7 China's Experience with Market Reform for Commercialization of Agriculture in Poor Areas

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Introduction

This chapter is about the biggest agricultural commercialization "project" of the 1980s: China's economic reforms. It highlights the power of domestic market reform for poverty-alleviating growth, with government remaining an active force in interregional staple food markets, as well as the scope for public policy for poverty alleviation parallel with market reform. As will be shown, China's problem of absolute poverty—a cause for undernutrition in its poor areas—was significantly reduced as a result of these policies. In fact, it may be speculated that China's expansion of its poverty alleviation policy in the 1980s came partly as a result of the increased resource availability that resulted from successful commercialization and partly as a consequence of public demand for regional balance in the growth path.

In the late 1970s and early 1980s, the government of China implemented a series of economic reforms designed to stimulate the rural economy and to form the basis of its drive to create a modern, integrated economic system. Rural reforms of this period may be grouped under four headings: decollectivization, market and price reforms, increased availability of inputs, and agricultural and rural economic diversification. Although the relative contribution of each element is hard to disentangle (Johnson 1989), the 1978–84 period was one of unprecedented high growth rates in nearly every sector of the rural economy, creating a sharp rise in rural household income and a burst of commercial activity. There is little empirical work that addresses the degree of participation in this development boom by impoverished regions where undernutrition was concentrated at the outset of the boom. After 1984, nominal income growth among China's rural residents slowed down and real incomes appear to have declined, yet the broad process of commercialization in rural China has continued.

After briefly summarizing the rural commercialization and income growth process for the country as a whole, this chapter addresses four questions regarding China's poor areas:

1. What are the major arguments or concerns regarding the participation of poor areas in this process?
2. How have they managed during the 1978–84 period of rapid rural development and the subsequent period of high inflation and decline in real incomes?
3. To what extent have they participated in the broad processes of rural commercialization so evident elsewhere in China, and how is their participation or lack thereof related to their income performance?
4. Can their performance be traced to the success or failure of particular public assistance initiatives, economic reforms, or obstacles to their rural development?

Rural Economic Reform, Commercialization, and Development in China

The various elements of China's rural commercialization process since 1978 and how they relate to economic reforms and policy changes since then have been traced in detail elsewhere (An 1989; Perkins 1988; Travers 1984; World Bank 1990). In summary, China's success with commercialization involved several elements:

- rapid growth in foodgrain production based on long-term investments in technical transformation of agriculture and a rapid growth rate of input supplies that were broadly distributed;
- rural reorganization linking family income more closely to productive work and farm-level decisions;
- higher public procurement prices and tax cuts, leaving more cash in farmers' hands and providing incentives for increased farm production;
- liberalization of previously restricted rural income-earning activities and product markets;
- supplementation of autonomous specialization of farm activities with public regionalization plans for agriculture, backed by complementary public market initiatives and increased public investment in transport infrastructure;
- policies supportive of labor-intensive rural industrial development and rural town growth.

During 1978–84 these elements led to rapid growth in farm and rural industrial production; rapid growth of markets, marketing activities and rural income; and some degree of agricultural diversification and specialization. Rural per capita income rose 197 percent in nominal

terms between 1978 and 1987, which was partially accounted for, and offset by, the increase in prices.[1] All of the growth in real per capita income seems to have occurred between 1978 and 1984, with average real incomes in rural areas stagnating or even declining between 1985 and 1987. Important causes of this latter stagnation and decline include

- poor integration and bottlenecks in factor market development, especially the lack of a rural financial system and macroeconomic regulatory apparatus appropriate for rapid growth of the rural economy;
- insufficient storage, processing, transport, and communications infrastructure for sustaining rapid development and integration of markets;
- ambivalent public policy toward market integration and privatization;
- a reversal in the favorable terms of trade for major farm commodities procured by public institutions, and excessive taxation by local authorities through remonopolization of input supplies and other fees, taxes, and user charges.

However, the process of rural commercialization, despite retrenching in some regions and sectors after 1984, resumed within a year or two. In particular, commercial sales of foodgrains doubled between 1978 and 1983 and reached even higher levels in 1984 and 1987–88.[2] Rural-to-rural transfers of grain grew from 6 percent of production during 1975–79 to a peak of 15 percent in 1985, subsiding to 7.6 percent by 1987. Rural-to-rural transfers still occurred primarily through public channels that gave priority to urban procurement needs.

Among other farm commodities, the increase in the marketed share of staple foods and edible oils was most significant (table 7.1). Marketing rates for cotton, reflecting state purchasing and industrial-processing monopolies, were already high before the reforms and remained high. Marketing shares for swine and piglets rose and fell in a complex relationship with relative prices and rates of growth and levels of staple food crop production and farmer incomes. The marketed volume of aquatic

1. Public purchase prices for farm goods rose 99 percent over the entire period. Prices for consumer goods sold in state stores rose 134 percent between 1978 and 1987. Market prices for the same basket of goods rose 63 percent, but were still some 17 percent above state store prices in 1987 (SSB *Statistical Yearbook of China* 1989). The retail price of grain in rural areas doubled during 1985–89.

2. Foodgrain sales by farmers rose from 51 million metric tons (mmt) to 117 and 121 mmt in 1983–1984 and 1987–88, respectively, in terms of *maoyi liangshi* (trade grain), or partially processed weight (SSB *Statistical Abstract of China's Rural Economy by County* 1990).

products rose, but the marketing rate fell, as infrastructural development was unable to keep pace with rapidly rising production levels.

