Rural Reform, Nonfarm Development, and Rural Modernization in China

Dong Fureng
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Abstract

China's economy, like the economies of many developing countries, has a dual structure. To change this structure and to introduce rural modernization requires a two-pronged approach: reforming the rural economic system and hastening the pace of industrialization. China's experience in promoting rural modernization has been mixed. This paper discusses the impact of rural reforms and industrialization strategies on the modernization process in, and the economic structure of, rural areas during two historical periods—1949 to 1978 and 1979 onward.

Because of a series of structural reforms, the rural economy has undergone profound changes since 1979; the rapid growth of the nonfarm sector is one of the changes. In promoting the nonfarm sector, two development models have been followed: the development of publicly owned nonfarm industries and the development of privately owned nonfarm industries in rural areas. Heated discussions are continuing in China on the choice of the development model. The author offers some of his own ideas, formed on the basis of surveys he has conducted in rural areas.

The paper reaches a number of conclusions. System reform plays an important role in developing the rural economy. But such reforms must be welcomed by the rural people, must support their initiatives, and must promote the growth of the rural economy. An important prerequisite for agricultural modernization is the development of industry, but the industrialization strategy should be conducive to increased rural income and to the coordinated development of both agriculture and industry. In promoting the growth of the rural nonfarm sector, no uniformity of development should be demanded and no restrictions or bans applied. The development of the nonfarm sector will create a host of problems; these will need serious attention, but they can be resolved gradually.
Acknowledgments

While writing this paper, I received help from many individuals. Mr. Yin-Kann Wen and Mr. Emmanuel D'Silva of the Economic Development Institute (EDI) were instrumental in transforming my ideas for a paper into a reality. Mr. Wen oversaw the whole process, beginning with the draft outline and ending with the publication of the paper. In March 1988, he also organized two seminars at EDI at which this paper was presented. Mr. D'Silva edited the paper in record time.

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Mr. Ching-Hao Kung and Mrs. Betty Ting, World Bank, translated the paper from Chinese into English. Mrs. Judy Tung and Mrs. Dulce Afzal provided administrative support; Mrs. Tung also typed the manuscript in its final form. To all these individuals, I extend my heartfelt thanks.

Dong Fureng
Chinese Academy of Social Sciences
Contents

1. Rural Conditions before 1978  1
   China's Dual Economic Structure  1
   Farming System Reform and Agricultural Modernization  3
     Systemic factors in development  3
     Land reform  3
     Agricultural collectivization  4
   Industrialization Strategies and Agricultural Modernization  5

2 Reform Measures after 1978  7
   Changes in Overall Development Strategy  7
   Rural Reforms  10
   Rural Nonfarm Industries  12

3. Nonfarm Development Models  15
   The Southern Jiangsu Model  15
   The Wenzhou Model  17
   Other Models  18
   The Role of Nonfarm Industries in Rural Modernization  18

4. Issues and Future Directions  23
   Issues and Problems  23
     Funding  23
     Energy and raw materials  24
     Technology  24
     Skills development  25
     Marketing  25
     Tradition  26
     Coordinated development of farm and nonfarm operations  26
     The price of developing a nonfarm sector  28
   Conclusions  29

5. Annexes  31
1. Rural Conditions before 1978

China’s Dual Economic Structure

Sir Arthur Lewis, among others, has pointed out the existence of a dual economic structure in developing countries—the side-by-side existence of a modern industry in urban areas and a traditional agriculture in rural areas. This dual structure remains a basic feature of the Chinese economy, despite the achievement of significant structural changes since 1949. The dualistic features are outlined below.

**FIRST, AGRICULTURE CONTRIBU**

**Table 1. Sectoral Shares of Production and Employment in China, 1952-86**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>57</td>
<td>47</td>
<td>31</td>
<td>35</td>
<td>84</td>
<td>81</td>
<td>72</td>
<td>61</td>
</tr>
<tr>
<td>Industry</td>
<td>24</td>
<td>33</td>
<td>47</td>
<td>52</td>
<td>7</td>
<td>9</td>
<td>16</td>
<td>22</td>
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<td>Material</td>
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</tr>
<tr>
<td>services</td>
<td>19</td>
<td>20</td>
<td>22</td>
<td>13</td>
<td>9</td>
<td>10</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>GDP</td>
<td>100</td>
<td>100</td>
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<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

**Table 1. Sectoral Shares of Production and Employment in China, 1952-86**

(Percent)

Note: The figures provided by the World Bank have been adjusted to facilitate international comparison.


b. Includes construction and mining, manufacturing, gas, power, and water.

c. Freight transport and commerce.

d. At market prices.


