This culminated into the "New Rural Campaign" for 2006 and the eleventh Five-Year-Plan (2006-2010), a national strategy for agriculture and rural development. These recent developments can be regarded as the fourth stage of agricultural development in China.

Substantial literature is available on the reasons underlying growth at different stages (de Brauw et al., 2004; Fan et al., 2004; Fan *et al.*, 2003; Lin, 1992). Fan et al. (2004) found the institutional reforms from 1978 to 1984 account for 60 percent of total production growth in Chinese agriculture and 51 percent of poverty reduction. However, for the period from 1985 to 2000 a positive contribution of institutional reforms to agricultural production growth could no longer be found. Public investments became the main engine for agricultural development during that period (63 percent), as well as poverty reduction (94 percent). The contribution of institutional reforms to agricultural growth and poverty reduction waned during the post reform period in China. Further institutional reforms on security of land tenure, appropriate rural credit deregulation and congenial extension of agricultural technology are pending.

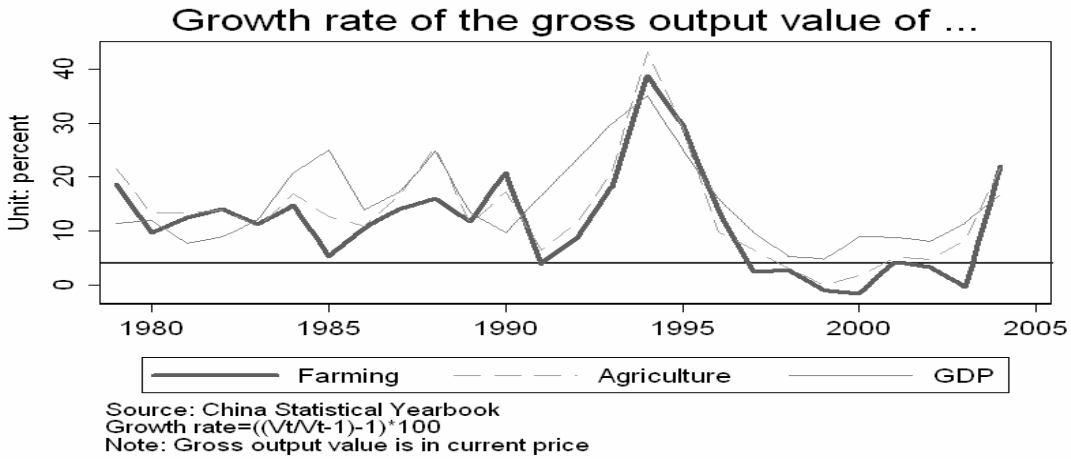
There are also studies comparing the contribution of the incentive reform at the first stage and market reform at the second stage. De Brauw et al. (2004) found that the incentive reform and increased decision-making authority of producers contributed more than the market liberalization, which increased responsiveness and flexibility at the second stage.

Lin (1992) claims that the decollectivization accounts for about half of the agricultural output growth at the first stage of the reform; the contribution of other market-related reforms on productivity is very slim. Johnson (1998), however, claims that the early growth in agricultural output might come from the HRS, but once the superior incentive effects of the HRS had been realized, increases in output in the following years came from technological improvements and resource increases.

3 "FARM PROBLEM" AND CHINA'S AGRICULTURAL TRANSFORMATION

The relative decline in farm incomes and concomitant outflow of labor in structural transformation are called "farm problem" by Schultz (1953) because of the hardship along this process. Partly due to the government's capability to extract "surpluses" from agriculture, the industrialization in China has been growing very rapidly. The share of agriculture to the national economy was reduced to 27 percent in 2004. For the staple foods sector, internationally, growth of 3-4 percent is considered very rapid (Mellor, 1998, p138). Nonetheless, from 1995 onwards, this figure was below 4 percent and the growth of agriculture was stagnating (Figure 3).