In part, these trends reflect changes in cropping patterns and production structures during the first decade of the reforms. Throughout China, the proportion of all sown area devoted to grain and green manure crops declined, and the area planted with cash crops increased.[3] With brisk growth in farm input supplies; greater freedom for farmers in utilizing labor, material inputs, and, to some extent, land; rapidly climbing rural incomes and higher public prices; and freer private markets for farm goods, production of many long-suppressed consumer food items grew at phenomenal rates.[4]

Although rural agricultural labor markets and, especially, transactions in land markets are very constrained (Taylor 1988; Rozelle 1991), there was still considerable factor market activity following the reforms. Despite labor market restrictions, the proportion of rural-based labor engaged in off-farm work grew from 6 percent in 1978 to 9 percent by 1983 and to 22 percent by 1988 (SSB *Statistical Yearbook of China* 1984 and 1989). While rural credit via approved channels is still inadequate, agricultural loans quadrupled between 1981 and 1988, supplemented by rapid expansion of credit from unregulated sources. Since the 1950s, public banking and credit institutions have been organized to control flows of real and financial resources between the farm (especially the grain) economy and the government and cities (Byrd 1983; Ishikawa 1986; Stone 1988). Restrictions to achieve this control left credit institutions, on the eve of the reforms, inadequately prepared to meet the needs of prolonged rapid rural development, not only for industrialization and other nonagricultural diversification activities, but even for continuing the rapid expansion in crop production and marketing for which these public institutions were designed. Credit supplementation from unregulated sources shares the blame for accelerating inflation, but it helped to delay and ameliorate the braking effect of the inadequate public credit

3. Area planted with cash crops increased from 10 percent of total sown area in 1978 to a peak of 16 percent in 1985 and remained between 14 percent and 15 percent during 1986–89 (SSB *Statistical Abstract of China's Rural Economy by County* 1990).

4. Production of fruit, tobacco, tea, and bast fibers grew by around 50 percent between 1978 and 1984 while production of sugar beets and oil crops doubled and that of cotton tripled. Despite the shift of farmland and labor out of grain cultivation, foodgrain production increased at 5 percent per year (SSB *Statistical Yearbook of China* 1990). The livestock sector's share of gross value of agricultural output (GVAO) increased from 15 percent in 1978 to 22–23 percent during 1985–87. Aquatic production grew from 2 percent of GVAO in 1978 to 6 percent in 1988. Likewise, the share of farm subsidiary output grew from 3 percent of GVAO in 1978 to 7 percent in 1987 (SSB *Statistical Abstract of China's Rural Economy by County* 1990).

facilities and the government's inflation-control efforts (World Bank 1990).

Governmental Concern with Poverty and Links to Rural Reform

How did the commercialization process affect the poorer regions of the country? To understand the concern over the capacity of these regions to participate in this process, a brief digression into the underlying nature of Chinese poverty is useful.

Chinese Poverty Before 1978

The ideological origins of the Chinese Communist Party are grounded in an explicit concern for the poor. Land reform was carried out in areas under party control even before the establishment of the People's Republic and throughout the country within several years thereafter. Land taxes and indirect taxation through the farm goods procurement system were established on a progressive basis. This major redistribution of assets was the basis for important rural welfare improvements and reduction of poverty in the 1950s.

The subsequent formation of agricultural producers' cooperatives and people's communes was undertaken for many purposes, but poverty relief was a major objective. The considerable leveling of wealth that resulted narrowed the dispersion of incomes within particular accounting units. However, the accomplishments in this respect were both limited and temporary (Ishikawa 1968; Roll 1975). Collectivization could not extinguish the remaining sources of poverty, due to geographic differences in endowments among accounting units and disparities in labor endowment among families. The latter were dealt with to a limited extent by maintaining small local and national relief funds to assist the elderly and the dependents of living or dead soldiers (Ahmad and Hussain 1991).

Aside from these rural reorganization efforts, programs and policies specifically aimed at benefiting the rural poor were extremely limited (Lardy 1978; Dixon 1981). The Ministry of Civil Administration provided funds, food, and input supplies to areas suffering from natural disasters, but chronically poor regions were not the principal recipients of emergency resources. To a modest extent, the rural poor were assisted by the already-mentioned small local and national relief funds maintained for the elderly and military dependents. However, the design, targeting, and level of assistance through these programs were not sufficient to improve basic living conditions of the poor.

On the other hand, a number of policies, many of which were aimed at facilitating extraction of agricultural surpluses, tended to impoverish

farmers, and often were especially harmful to the poor. Restrictions on labor markets and migration associated with collectivization trapped the poor on unproductive farmlands. Tight controls over cropping decisions, input distribution, and procurement quotas, together with restrictions on income-earning activities in the countryside, kept rural inhabitants excessively focused on grain production, regardless of their comparative advantages. State control of agricultural prices kept farm profitability low (Stone 1988).

These policies were reappraised in the late 1970s, when it was recognized that 30 years of pursuing a Stalinist model of development had left the rural economy undeveloped and characterized by low productivity and low living standards, including undernutrition, with a significant proportion of the rural population unable to maintain a minimum subsistence level.

Rural Policy Reforms and Questions About Poverty

While the policy reform initiatives summarized earlier were successful in raising rural incomes and stimulating rural development in general, official concern has been raised as to whether economic growth and many of the specific reform measures would actually benefit the poorer regions of the country. High surplus quota grain prices and free market sales might not help poor farmers in isolated regions who are unable to fulfill basic quota sales obligations. If higher purchase prices for state farm goods and local public finance initiatives were to substitute for national and provincial revenue sharing and capital construction, where would this leave poor areas often characterized by inadequate local governments and with relatively modest benefits from procurement price increases?

There was concern that agricultural specialization and diversification would be curtailed in poor areas by isolation, poor organization, and chronically low and variable staple food production levels. Could sizable supply increments continue in poor areas where transport costs are high and marketable surpluses low? Were agro-ecological, infrastructural, and credit conditions sufficient to expect productivity increases through agricultural technical transformation in poor counties? There was concern that traditional customs and low education levels would prevent modern economic development in many poor counties, especially those inhabited by minorities. Contrary to these concerns, product market liberalization seems to have been more permissive in poorer counties. Poor areas could benefit most from increased freedom to engage in nonfarm occupations, at least until this policy was extended to encourage collective investment in rural industries (only the wealthier collectives had much capital to invest).