**SECOND, FARM POPULATION accounts for over 80 percent of the total population and over 60 percent of the labor force. China’s farming population is even larger than India’s (see table 2) because services in China are relatively underdeveloped. Another interesting difference in China is that the share of the rural population is**
smaller than that of the farming population because many urban residents are also engaged in farming. However, the change in the relative shares of farming and nonfarming population more accurately reflects China's true economic structure than the change in the relative shares of urban and rural population.

Table 2. International Comparison of Population Distribution, 1950-84 (percent of total population)

<table>
<thead>
<tr>
<th></th>
<th>China</th>
<th>India</th>
<th>Japan</th>
<th>U.S.</th>
<th>Britain</th>
<th>France</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural population</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td>89.4</td>
<td>82.7</td>
<td>43.7</td>
<td>a</td>
<td>36.0</td>
<td>44.6</td>
</tr>
<tr>
<td>1975</td>
<td>82.7</td>
<td>79.3</td>
<td>24.9</td>
<td>28.1</td>
<td>10.3</td>
<td>25.0</td>
</tr>
<tr>
<td>1983</td>
<td>76.5</td>
<td>75.3</td>
<td>23.6</td>
<td>26.0</td>
<td>8.6</td>
<td>23.6</td>
</tr>
<tr>
<td>Farming population</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td>83.4</td>
<td>69.6</td>
<td>44.4</td>
<td>c</td>
<td>15.0</td>
<td>7.1</td>
</tr>
<tr>
<td>1975</td>
<td>84.6</td>
<td>66.6</td>
<td>14.5</td>
<td>2.8</td>
<td>2.4</td>
<td>10.9</td>
</tr>
<tr>
<td>1984</td>
<td>82.1</td>
<td>60.2</td>
<td>8.4</td>
<td>1.8</td>
<td>1.8</td>
<td>7.1</td>
</tr>
</tbody>
</table>

.. Not available
a. 1955; b. 1951; c. 1952; d. 1951; e. 1946; f. 1983.


Third, labor productivity of traditional agriculture is extremely low. The average cereal output of a Chinese farm laborer in 1985 was 1.1 tons compared with 83 tons for an American farmer; meat output was 56 kilograms per Chinese and 4,250 kilograms per American. Low productivity makes it necessary for the vast majority of the population to be engaged in agriculture; and subsistence agriculture leaves little, if any, surplus of food and raw materials to support those employed outside the farm.

Fourth, the availability of tillable land is limited and much of labor is surplus. China has less than 100 million hectares of land for more than 800 million people engaged in farming: an average of 0.13 hectare per person. Though accurate statistics are hard to come by, an estimated one-third to one-half of the agricultural labor force is considered surplus. The existence of this large surplus labor means the marginal productivity of labor is low, perhaps even zero.

1. There has been a change in the definition of "urban." Since 1984, townships with populations under 20,000 are considered "towns" (and therefore, urban) if the number of nonfarm residents exceeds 2,000 in the place where the local government is located. Since the change in definition, the proportion of the rural population in China has declined from 76 percent in 1983 to 58 percent in 1986.
Fifth, agricultural income is low compared with industrial wages; rural incomes are lower than urban wages. On average, urban wages exceed rural incomes by a ratio of 2:1. But if we take into account the subsidies enjoyed by urban workers, and the contribution made by farm families to these urban subsidies, the ratio of industrial wages to agricultural wages increases to 3:1. Differences in labor productivity account partly for the gap between farm and nonfarm income; differences in prices and taxes are the other factors.

In recent years, industrial labor productivity, based on net output value, has been found to be four to five times higher than agricultural labor productivity (see table 3).