Figure 3 Growth in agricultural output value

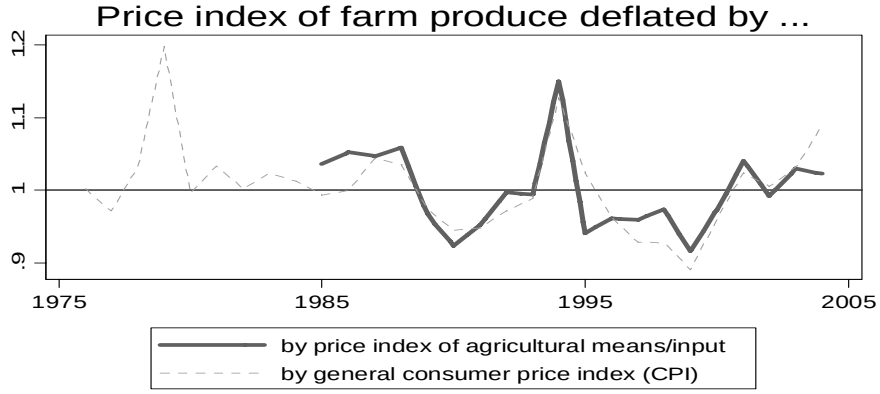


A host of indicators can be used to examine the relationship between agriculture and the national economy. Amongst various price indices, real agricultural prices are more informative. Dividing the nominal agricultural prices by those of other sectors, real agricultural prices provide different dimension to discuss the effects of policies on agricultural incentives (Norton, 2004, p 57).

In Figure 4, agricultural price is deflated by an index of consumer price and an index of agricultural means of production. Although each of them measures different concept, both of them can express the change in the purchasing power of agricultural output.[1] We observe a long period of low relative price in favour of the non-agricultural sector. The deflated price index of farm produce was below 1 from the late 1980s to 2001, with an exception in 1995.

[1] Deflating an agricultural price index by an index of price of agricultural input (agricultural means) would indicate trends in profitability of agricultural production. Deflating an agricultural price index by the consumer price index yields an index of the purchasing power of farm households as consumers. The depressed real index increases the real wage in national economy.

Figure 4 Deflated price index of farm produce



Source: China Statistical Yearbook & China Rural Statistical Yearbook

Explaining stagnating farm income in China has often focussed on depressed farm-gate prices. This, from the mid-1990s onwards, has raised political pressure to use price support policies such as those widely used in developed countries. However, international experience shows that direct intervention on the prices of farm produce is neither effective nor efficient (Anderson & Hayami, 1986). Falling long-term food prices have been the result of technological progress and low farm-gate prices have pushed resources out of agriculture, thereby driving the transformation. It has been shown that the absolute and relative incomes earned by farm families in various countries have no relationship to farm prices (Johnson, 1985). Many farm supports, in particular price subsidies, impede allocating resources efficiently, drain immense government budget, and put stresses on natural resources and environment. Rather, focus should be on the speed of the intersectoral resource movement to facilitate the transformation, rather than applying direct subsidy and trade protection (Anderson, 1983; Ke, 2005).

In agricultural transformation, it is of central importance that technological progress frees rural labors, resulting in increased productivity but declining prices in real terms. No matter how important agriculture is in the national economy, structural change and agriculture transformation lead to a decline of agriculture in proportional output terms as well as - relatively and, eventually absolutely - in the labor force. Anderson claims that when the share of the labor force in agriculture falls below about 20 percent and the share of food expenditures in urban household budgets drops to 30 percent, the increase in food price is not as expensive in relative terms (Anderson, 1983; Anderson & Hayami, 1986). China still has quite a journey to travel in the process.

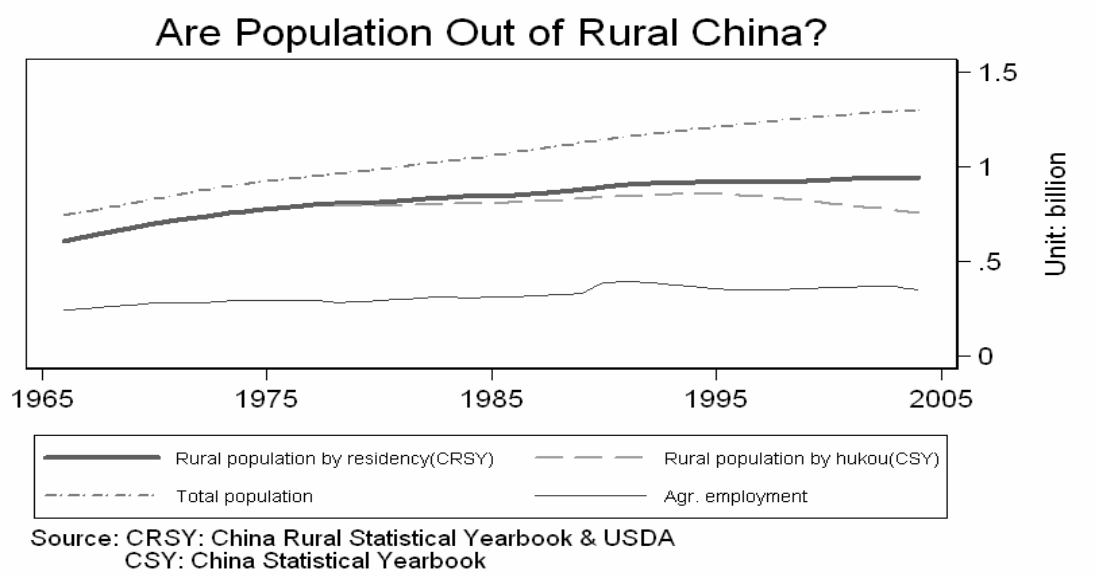
Figure 5 presents two divergent lines between rural population by, first, the permanent residency registration system *(hukou)* [2] and, second, rural population by residency, collected by two Chinese official statistical sources, China Statistical Yearbook (CSY) and China Rural Statistical Yearbook (CRSY). While CSY defines rural population according to *hukou*, CRSY treats those who live in rural areas more than 6 months as rural population.