Some of the policies initiated after 1978 were, at least in the beginning, targeted to impoverished areas. The return to family farming under the "production responsibility system" was initiated locally in poor areas where collective farming had clearly not benefited the rural population; it was first officially extended to the poorest one-third of China's counties, and it was not until 1983 that decollectivization was sanctioned as a nationwide policy.

Nevertheless, concern over widening regional income differentials as some areas quickly prospered under reforms, concern that a large portion of China's poorer rural areas was being left behind, and a relaxation of concern over growth in farm production and marketing in the country as a whole led to an increased focus of governmental attention on poor areas during the 1980s.

Special Public Assistance Efforts for Poor Counties

The government's new approach to rural poverty was to provide special assistance to the poor in developing their own capacity to exploit local resources for commodity production and, gradually, to become commercialized. In other words, this new approach replaced the earlier policy of "blood transfusion" with one of "blood creation." Driven by some of the concerns mentioned above, the State Council established in 1985 the Office of the Leading Group for Economic Development in Poor Areas to administer and monitor 4 billion yuan per year in development project expenditures for poor areas. Provincial and regional governments supplement these funds. Poor Area Development Offices (PADO) of provincial and county governments administer funds from both national and provincial sources. This initiative started on a smaller scale in the early 1980s, when the government initiated an effort to address the special problems of economic development in poor areas. An assistance program provided low interest loans to 28 arid, impoverished counties in the Sanxi region of Gansu Province and Ningxia Hui Autonomous Region. This program was used as a model to extend national assistance to 300 counties by 1986, and to an additional 27 pastoral counties by 1988. Some 370 counties were designated for provincial government support in 1986. After adjusting for county consolidation and double counting, some 664 counties received national or provincial assistance in 1986, and 698 counties received public help in 1988.

From 1985 to 1987, poor areas received 2.7 billion yuan in the form of grain, raw cotton, and cloth in exchange for work performed by the poor on infrastructural projects. In 1988, the Office of the Leading Group for Economic Development in Poor Areas initiated the Food and Clothing Supply Project that provided incremental allocations of fertilizer, plastic sheeting, steel, timber, and trucks at 30 percent discount to

arid and frigid mountain areas. The state exempted poor counties from agricultural taxes for three to five years beginning in 1985, and from energy and transport construction taxes in 1987, and lowered reserve requirements for their banks in 1987.

While a special economic development program for poor counties marks an important milestone in the evolution of China's public policy, other public finance flows affect poor counties as well. According to the Office of the Leading Group for Economic Development in Poor Areas, the forced sale of low interest bonds (*guokuchuan*) to poor county governments in the late 1980s exceeded PADO expenditures. The resale profit value of fertilizer deliveries at quota prices and heavily subsidized transport to poor counties through the normal contract mechanisms could have totaled several billion RMB by the late 1980s, given the sharp increases in nonquota fertilizer prices.

Reduction in Absolute Poverty, 1978–84

Detailed statistical evidence is lacking for the 1978–82 period, but there is no question that China experienced substantial reduction in poverty between 1978 and 1984: almost one-quarter of the rural population, roughly 180 million people, emerged during this period from income and nutritional levels that were below the absolute poverty line. One exercise, based on estimated food-energy consumption needs, places the number of rural residents living in absolute poverty in 1978 at around one-third of China's total, or 250 million.[5] Using the same poverty standard for 1984, the estimate falls to around 70 million, although, after 1984, rural poverty is estimated to have increased somewhat. Official estimates echo these results, while placing the number of rural poor at somewhat higher levels—102 million in 1985 (State Council 1989). All studies, however, suggest a substantial reduction of poverty during the 1978–84 period.

The remainder of the chapter addresses the economic record of the

5. Calculated from survey-based food supply estimates, using 2,150 kilocalories per day as a poverty measure throughout China. While lower kilocalorie estimates are sometimes used in studies for other countries, a high proportion of China's poor are in temperate rather than tropical latitudes and reside in mountainous areas, therefore tending to require more calories for individuals of equivalent age, sex, and stature than poor individuals in tropical climates.

The estimated consumption associated with expenditures on food of about 75 RMB per year, 2,150 kilocalories per day, translates to a poverty line of around 100 RMB in 1978. The 1985 equivalent of the same poverty line would be around 200 RMB. Such calculations inevitably rest on a number of somewhat arbitrary assumptions, and the large decline in the poverty head count is, in part, because of the unusually large concentration of the Chinese population close to the poverty line (Travers and Stone 1991).

poorer part of the Chinese rural population. For conceptual purposes, this population is divided into groups that reside in two areas:

1. "successful poor areas" that operated below the subsistence level in 1978 but were not regarded as poor by national and provincial governments in 1985;
2. "poor counties" designated in 1985 for national or provincial development assistance.

Successful poor areas include the approximately 180 million rural residents of poor villages that were below the poverty line in 1978 but above it in 1985. Large numbers of villages in poor but successful counties are included, as are poor but successful villages located in officially designated poor counties, which included most rural Chinese with average per capita incomes at or near the poverty line in 1985. The poverty line, while based on an estimated relationship between caloric intake and income, was defined in terms of income: 200 RMB per capita.

The 664 poor counties include approximately 300 counties whose annual per capita incomes of rural residents averaged less than 150 RMB (or up to 300 RMB for politically favored counties that are designated for national assistance). The remaining poor counties are designated for assistance by provincial governments; per capita income levels of these counties vary. Some counties with high average income levels still contain many villages and even townships that are quite poor. More than 100 poor counties that are under special military administration in Tibet and elsewhere in western China are excluded from these data.

The reform period may be divided into two subperiods: the rapid growth period of 1978–84 and the period of general rural income stagnation beginning in 1985 and extending into the 1990s. Detailed statistical data on officially designated poor counties span a portion of both periods: 1983–87.

Successful Poor Areas, 1978–84

The poor areas that were able to escape extreme poverty as a result of the initial policy reforms were often those where the geographical or physical endowment was favorable but previous policies had suppressed opportunities for profitable commercialization. These areas included areas that had been forced to devote most of their land to grain, despite having a comparative advantage in cash crops or livestock (Lardy 1983); areas with considerable labor surpluses and easy access to urban centers; and areas where traditional handicrafts or commerce had been well developed but suppressed in recent years. The latter included areas

located on historical trade routes of less importance to the socialist economy, border areas with unique forest products (often populated by minority groups), and extremely risk-prone and meager agricultural regions.