Table 3. Comparison of Net Output Value Produced by an Industrial and an Agricultural Laborer, 1952-86 (agriculture = 1)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry/Agriculture</td>
<td>1.6</td>
<td>3.2</td>
<td>6.2</td>
<td>6.1</td>
<td>5.6</td>
<td>4.6</td>
</tr>
</tbody>
</table>

Note: The 1986 data cannot be compared with other years. For that year, the industrial net output value in villages was included under net industrial output value, whereas in all previous years it was included in net agricultural output value.


The gap in labor productivity is greater in China than in other low-income countries because of the relatively higher material productivity and higher prices in China's industry. Consequently, industrial productivity has grown faster (519 percent between 1952 and 1986) than agricultural productivity (149 percent). Again, the existence of a vast surplus of labor and the slow progress of agricultural modernization account for low agricultural productivity.

Farming System Reform and Agricultural Modernization

Systemic factors in development

In the past, economic, political, social, cultural, systemic, and institutional barriers have hindered economic development. While the removal of these barriers is necessary, reform should not be a one-time intervention, but rather a continuing process.

Land reform

The feudal land system had been a serious obstacle to improving China's agriculture and economy. Prior to the 1949 revolution, landlords and rich farmers,

who accounted for less than 10 percent of the rural population, owned 70 to 80 percent of rural land. Landlords, cruelly exploiting those who tilled rented land, generally took 50 percent or more of the harvests, and extorted other payments through levies and services. The landlords used their spoils for consumption and saved or invested very little.

During 1950-52, China instituted a land reform nationwide. Nearly 700 million mu 3 (or 46 percent of total arable land) was expropriated or requisitioned for distribution to 300 million farmers. The annual land rent exempted reached 30 billion kilograms of grain. In addition, millions of draft animals, farm tools, houses, and other assets were redistributed. The land reform stimulated rural people to increase production, and agriculture was quickly rehabilitated. By 1952, farm income increased by about 30 percent, and per capita personal consumption rose by about 20 percent, over 1949 levels.

**Agricultural collectivization**

Because of a large population and little tillable land, the parcel of land available per household was small and the tools available for production were primitive. Therefore, agricultural collectivization was introduced. In the beginning, private ownership of the means of production was retained: payments were made for the share of labor and for the land “contributed” by participating farmers. Later, private ownership of the means of production was done away with. Except for small tools, land and other means of production now belonged to the collective. Farmers were paid only for their labor. By 1956, 96 percent of farmers had joined producers’ cooperatives of various types. By 1958, 98 percent had joined people’s communes. Communes were larger units containing on average 28 co-ops or 4,600 households.

Because of their size, communes were expected to help the industrialization of agriculture, build infrastructure, and promote overall rural development. The communes also had a higher degree of public ownership 4 than the co-ops and were integrated with such publicly owned entities as banks, commercial organizations, and other enterprises. Some communes practiced a distribution system that combined “pay according to labor” with “pay according to need”; others took care of meals, clothing, housing, education, medical care, and other services. Such a distribution system, while ensuring egalitarianism, made it impossible for those who worked more to earn a larger income. Therefore, changes were necessary.

The advantages of agricultural collectivization were that it could help the dual economy evolve into a monostructure, and would be useful to promote rural modernization, since it created economies of scale, helped capital accumulation, promoted modern farming, increased productivity, and improved agricultural infrastructure.

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3. One *mu* equals 1/15 hectare.
4. In this paper, the term “public ownership” is used for two types of enterprises: those owned by the state and those owned by the collective. Collective ownership of enterprises is vested in townships (where the organizational unit is the commune) and in villages (where the organizational unit is the production brigade and the team). Also included are collective enterprises run by cities, counties, towns, and neighborhoods in towns.
Initially, labor productivity on the farm rose fairly quickly: the net output value per person increased by 1.9 percent per year between 1953-57; thereafter, agricultural production decreased rapidly. Not until 1964-65 did production return to 1958 levels. The establishment of the people's commune brought great calamities to China's agriculture because the principles of gradualism and voluntarism were not observed, and also because the proper form of collective was not chosen. (The organizational form of the collective economy was changed many times.) In an attempt to restore production, unified communes gave way to a three-level ownership and accounting system (the production team, the brigade, and the commune).