This discrepancy is one indication for the urbanization in China. From the late 1990s, provincial governments started to strengthen the projected urbanization because this figure would be used to judge their political performance. As local common assets have only ambiguous

[2] *Hukou* traditionally limits migrants' access to employment and public services such as health and education. However, these characteristics are changing. For instance, according to (Lin *et al.*, 2004), the dramatic residency reform in 2002 allows migrants to have permanent residency in midsized cities.

property rights, agricultural land has often been expropriated cheaply by local leaders. Expropriated farmers might obtain urban registration (*hukou*) and therefore get rid of the rural identification which has long stigmatized them as inferior and poor. Nevertheless, unable to gain from the often vastly increased price of their lands and unable to fit themselves in the rest of the economy, many farmers feel deprived of what used to be not only a productive factor but also a safety net (Economist, 2005). Consequently, the landless "rural population", created by urbanization projects can lead to poverty. Partly as a consequence, inequalities within villages were found to be larger than the regional difference (Benjamin *et al.*, 2005).

Figure 5 Agricultural transformation: a migration perspective



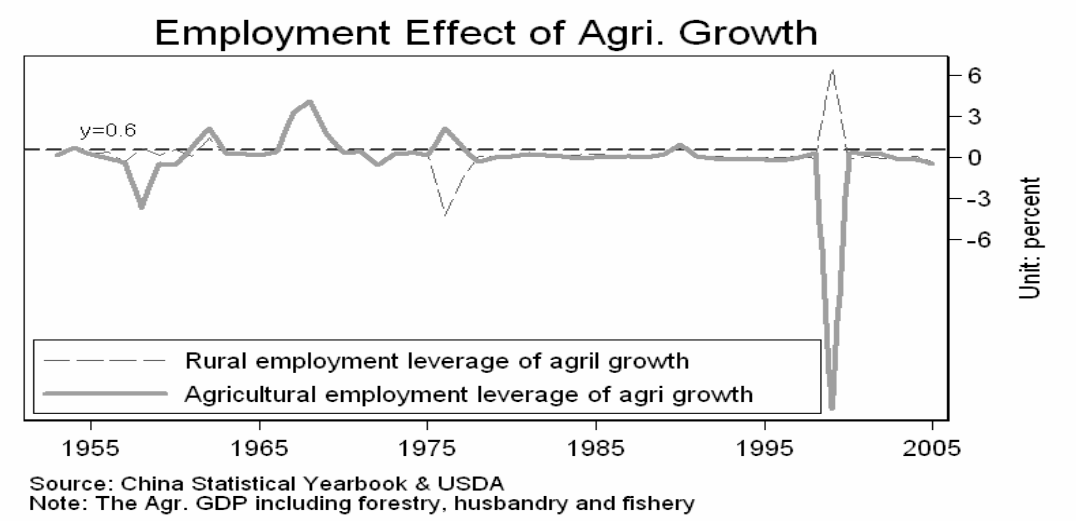
A substantial share of the population is still living in rural China and most of them are engaged, at least part-time, in agriculture. While rural-urban migration is a key driver of China's growth and is rightly supported by the government, there is a limitation to its pace. Rural areas will remain important for a large share of the population and for the economy as a whole. Hence, agricultural-based strategies and rural development programs should focus on creating demand for a wide range of goods and services with high employment content, rather than forced-draft planned urbanizations. As the composition of the rural population shifts increasingly from farmers to employees, the employment effect of public actions is becoming increasingly critical.