Successful poor areas also included grain-producing regions with characteristics not dissimilar from those just on the other side of the poverty line, but which also scored impressive growth in grain yields and production while diversifying the rural economy. Technical change and commercialization of agriculture were key to the success of many successful poor areas. High-yielding variety (HYV) coverage in such areas was significant in 1978 and grew rapidly thereafter. During the 1978–84 period, coverage of hybrid maize rose from 60 percent to 80 percent of China's maize area; coverage of hybrid sorghum rose from 50 percent to almost 90 percent; coverage of short-stature wheat varieties rose to three-quarters of the country's wheat area; and farmland planted with dwarf rice varieties increased from more than 80 percent to 95 percent of China's paddy sown area, inevitably including farmlands occupied by the hundreds of millions of rural residents living in poverty in 1978 (Stone 1990). Irrigation facilities served an important portion of such areas. Coverage of irrigation facilities averaged 54 percent of cultivated area for the 1,300 "nonpoor" counties of China, including hundreds of poor counties that successfully passed over the poverty line during the 1978–84 period (SSB *Statistical Abstract of China's Rural Economy by County* 1980–87).

Some rural areas, relatively impoverished in 1978, made rapid advances in the early 1980s, whereas other poor areas were much less successful. This differential performance was reflected in provincial statistics for growth rates of agricultural production during 1979–82, when, for example, Anhui, Sichuan, Guizhou, and Guangxi (relatively poor provinces) grew rapidly (18–27 percent), but Gansu, Qinghai, Shaanxi, and Ningxia (as poor or poorer provinces) grew very slowly (0–8 percent) (World Bank 1985).

What about the residents of counties still considered poor as late as 1985? Did their incomes remain stagnant or decline during the remarkable period between 1978 and 1984? Were these counties so isolated or so unlike the rest of China? Was China's rural economy so thoroughly dualistic? If not, what was the nature of their progress during the 1978–84 period, and how did they fare during the subsequent period of rural income stagnation across China as a whole? How was any such progress related to the rural economic reforms, public policy, and commercialization process? Empirical work in the remainder of the chapter addresses these questions.

Poor Counties Commercialization and Poverty Alleviation, 1983–87

After the impressive nationwide gains in production and incomes that resulted from the "liberation" of the energies of China's farmers, to what extent have the poor, especially those in impoverished areas, been able to continue to improve their livelihoods during the latter half of the 1980s? Have the poor areas been put on a path to a growing and commercializing rural economy? Has the income gap between the poor and nonpoor been narrowing or increasing over time? Or has the government, in its drive to let "a part of the farmers get rich first" (Deng Xiaoping), totally abandoned its efforts to deal with poverty? Disaggregated data are available for the 1983–87 period for a more detailed examination of the performance of poor counties.[6] This period includes both the end of the rapid growth period (1983–84) and the slower growth period (1985–87) when real incomes in rural China tended to decline.

Location of Poor Counties

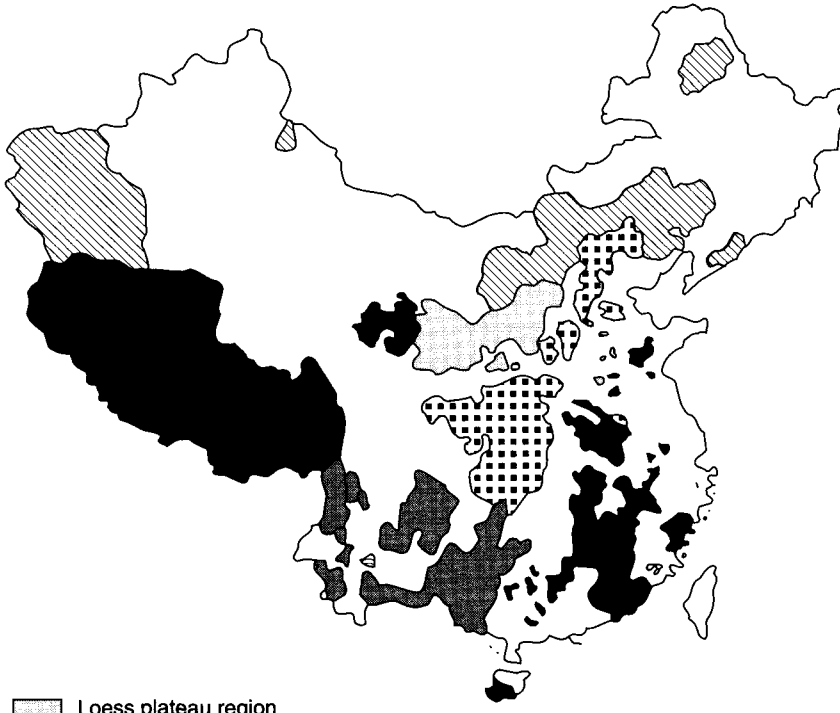
Aside from the poor counties under special military administration, the most intractable poverty alleviation problem is centered among the 211 million rural residents of 664 counties, where some 93 million were considered poor in 1986 by the Office of the Leading Group for Poor Area Development (Jiang et al. 1989). The poor counties are distributed across 23 of China's 27 provinces, but 78 percent of them are concentrated to the west of a north-south line that runs through the central mountainous parts of the country from Heilongjiang, Gansu, and Inner Mongolia in the north to Guangxi and Yunnan in the south (figure 7.1). The remaining 146 counties, generally better off among the poor counties, are located in less contiguous islands of poverty in the hills of eastern and southeastern China.