Industrialization Strategies and Agricultural Modernization

Whether agricultural modernization can proceed smoothly depends not only on the reform of the farm economic system, but also on the choice of strategy for industrialization. The word "industrialization," as it is used here, refers to the process of change from primitive manual techniques to machinery-based technologies; therefore, industrialization includes agricultural industrialization. In this section, we focus on the strategies of socialist industrialization for transforming the dual structure into a monostructure to industrialize and modernize agriculture.

Traditional Chinese strategies for socialist industrialization were based on the 1924-28 Soviet strategies, which emphasized the establishment and development of heavy industry—particularly steel—as the focal point of socialist construction. The belief was that the development of heavy industry would assist the growth of the entire industrial sector, of agriculture, and of other productive sectors. High-speed growth became the goal of socialist economic development, and construction of large new enterprises was seen as the means of achieving high-speed growth and industrialization.

Funds for industrialization were to depend only on internal accumulation, not on borrowings from abroad or foreign investments. The aim of industrialization was to realize self-sufficiency. Industry was to be developed only in the cities, not in the countryside; it was meant to satisfy the needs of the domestic market, not of exports. As industrialization progressed, it was expected to absorb the surplus population of the rural areas. Finally, socialist industrialization was to allow only the development of public ownership, not the development of private economy. Some elements of private economy that existed in the initial stages of industrialization were to be abolished totally or transformed into public ownership.

The traditional strategies had some good points. They helped to build an industrial, particularly a heavy industrial, foundation within a relatively short time. As industrialization progressed, the products of heavy industry—farm machinery, power equipment, fertilizer, and farm chemicals—gradually became available for use in promoting agricultural modernization (see table 4). However, grave mistakes were made in agricultural collectivization.

5. In recent times, the use of "modernization" is considered more appropriate because it covers a wider spectrum and can accommodate the application of all modern technologies to all productive sectors.
Table 4. China's Agricultural Modernization, 1957-78

<table>
<thead>
<tr>
<th>Year</th>
<th>Farm machinery (total power in 10,000 hp)</th>
<th>Large-, medium-size farm tractors (total units)</th>
<th>Small tractors or power tillers (units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1957</td>
<td>165</td>
<td>14,674</td>
<td>..</td>
</tr>
<tr>
<td>1962</td>
<td>1,029</td>
<td>54,938</td>
<td>919</td>
</tr>
<tr>
<td>1965</td>
<td>1,494</td>
<td>72,599</td>
<td>3,956</td>
</tr>
<tr>
<td>1978</td>
<td>15,975</td>
<td>557,358</td>
<td>1,373,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Machine-tilled area (10,000 ha.)</th>
<th>Powered irrigation (10,000 ha.)</th>
<th>Fertilizer applied (10,000 t)</th>
<th>Rural power consumption (100 m. Kwh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1957</td>
<td>263.6</td>
<td>120.2</td>
<td>37.3</td>
<td>1.4</td>
</tr>
<tr>
<td>1962</td>
<td>828.4</td>
<td>606.5</td>
<td>63.0</td>
<td>16.1</td>
</tr>
<tr>
<td>1965</td>
<td>1,557.9</td>
<td>809.3</td>
<td>194.2</td>
<td>37.1</td>
</tr>
<tr>
<td>1978</td>
<td>4,067.0</td>
<td>2,489.5</td>
<td>884.0</td>
<td>253.1</td>
</tr>
</tbody>
</table>

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The main adverse effect of these strategies on agricultural modernization was the draining of the surplus out of agriculture to finance the investment in heavy industry. This was done by

- levying agricultural tax and other rural taxes;
- underpricing agricultural commodities; and
- overpricing industrial products.

Such industrialization strategies were also detrimental to a faster transfer of rural population to the nonfarm sectors because heavy industry was overly capital-intensive. (For example, heavy industry needed an investment of ¥20,000 to hire an additional laborer, while light industry needed only ¥6,250.) From 1953 to 1978, heavy industry in China expanded 27 times; light industry expanded only about nine times. Consequently, although laborers were transferred to industry and other productive sectors, total farming population, total rural population, and total farm laborers not only did not decrease, but actually increased.