Figure 6 shows that the growth in agricultural output contributes overall to less than 0.6 percent growth in agricultural employment.[3] It was in the late 1970s that, because of the institutional reforms, agricultural growth leveraged a substantial increase in employment. By the same token, the growth in agriculture does not create spill-over effects for employment in other sectors in rural areas. As the plot shows, agricultural growth does not lead to high employment in rural enterprises. In the late 1990s, robust government investments stimulated a transient upbeat in rural employment. Shortly after that, the figure turns flat below the 0.6 percent line again.

[3] It is doing well indeed to experience a 0.6 percent growth rate in agricultural employment for each percentage point in the output growth rate (Mellor 1998, p139).

The accelerated growth in employment must be accompanied by accelerating growth in food supplies. China made this. Vice versa, a growth in agriculture production without increasing employment will depress the prices and thereby dampen the incentive in agriculture (Mellor, 1998). China, however, failed in this.

Figure 6 Employment effect of agricultural growth



Note: The outlier of around 1999 is due to changes in statistical measurement.

4 THE "NEW RURAL CAMPAIGN"

Given the increasing concern about the rising inequality and continuously high concerns about food security, agriculture has returned back to the top of the political agenda over the last several years. The government is explicit in its objectives to address the stagnating (in relative terms) farmer income and the increasing inequality as well as inequity, i.e. opportunities. China has now clearly made the change from regarding agriculture as mainly "feeding industry" to a sector that requires strong attention in order to achieve objectives of "balancing growth" and increasing farmers' income. Since 2006, China's policymakers are announcing the building of the "New Rural Campaign" and they have broadened the rural development strategies by including rural infrastructure, education, health, social security and environmental sustainability.

The "New Rural Campaign" is quite comprehensive in its objectives and approach. In particular, it broadens the traditional sectoral focus to one of rural development. However, the implementation of the reforms is better followed through than others. Key instruments include very large increase of public investments, in particular in infrastructure. Institutional reforms, not surprisingly, are much more difficult to tackle. This includes reforms that could boost agricultural growth and farmers' income such as a further weakening of the hukou system, a better land management system that would be the basis for a improved land market and, hence, allocation of land and labor resources. It also includes a further focus on facilitating the development of farmer cooperatives and associations, the strengthening of the food safety system, etc.

The institutional challenges are not unique to China. The earlier quest for integrated rural development policies in the world can be dated back to the 1970s when development economists realized the induced technological change prevailed in the 1960s might be blocked due to the pervasive market failures for smallholders. State's delivery of complementary credit,

technical assistance, crop insurance and access to markets were believed to be able to pull off. These attempts were, however, generally not successful beyond the level of pilot projects (de Janvry *et al.*, 2002).

Then after the general failure of redistributive land reforms in the 1980s and state-led rural development initiatives, re-thinking integrated development strategies started to center on the better understanding of rural households, communities, institutions, and the role of the state. Many of the institutions in rural areas have developed in response to the specific material and informational conditions of agriculture, and many of local organizations and institutions are also found being able to fill the gaps between markets and the state (Binswanger & Deininger, 1997).

Nevertheless, recent studies find institutional failure at the local community level in many developing countries is often overlooked and bypassed (Bardhan, 2001a, 2001b; Mansuri & Rao, 2004). Mansuri and Rau find the community participation has not been particularly effective at targeting the poor and most of such projects are dominated by elites. Bardhan (2001a) further explains that the problem of capture at local level is more serious than at the national level because collusion among elite groups is easier at the local level. While decentralization and individualization of property rights are expecting to usher the emergence of private services, state's immediate compression (at central and local level) leaves "institutional gaps" due to market size, high risks and information failures (de Janvry et al., 2002, p1607).

In China, the implementation of the important reforms such as those on land tenure – or a more rapid progress toward participation – is also hampered by institutional obstacles within the government system. For instance, the implementation of China's comprehensive development strategies requires "cross-sectoral" reforms, i.e. reaching far beyond agriculture. To achieve the multi-objective development goals, coordination and cooperation across sectors (and regions) are needed at all stages from planning over implementing to monitoring and evaluation. Such system, however, is absent at both central and working (or local) level (Fock & Fock, 2007, p255). Similarly, the multi-tier 'nested' hierarchy of administrative structure, with hugely different objectives at these various tiers, makes the implementing a comprehensive rural development strategy in a vast country of hugely different regions particularly challenging. A system of cross-regional coordination is as weak as that between various government sectors.