Status in the Early 1980s

Poor counties designated for public assistance are normally characterized as being poorly endowed by geographic location (remote and mountainous) and at a disadvantage in terms of agricultural resources

6. The study is based on 664 counties designated as poor counties in 1986, about one-third of all Chinese counties. Thus the successful poor areas discussed in the earlier subsections are generally not included in the sample. Sample data pertain to the years 1983–1984 and 1986–1987. The main data source is unpublished data for agricultural inputs and outputs, village enterprises, grain flows, population, and rural incomes for each of the poor counties. Supplementary data are drawn from national and provincial statistical yearbooks and other secondary sources, especially SSB *Statistical Abstract of China's Rural Economy by County* 1989; *Statistical Yearbook of China* 1990.

FIGURE 7.1 Poor regions of China and their dominant staple food crops



Loess plateau region
Wheat, millet, white potatoes, and other coarse grains and pulses

Central Plateau and mountains
Corn, wheat, and millet in the northern areas
Corn, rice, and sweet and white potatoes in the southern areas

Karst mountain region
Rice, corn, sweet and white potatoes, and other coarse grains and pulses

Eastern hills and mountains
Wheat, rice, corn, and sweet potatoes in the northern areas
Rice and sweet potatoes along the coast

Qinghai Plateau and Tibet
Highland barley, wheat, and potatoes

Sandy regions of the Mongolian Plateau and arid regions of Xinjiang
Wheat, millet, corn, soybeans, sorghum, and white potatoes in the eastern sandy areas
Wheat and corn in the western arid region

Note: Map is based on original map in Dehua (1988, 21).

(such as soil, rainfall, and climate). Many of these areas suffer from severe ecological damage such as deforestation and soil erosion. Counties where staple food crop yields are chronically low or highly variable, or both, as well as counties where yields per hectare are high but there is little arable land and few noncrop activities to support dense populations are included among poor counties as are those counties with poor villages and townships but whose per capita average foodgrain production is surprisingly high (figure 7.2). Infrastructure is generally very poor, particularly in terms of transport links to the outside.[7]

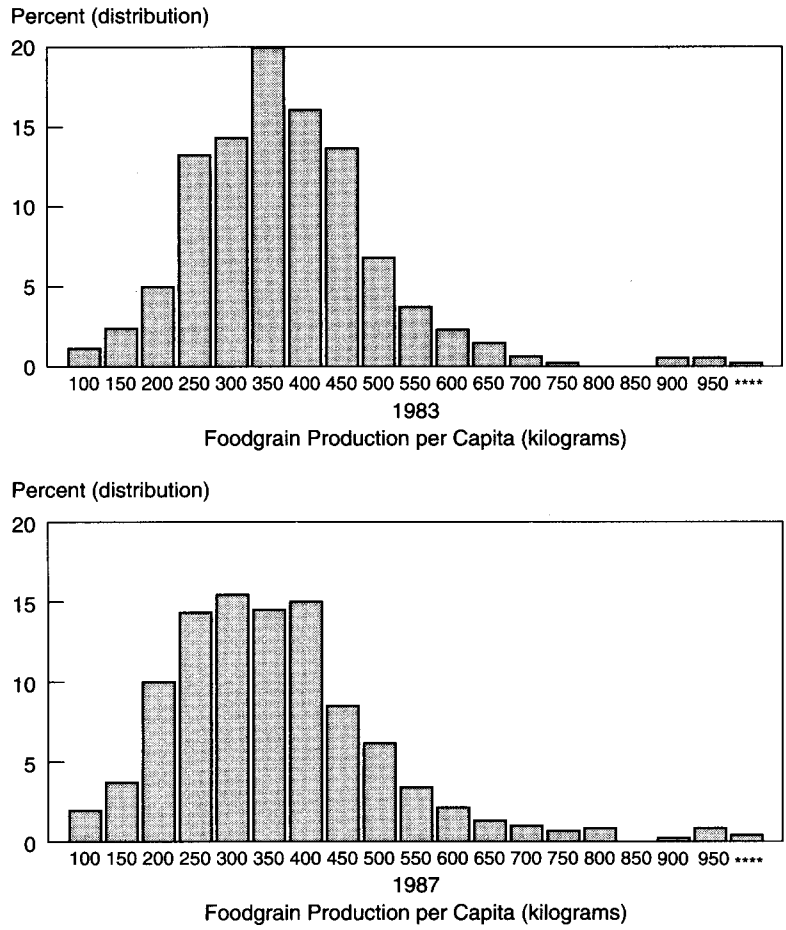
Irrigation in poor counties was available for 31 percent of cultivated area in 1980. Chemical fertilizer sales—an indicator of technology utilization in agriculture—per sown hectare in poor counties in 1980 and 1985 averaged 57–58 percent of sales in nonpoor counties (SSB *Statistical Abstract of China's Rural Economy by County* 1980–87). Large increases in fertilizer supplies were made available to poor counties during the early reform period relatively independently of farm goods sales. Yet farmers in poor counties did not necessarily use all that they received: market resales of fertilizer have been a source of cash income since the 1970s, and especially since the mid-1980s (Stone 1989; Ye 1991).

HYV coverage of Chinese staple food crop area, also in poor counties, increased rapidly during the 1978–84 period (Stone 1990). While irrigation did not appear to increase among poor counties in the early 1980s, fertilizer sales grew by 38 percent between 1980 and 1985, about the same rate (40 percent) as in China as a whole. Consequently, while foodgrain sown area declined between 1980 and 1985, foodgrain production in poor counties increased 22 percent during 1980–84 (17 percent during 1980–85) from 64 million metric tons (mmt) in 1980 to 79 mmt in 1984 (75 mmt in 1985). These figures compare surprisingly well, despite the poorer agro-ecological and water control conditions in these counties, with the 27 percent increase in China as a whole during 1980–84 and 18 percent during 1980–85.

The economic structure of agriculture in poor counties in 1983, though not strikingly different from the national average, reflected the geographic concentration of these counties in mountainous areas: a larger share of output value was derived from forestry and a smaller share from crop production. Despite the pastoral nature of some poor areas, the share of livestock production just equaled the national average (due to greater concentration of pig and poultry production in areas with adequate feed production).