Traditional strategies also did not permit the existence, let alone the expansion, of the private economy. In a situation in which the development of the public economy could not yet ensure full employment, the abolition of the private economy kept many people from getting jobs, and effectively blocked the chances of transferring farm workers to nonfarm sectors.
2. Reform Measures after 1978

Changes in Overall Development Strategy

The traditional strategies, while helping agricultural modernization, caused some problems. After evaluating the gains and losses from these strategies, a number of changes were introduced in 1979.6

First, there was a change in objective, from high-speed economic development to the satisfaction of people's basic needs. This change in objective would require corresponding changes in all aspects of economic work. For instance, those sectors directly linked to basic needs (such as agriculture, light industry, civilian construction, culture and education, and health care) would have to develop at a faster pace than others. The growth in rural and farm incomes would need to be accelerated to narrow the income gap between rural and urban residents.

Compared with many developing countries, the distribution of income in China is generally more equitable. However, an income gap does exist between urban and rural residents in the country. But this gap is not wide enough to create a rift between the rich and the poor. Therefore, the gap can be appropriately widened by offering financial and economic incentives to workers to produce more. For this reason, China is implementing a policy that encourages a number of people to get rich first, for the purpose of bringing about common prosperity.

Table 5. Annual Average Income of Urban and Farm Workers, 1978-86 (yuan)

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Per capita income of an urban worker's family</td>
<td>316</td>
<td>526</td>
<td>608</td>
<td>828</td>
</tr>
<tr>
<td>Per capita net income of a farm family</td>
<td>134</td>
<td>310</td>
<td>355</td>
<td>424</td>
</tr>
<tr>
<td>Gap (using farm income as 1)</td>
<td>2.4</td>
<td>1.7</td>
<td>1.7</td>
<td>2.0</td>
</tr>
</tbody>
</table>


Since implementing this strategic change, China's savings rate has dropped from 36.5 percent in 1979 to 34.6 percent in 1986, while income growth has accelerated. During 1978-86, the consumption level in the nation grew by an average of 8.1 percent in real terms compared with 1.8 percent per year during 1958-78.7 The gap in average annual income between urban workers and farm laborers narrowed between 1978 and 1984 (see table 5).

6. These changes follow from the ten principles for China's economic construction put forward in December 1981 by Premier Zhao Ziyang at the fourth session of the fifth People's Congress.
7. Data provided by the State Statistical Bureau.
Second, the heavy industry-oriented strategy has been changed in favor of a balanced development strategy that combines priorities with the more general aspects of development. In recent years, the development of heavy industry has slowed, while the growth of agriculture and light industry has accelerated for several reasons. For instance, the procurement price for agricultural products has been raised many times since 1979, and the restructuring of heavy industry is expected to benefit those subsectors that serve agriculture and light industry.

Third, the “intensive” type of economic development has replaced the “extensive” type. Intensive development requires that economic efficiency be improved—by upgrading technology and by tapping the productive potential in existing enterprises—as a means of obtaining the funds required for industrial development; the funds should not be drawn from agriculture.

Fourth, economic self-sufficiency has made way for an “open” policy. Internal accumulation is no longer regarded as the only source of funding for industrialization; the government is seeking to attract funds from abroad through external borrowings or foreign investments. More recently, the government has begun to encourage coastal towns to have export-oriented economies.

Fifth, the focus has shifted from developing industry and other nonfarm sectors only in urban areas to a strategy of paying equal attention to their development in rural areas.

Sixth, the development of private ownership as well as mixed forms of ownership are being encouraged, though public ownership will enjoy a dominant position.

Table 6. Pace of Agricultural Growth, 1958-78 and 1979-86 (percent)

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross agricultural output value</td>
<td>84.0</td>
<td>2.9</td>
<td>166.2</td>
<td>6.6</td>
</tr>
<tr>
<td>Grain</td>
<td>56.3</td>
<td>2.1</td>
<td>128.5</td>
<td>3.2</td>
</tr>
<tr>
<td>Cotton</td>
<td>32.1</td>
<td>1.3</td>
<td>163.4</td>
<td>6.3</td>
</tr>
</tbody>
</table>

Sources: China Statistical Yearbook, 1985, pp. 238, 255, 257; and data provided by the State Statistical Bureau.