This lends cautious support to the argument that the comprehensive development strategy is only vocal at central level. While the abovementioned evidence since 1990s illustrates that both market failures and community failures disable integrated rural development strategy, government failures are pervasive because of the involvement of pressure groups and state's limited capacity of coherence. The need for reforming the government system, including a strengthening of an independent monitoring and evaluation of government activities (both, through independent auditors and the general public, and a much stronger involvement of citizens in the decision-making processes) is required.

5 CONCLUSION

This article categorizes the public actions in China's agricultural transformation into institutional reforms, market liberalization and public investments, and shows their distinctive role at different stages of development. On the basis of the institutional reforms which delegated decision-making to individual households, market liberalization was able to proceed without creating polarized distribution. Later, public investments became a significant contributor to

agricultural growth. Nevertheless, the public investments could not unshackle the "institutional" bottlenecks and overcome the (relative) depression of the rural economy.

Agricultural transformation is described by Timmer (1988) to evolve through four phases. China seems to be at the third stage for integrating rural factor and product markets with the rest of the economy – after the rising agricultural productivity at the first stage and taping the surplus created for the non-agricultural sector. This process of integration, however, proceeds on a narrow course because of the structural rigidities, existing imperfect markets, and already formed interest groups.

The integrated or multi-dimensional rural development strategies, often formulated in response to these challenges, emphasize both free market and government policy interventions. But the "price and marketing policy" recognizes widespread market failures in agriculture as well as extensive government failures in implementation (Timmer, 1988, p325). Unproductive policies, shared in both developing and developed countries, regard any perceived problem as potentially resolvable by taking income from some and giving it to others (Knudsen *et al.*, 1990).

In such context, the "New Rural Campaign" projected in China is a unique undertaking given the institutional challenges. Government should focus on capacity-building and institution-building which pay special attention to the poor's access to various markets and the conditions of their participation in them, rather than in a top-down mode. After all, lack of individual initiative, incentives tend to be achieved at huge costs. Public sectors, in contrast, tend to poorly adapt to information and incentives; once caught, information tends to be poorly processed (Stiglitz, 1993). Bottom-up development mode, which is based on well-developed structure for transmitting information and norms among economic agents, is the endogenous and stable engine for a sustainable development in agriculture.

REFERENCES

Anderson, K. (1983). Growth of agricultural protection in East Asia. *Food Policy, 8*, 327-336.

Anderson, K., & Hayami, Y. (1986). *The political economy of agricultural protection: East Asia in international perspective*. London: Allen and Unwin.

Bardhan, P. (2001a). Distributive conflicts, collective action, and institutional economics. In G. M. Meier & J. E. Stiglitz (Eds.), *Frontiers of development economics: The future in perspective*. New York: Oxford University Press (for the World Bank).

Bardhan, P. (2001b). Institutions, reforms and agricultural performance. In K. G. Stamoulis (Ed.), *Food, agriculture and rural development: Current and emerging issues for economic analysis and policy research*. Rome: Economic and Social Department, Food Agricultural Organization of the United Nations.

Benjamin, D., Brandt, L., & Giles, J. (2005). The evolution of income inequality in rural China. *Economic Development & Cultural Change, 53*(4), 769-824.

Binswanger, H. P., & Deininger, K. (1997). Explaining agricultural and agrarian policies in developing countries. *Journal of Economic Literature, 35* (4), 1958-2005.

de Brauw, A., Huang, J., & Rozelle, S. (2004). The sequencing of reform policies in China's agricultural transition. *Economics of Transition, 12*(3), 427-465.

de Gorter, H., & Swinnen, J. (2002). Political economy of agricultural policy. In B. Gardner & G. Rausser (Eds.), *Handbook of agricultural economics* (Vol. 2B): Elsevier Science B.V.

de Janvry, A., Sadoulet, E., & Murgai, R. (2002). Rural development and rural policy. In B. Gardner & G. Rausser (Eds.), *Handbook of agricultural economics* (Vol. 2A): Elsevier Science B.V.