7. For example, in Sichuan Province, there are still 792 townships and 50 percent of villages without road access (Chen 1990; State Council 1989).

FIGURE 7.2 Distribution of 664 poor counties by per capita foodgrain production, 1983 and 1987



Yet crop production dominated agricultural output value.[8] Foodgrains accounted for 83 percent of sown area during 1980–84. Thus, growth in grain production and any improvement in relative prices are

8. Agricultural output value in 1983 (percent):

	Crops	Forestry	Animals	Fish	Sidelines
Poor counties*	65.6	8.2	17.7	1.1	7.5
National average	70.6	4.6	17.6	2.3	4.9

*The calculations are shares of aggregated poor-county data, more comparable to the national average.

likely to have been important sources of income growth in poor counties during 1978–84.

Poor counties in the mid-1980s were still characterized by semisubsistence economies, with most of the production being for own consumption, although some was sold. About 12 percent of the farming households in these areas earned no income from the sale of farm or sideline produce; 33 percent of the grain producers sold no grain; and 57 percent of the livestock raisers sold no livestock.[9] Thirty-five percent of China's 1984 record grain harvest was marketed, but only 3 percent of the production of poor counties was sold (or 2 percent if government resales are netted out), implying that China's other counties sold 42 percent of their production.

In summary, available information suggests that most poor counties benefited from improved fertilizer and HYV seed availability more or less as the successful areas and wealthier counties did. While it stands to reason that product market, labor, and crop choice decontrol as well as specialization, trade, and crop diversification away from staple food crops (reforms ostensibly available at an earlier date in poor counties) would offer considerable benefits, the share of grain in sown area declined less among poor counties than in nonpoor counties in the 1980–84 period. Economic diversification to noncrop activities would appear to hold greater potential benefits for poor counties where agricultural conditions are, on balance, riskier. While it is clear that noncrop activities were an important and growing source of rural resident income in poor counties by the mid-1980s, data are unavailable for assessing this potential significant contribution to poor-county income growth in the early reform period.

Agricultural Diversification, 1983–87

The principal shift among the five major categories of farm production during 1983–87 in poor counties was an increase in animal husbandry and fishing activities relative to crop farming, forestry, and farm subsidiaries (sideline production).[10] Part of this shift was due to changing

9. These figures are based on a sample survey conducted by the Rural Development Institute of the Chinese Academy of Social Sciences of 280 "observation points" distributed in 28 provinces, autonomous regions, and municipalities (Chen 1990). The date of the survey was not specified.

10. Comparison of the structure of agricultural output value in poor counties:

	Crops	Forestry	Animals	Fish	Sidelines
1983 (percent)	58.3	9.6	17.6	0.7	14.0
1987 (percent)	53.8	9.0	26.9	1.1	9.2

relative prices,[11] which would have caused a shift in favor of noncrop production even in the absence of production increases. However, the officially calculated gross value of both livestock and fisheries production increased in real terms by about two-thirds in 1983–87.

While dispersion of average income among counties increased between 1983 and 1987, at the end of the rapid growth period for Chinese agriculture, welfare improvements were not limited to the wealthier portion of the distribution: many of the poorest counties also improved their real income status. However, foodgrain output per capita in poor counties declined in each income stratum between 1983 and 1987.

With production stagnation and rural population growth of 2–3 percent per year in poor areas, production per capita also fell by 5 percent, from an average of 347 kilograms to 330 kilograms.[12] The distribution of per capita foodgrain production among poor counties also changed. Most notable is a large increase in the proportion of counties producing less than 200 kilograms per capita—by government definition, the "poverty line" for per capita food availability—from 8.4 percent to 15.3 percent of counties. Changes in foodgrain sown area in poor counties contributed to this production decline: foodgrain sown area fell by about 2 percent over the period. Average foodgrain yields remained virtually static (at 2.1 tons per hectare), increasing at an annual rate of only 0.4 percent. While foodgrain sown area declined throughout China, yields grew rapidly at an annual rate of 3.8 percent, suggesting that yields in counties not designated as poor grew by around 5 percent per annum (SSB *Statistical Yearbook of China* 1984, 1988).

The decline in foodgrain area, partly due to crop diversification, accounts for falling foodgrain production among the counties with the lowest per capita production. Corresponding increases of 10–20 percent in the area under nongrain crops, mainly oilseeds, account for only a small part of the large increase in nominal income throughout poor counties after 1983. Yet the nutritional significance to the poor of increased oilseed production should not be overlooked—edible oils had

11. During 1983–87, the national constant-price deflators for aquatic products and sidelines doubled and that for livestock increased 45 percent, as prices for these products were decontrolled or brought to near-market levels. Crop prices, dominated by grain that was still mainly subject to administered prices, only rose 14 percent by contrast. The constant-price deflators appear to understate price increases, compared with official procurement price indices. The latter also indicate much higher price increases for forestry products, which would typically favor poor areas.

12. According to Chinese accounting convention, foodgrains (*liangshi*) include rice (evaluated at paddy weight), husked corn, wheat, and other cereals (unmilled); soybeans, peas, broad beans, mung beans, and other minor pulses; and potatoes and sweet potatoes (both evaluated at one-fifth fresh weight).

been in extremely short supply throughout China, not to mention the poor areas, before the 1980s.

Expanded Public Commercialization

Data on total marketing in poor counties are not available, but approximations suggest a degree of aggregate commercialization of about 30 percent in poor areas versus 55 percent in nonpoor areas. Detailed data on government foodgrain purchases and resales to rural residents also give indications. The national marketing rate for foodgrains reached 35 percent in the mid-1980s (table 7.1). But, despite record production levels, public foodgrain sales by farmers in poor counties averaged only 4 percent of production in 1983 and 1984, one-fourth of which was resold to rural residents within the country. This proportion rose to 6 percent of production in 1986, then ballooned to 19 percent in 1987 (with around one-third resold to local farmers), despite a decline in production per capita to a level 21 percent lower than that of 1984. Thus, state action for procurement expansion was part of the increased commercialization of agriculture in these years.