Changes in the traditional socialist industrialization strategies have important meaning for rural and agricultural modernization. First, agriculture now receives due attention. Consequently, agricultural growth has accelerated dramatically from 2.9 percent per year before 1978 to 6.6 percent after 1978 (see table 6). Because of self-sufficiency in grain and cotton,
China no longer needs to import these items. (In 1982, over 16 million tons of grain were imported.)

Second, farm income has been increasing rapidly. Between 1979 and 1986, the real income of an average rural household increased by 13.1 percent a year\(^8\), compared with 2.9 percent during 1958-78.

Third, the sectoral shares among agriculture, light industry, and heavy industry are now better balanced than prior to 1978 (see table 7).

### Table 7. Composition of Gross Industrial and Agricultural Output Value, 1978-86 (in percent)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>27.8</td>
<td>35.0</td>
<td>34.3</td>
<td>35.2</td>
</tr>
<tr>
<td>Light industry</td>
<td>31.1</td>
<td>30.8</td>
<td>30.7</td>
<td>30.2</td>
</tr>
<tr>
<td>Heavy industry</td>
<td>41.1</td>
<td>34.2</td>
<td>35.0</td>
<td>34.6</td>
</tr>
</tbody>
</table>

*Note: Agricultural output value includes the output of village-run industries.*


The rapid development of agriculture has helped industry. Reduced imports of grains, cotton, and other farm products have saved large amounts of foreign exchange, which have been used to make more equipment and material available for industrial expansion. Agriculture has also provided more material for light industry, an important reason for the rapid advancement of the latter in recent years. Light industry, in turn, has provided the agriculture sector with consumer goods. In the restructuring of heavy industry, the government has paid attention to the demand for more farm capital goods needed for agricultural modernization.

Fourth, the “open” policy is also beneficial to agriculture. Farm exports and imports of chemicals and fertilizers have increased. In the past, because grains were in short supply, large areas were planted in grains, including those that were only suitable for cash crops. This course of action accelerated the deterioration of China’s agriculture, destroyed the ecology, and made production uneconomical. After 1978, the government decided to import grains on a large scale. This policy not only eased shortages, but also helped to restructure the agriculture sector. Land suitable for growing cash crops was brought back to cash crops from grains. The area planted in cash crops was enlarged from 9.6 percent in 1978 to 14.1 percent in 1986. Land unsuitable for growing grain was withdrawn to be used for forestation or animal husbandry. Restructuring has raised agricultural efficiency to a large extent. Outputs of cotton, oil crops, grain, forestry, and animal husbandry have all expanded.

Fifth, encouragement given to the development of nonfarm industries in rural areas and to the development of various forms of private economy has also played a role in increasing agricultural growth and rural modernization.

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8. Data provided by the State Statistical Bureau.
Rural Reforms

The rural reforms, which began in the winter of 1978, attempted to overhaul the people's communes. First, as part of the reforms, the “household joint-production-package responsibility system” was introduced. Under this system, quotas were assigned down to the farm household. The collective still owned the land, but the team contracted it out to farm households, based on the number of people in each household, or on some other criterion. The farm household was expected to fulfill its obligations (taxes, mandatory sales, fees to the team, and so forth), and to keep the remainder of the production. By the end of 1984, about 97% of all farm households participated in the responsibility system.⁹

The responsibility system is fundamentally different from the people’s commune:

- Farms could own their own means of production—except for land and machines (such as tractors)—and even invest on the land for which they contracted. Thus, a mixed ownership system was formed in rural areas.
- Income was no longer distributed teamwide. This change overcame the egalitarian distribution prevalent under the commune system and provided incentive to farmers to produce more.
- Farmers were allowed to make their own decisions on plowing, planting, and harvesting as long as they filled the state-assigned quotas.

Second, the commune has been reorganized. In the past, the commune was both an economic organization and a grass roots government agency. After 1980, the two functions were separated with the establishment of local government at town/township level. This reform reduced government intervention in agricultural production and gave farm families more room to make their own decisions.