Du, R. (2006). *The course of china's rural reform* (International Food Policy Research Institute: Sustainable Solutions for Ending Hunger and Poverty): International Food Policy Research Institute.

Economist. (2005). China's land disputes, *June 23rd*.

Eicher, C. K., & Staatz, J. M. (1998). *International agricultural development (3rd edn)*. Baltimore, MD, USA: The Johns Hopkins University Press.

Fan, S. (1991). Effects of technological change and institutional reform on production growth in Chinese. *American Journal of Agricultural Economics, 73*(2), 266-236.

Fan, S., Zhang, L., & Zhang, X. (2004). Reforms, investment, and poverty in rural china. *Economic Development & Cultural Change, 52*(2), 395-421.

Fan, S., Zhang, X., & Robinson, S. (2003). Structural change and economic growth in China. *Review of Development Economics, 7*(3), 360-377.

Fock, A., & Fock, K. (2007, June 27-29). *Comprehensive rural development in china: Strategy and implementation challenges.* Paper presented at the IAMO Forum 2007 "Sustainable rural development: What is the role of the agri-food sector?" Halle (Saale), Germany.

Holton, R. H., & Sicular, T. (1991). Economic reform of the distribution sector in China. *American Economic Review, 81*(2), 212-218.

Johnson, D. G. (1985). World commodity market situation and outlook. In B. L. Gardner (Ed.), *U.S. Agricultural policy: The 1985 farm legislation*. Washington: American Enterprise Institute for Public Policy Research.

Johnson, D. G. (1998). *China's rural and agricultural reforms in perspective* (Office of Agricultural Economics Research No. 98-01). Chicago, USA: University of Chicago.

Johnston, B. F., & Mellor, J. W. (1961). The role of agriculture in economic development. *American Economic Review, 51*, 566-593.

Ke, B. (2005). Reform in grain system and market-oriented establishment: Historical review and perspective [liang shi shi chang ti zhi de jian li he gai ge: Li shi hui fu he zhang wang]. In B. Ke (Ed.), *Agricultural economy and policy of china [zhong guo nong ye jing ji he zheng ce]*. Beijing: China Agricultural Press.

Knudsen, O., Nash, J., Bovard, J., Gardner, B., & Winters, L. A. (1990). *Redefining government' s role in agriculture for the 1990s* (WDP No. 105): The World Bank.

Lin, J. Y. (1987). The household responsibility system reform in China: A peasant's institutional choice. *American Journal of Agricultural Economics, 69*(2), 410.

Lin, J. Y. (1992). Rural reforms and agricultural growth in China. *American Economic Review, 82*(1), 34-52.

Lin, J. Y. (1998). Agricultural development and reform in China. In C. K. Eicher & J. M. Staatz (Eds.), *International agricultural development (3rd edn)*. Baltimore, MD, USA: The Johns Hopkins University Press.

Lin, J. Y., Wang, G., & Zhao, Y. (2004). Regional inequality and labor transfers in China. *Economic Development & Cultural Change, 3*, 587-603.

Mansuri, G., & Rao, V. (2004). Community-based and -driven development: A critical review. *World Bank Research Observer, 19*(1), 1-40.

Mellor, J. W. (1998). Agriculture on the road to industrialization. In C. K. Eicher & J. M. Staatz (Eds.), *International agricultural development (3rd edn)*. Baltimore, MD, USA: The Johns Hopkins University Press.

Norton, R. D. (2004). *Agricultural development policy: Concepts and experiences*. West Sussex, England: John Wiley&Sons.

Rozelle, S., Park, A., Huang, J., & Jin, H. (2000). Bureaucrat to entrepreneur: The changing role of the state in China's grain economy. *Economic Development & Cultural Change, 48*(2), 227-253.

Schultz, T. W. (1953). *The economic organization of agriculture*. New York: McGraw-Hill.

Schultz, T. W. (1964). *Transforming traditional agriculture*. New Haven: Yale University Press.

Stiglitz, J. E. (1993). Incentives, organizational structures and contractual choice in the reform of socialist agriculture. In A. Braverman, K. M. Brooks & C. Caski (Eds.), *The agricultural transition in central and Eastern Europe and the former USSR*. Washington, DC, USA: The World Bank.

Timmer, C. P. (1988). The agricultural transformation. In H. Chenery & T. N. Srinivasan (Eds.), *Handbook of development economics*. Amsterdam: Elsevier Science Publishers.