Declining stocks nationwide, combined with greater difficulty and higher prices in obtaining grain from outside these counties, forced local procurement authorities to obtain more grain locally in 1987 to meet the needs of local urban areas and county towns. For example, in Shanyang, a poor mountainous county in Shaanxi Province, large grain imports did

TABLE 7.1 Marketing rates for farm products, 1978, 1984, and 1987

Product	1978	1984 (percent)	1987
Staple food crops[a]	20.3	34.8	34.4
Cotton	94.3	98.9	95.9
Edible oils	55.9	67.4	74.6
Swine and piglets[b]	67.9	69.1	68.9
Aquatic products	67.7	58.2	44.7

SOURCE: SSB *Rural Statistical Yearbook of China* 1986, 1987, 1990; SSB *Statistical Abstract of China's Rural Economy by County* 1990.

NOTE: Marketing rate is defined as farmer sales to government and private markets as a percentage of the total production, in volume terms. Note that from 1978 to 1984, production grew by 34 percent for staple food crops, 189 percent for cotton, 202 percent for edible oils (through 1985), 37 percent for slaughtered swine, and 33 percent for aquatic products. From 1984 to 1987, production fell by 1 percent for staple food crops, 32 percent for cotton, and 3 percent for edible oils (from 1985), but grew by 19 percent for slaughtered swine and 54 percent for aquatic products.

[a]Rice, wheat, corn and other coarse grains, soybeans, broad beans, mung beans, peas and other bean crops, potatoes, and sweet potatoes are included.

[b]For meat as a proportion of the total numbers slaughtered.

not begin until after the 1983 and 1984 national bumper harvests. These deliveries were provided in 1985 and 1986 to the county government, which sold the grain, not to farmers, but to town residents and migrants from rural areas working in county towns. This facilitated rural migration to urban areas and provided a financing mechanism for development of housing, industry, and infrastructure, based on the labor of rural migrants. But after two years of disappointing national harvests, grain deliveries to poor counties were substantially reduced or eliminated in 1987. With rising market prices and high costs and difficulties associated with purchases from outside the county, local governments increased purchases from within the county in order to continue development.[13] The balance between use of "bureaucratic coercion" and the offer of higher prices cannot be completely verified. In principle, poor areas are exempt from quotas or contract responsibilities, so all sales should have been voluntary and at negotiated (near-market) prices. In practice, many poor county purchase organizations pay quota prices for some or all purchases.

Table 7.2 shows that state grain purchases on a rural per capita basis were generally higher among higher-income poor counties and that the large increase in procurement that occurred in 1987 was spread across all income strata (as well as all regions of China). But, between 1983 and 1987 in the very poorest counties, total resales to local residents (including any imports from outside) increased faster than procurement, so that net procurement from the poorest counties declined. This was not the case for any of the higher-income counties (above 150 RMB).

Growth in Incomes and Shifts in Income Distribution

Average incomes for rural residents in the 664 poor counties increased by 74 percent between 1983 and 1987, as measured in current prices. Over the same period, income growth in China's other ("nonpoor") counties increased by 45 percent. Still, due to differences in base-period values, absolute increments in rural per capita income during the 1983–87 period were greater in nonpoor counties than in poor counties (RMB 171 versus RMB 115), thus widening the absolute gap. Major difficulties arise in estimating real income growth due to the inadequacy of official price deflators.[14] However, regardless of the actual

13. Based on field notes and Shanyang County data collected by Li Jianguang, Rural Development Institute, Chinese Academy of Social Sciences, in 1990.

14. If the market price index for consumer goods is used, real income is estimated to grow by 2.5 percent per year in nonpoor counties, but by 7.5 percent per year in poor counties (1983–87). If the price index for state-distributed consumer goods is used, estimated real per capita incomes increased in poor counties by 5 percent but fell in other counties by 13 percent during 1983–87. As rural dwellers obtained consumer goods from a mix of market and state-controlled sources in unknown proportions, a rigorous estimate of real income changes probably lies between these two series.

TABLE 7.2 Foodgrain production, procurement, and resale, by income strata, in poor counties, 1983 and 1987

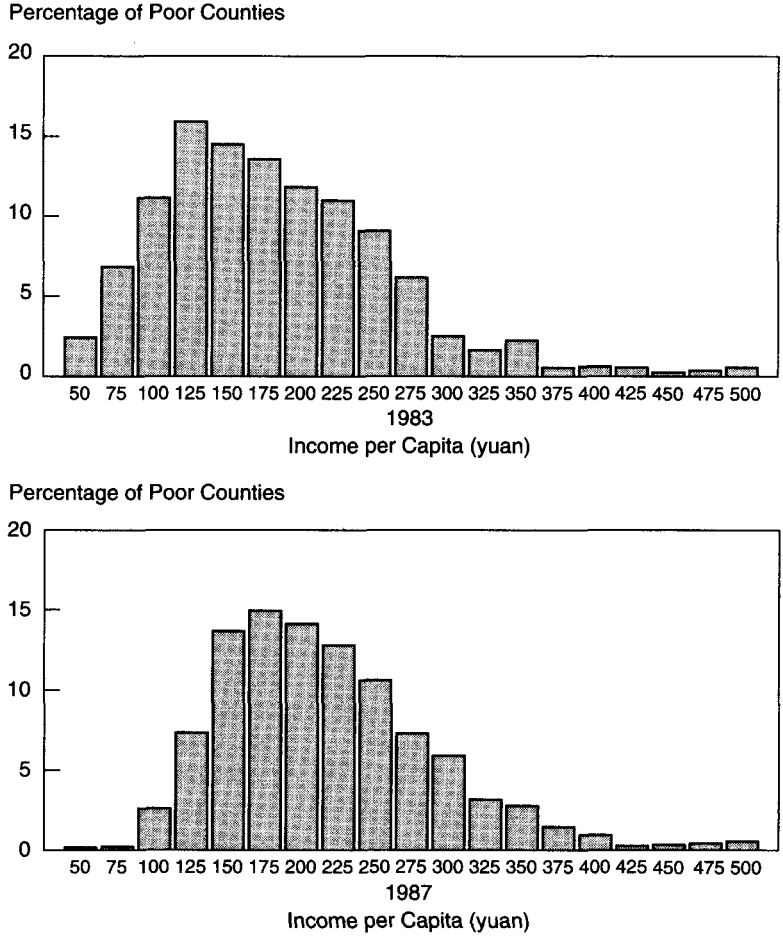
Year	Income Stratum (RMB/Capita)					
	All Levels	< 150	150–200	201–250	251–300	> 300
1983						
Counties in income strata (percent)	100.0	52.6	23.8	15.8	4.1	3.8
Grain output per capita (kilograms)	348.7	287.0	383.3	420.7	437.3	599.0
State grain purchased per capita (kilograms)	13.1	8.8	15.6	17.2	17.5	43.5
Resold share of state grain purchases (percent)	28.3	40.3	24.0	22.9	18.2	12.5
1987						
Counties in income strata (percent)	100.0	28.2	27.1	22.1	13.6	9.0
Grain output per capita (kilograms)	329.0	242.6	309.7	373.6	413.3	482.4
State grain purchased per capita (kilograms)	62.9	28.7	52.2	94.5	77.9	117.9
Resold share of state grain purchases (percent)	41.8	74.3	52.9	30.0	22.2	20.6

NOTE: Data are calculated according to real income strata deflated to 1983 constant RMB, using the state purchase price index for agriculture products. Use of this deflator implies somewhat less real income growth in poor counties than is probably warranted.

magnitudes, real incomes in poor counties grew at a faster rate than those in nonpoor counties in 1984, and appear to have lost less ground than the latter during the post-1984 period of declining real incomes.

The distribution of poor counties across real per capita income strata shifted to the right and appears to be more evenly spread between 1983 and 1987 (figure 7.3). Real incomes increased in most counties

FIGURE 7.3 Distribution of 664 poor counties by real per capita income, 1983 and 1987



Note: Bars represent percentages of China's 664 poor counties with real per capita incomes in 25 yuan ranges.

within all income strata in 1984, although some counties experienced little growth. The number of counties that earned less than 75 RMB per capita continued to decline throughout the 1983–87 period. The reforms related to agricultural commercialization thus meant growth and more equality for poor areas.

Conclusions

China's success with rapid development of commercialization since the late 1970s rests upon a combination of preexisting conditions, liberal reforms, and public policy initiatives. The major growth in rural incomes that occurred during the 1978–84 period as a result of this process involved increased specialization and diversification in the rural economy, development of private trade, and increased factor market activity.

Rural income growth has also resulted from a deliberate public policy to promote productivity growth and adjust rural incomes in order to promote the commercialization process and achieve social purposes. This policy involved increased public investment in market-related infrastructure and agricultural inputs that eased market bottlenecks and increased productivity. It also operated via the still dominant systems for public procurement of farm products, distribution of industrial goods (especially agricultural inputs), and rural taxation and credit.

While China is still home to 100 million rural residents living around or below the poverty line, there has been considerable improvement in the welfare status of the poor since the initiation of the reforms, when the numbers of those living in absolute poverty were two to three times higher.

To a large extent, the rural poor benefited from the relaxation of past policies that were particularly damaging to their welfare—especially those policies that limited their ability to trade, choose crops, and engage in risk-diversifying and income-enhancing economic activities. But, they also benefited from a public input distribution system that greatly increased low-cost supplies to poor regions during the period, a public procurement system that provided high relative prices for incremental deliveries of major farm products, and public mechanisms that provided necessary credit. Even in poor regions, returns to incremental inputs were often high, owing to past public investments in water control and in agricultural research and seed delivery systems, coupled with high prices and reforms linking rewards to productive effort. Autonomous specialization and trade were selectively accelerated through agricultural regionalization plans backed by increased input supplies, public market guarantees for farmer-supplied and demanded goods at attractive relative prices, and extension and credit. While some farmers in successful poor

areas may not have benefited directly through these public efforts, they were increasingly assisted by a permissive policy toward labor movement and rural industrial production of consumer and other goods whose demand had long been suppressed. This allowed profits and rapid growth in rural industry to occur in such areas and provided steady growth in off-farm labor income.

There is evidence that these same processes during the same rapid rural growth period even benefited most of the counties that were still poor in the mid 1980s, but to a lesser degree. Rural incomes in these poor counties grew at even faster rates than in the nonpoor counties (although by smaller absolute increments) at the end of China's rapid rural growth period.

Since 1985, China's government has formulated special policies for poverty alleviation and favored increased commercialization in poor areas, with an initial expansion of resources in 1986. Still, the impact of these expenditures relative to liberalization efforts, development of independent markets, and diversification, as well as other public initiatives, cannot yet be assessed at the household level. Active governmental efforts through the normal public systems for input distribution and farm procurement were responsible for the startling growth in public grain purchases and resales in poor counties in 1987.

The seeds of a more effective policy for targeting development of poor areas may be found in the new administrative mechanism for promoting and funding infrastructure development in poor counties. But, the government has not yet been able to deal effectively with two remaining constraints to commercialization and productivity growth in poor areas: first, lack of a marketing system for grain and other food crops that is capable of adequately supplying these areas and of permitting a higher degree of specialization; and, second, lack of a mechanism (involving more flexible land and labor markets) to permit emigration from poor areas that simply cannot support the existing population.

Finally, the hypothesis of sharp duality among China's rural areas must be rejected, although with qualifications. While diffusion of income growth and commercialization within poor counties is not addressed in this study, and while some entire counties may indeed have participated little in China's rapid commercialization and rural development process, most of the poorer counties seem to have benefited. Poor counties still experience major disadvantages of isolation and weak market integration with China's greater economy, and they chronically suffer from important shortcomings in hard and soft infrastructure. Yet there is evidence from the 1978–87 period of both autonomous economic development in poor counties, relating to liberal reforms, and of their responsiveness to public commercialization initiatives.