Third, the price structure and the government purchase of agricultural products have changed. Since 1953, the government had enforced a unified purchase and marketing system for main agricultural products; farmers had to sell their produce to the government at low prices. Between 1979 and 1986, the government raised the purchase price, in several steps, by 77% percent. In 1985, the government switched to a grain ordering system by signing advance contracts with farmers and, at the same time, began to make purchases on the open market. Beyond the contracted amount, farmers could sell their produce on the open market.

Fourth, the government has promoted individual entrepreneurship, and has encouraged the development of all kinds of economic associations. Farm families can now run their own farming, commercial, transport, or service enterprises. They have also been encouraged to set up nonfarm industries in rural areas.

These changes constitute a fundamental reform of the agricultural collectivization and modernization practices begun in the Soviet Union, and carried on in some other socialist countries. The introduction of the responsibility system has made drastic changes in China's rural economy.

Table 8. Agriculture Production and Farm Income, 1979-86 (1978=100)

<table>
<thead>
<tr>
<th>Year</th>
<th>Gross agricultural output value</th>
<th>Per capita net income of farm household</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>1979</td>
<td>108.6</td>
<td>119.9</td>
</tr>
<tr>
<td>1980</td>
<td>112.8</td>
<td>143.2</td>
</tr>
<tr>
<td>1981</td>
<td>120.2</td>
<td>167.3</td>
</tr>
<tr>
<td>1982</td>
<td>133.6</td>
<td>202.2</td>
</tr>
<tr>
<td>1983</td>
<td>146.4</td>
<td>231.9</td>
</tr>
<tr>
<td>1984</td>
<td>172.1</td>
<td>265.8</td>
</tr>
<tr>
<td>1985</td>
<td>196.6</td>
<td>298.0</td>
</tr>
<tr>
<td>1986</td>
<td>217.9</td>
<td>316.4</td>
</tr>
</tbody>
</table>

Note: "Gross agricultural output value" includes the production by village-run industries, but excludes the production by township-owned industries. The share of village-run industries in gross agricultural output value was: 11.7 percent in 1978; 17 percent in 1984, 24.8 percent in 1985, and 29.8 percent in 1986. Gross output value was calculated based on comparable prices. In "per capita net income of farm household," the price factor has not been discounted.


The responsibility system has provided a stimulus to farmers to work harder and produce more, which in turn has resulted in a rapid growth of China's agriculture and farm income. Between 1978 and 1986, the gross output value of agriculture increased by 218 percent, and net income per capita of an average farm household increased by 316 percent (see table 8). Rural savings have grown rapidly, so have individual investments in the purchase of productive fixed assets, which amounted to ¥12.8 billion in 1985.10 In recent years, the supply of power tillers and trucks has fallen behind demand, and the volume of sales of chemical fertilizers, improved seeds, and farming goods has increased rapidly.

Farm households now own more farm machinery. By the end of 1986, they owned 574,000 tractors or 66 percent of all units in the nation; small tractors and power tillers reached 4.16 million units, or 92 percent of the nation's total; farm trucks numbered 318,000, or 4 percent of all units in the nation; and powered irrigation machinery totaled 3.63 million units, or 6 percent of the nation's total.11

The responsibility system has opened up opportunities for surplus farm laborers to seek nonfarm jobs in the countryside. The effect on rural and agricultural modernization is significant. Many villages have taken on an entirely new look as farmers have used their improved incomes to build new houses. As housing construction booms, so does the building of village streets, public facilities, water supply stations, and schools. The development of agriculture and the nonfarm economy is bringing rural life closer to modern life in the cities.

However, the institution of the responsibility system has also imposed certain limitations.

11. Data provided by China Statistical Bureau.
First, the operating unit for agriculture has been greatly reduced in size to an average of 0.55 hectare per household. While posing no problem for labor-intensive farming, this size is too small for mechanized farming. Therefore, family operations need to be expanded: land should be concentrated in the hands of a diminishing number of households that do full-time farming. The responsibility system would more or less impede such a process.

Second, with the replacement of the collective by the family as a work unit, the construction and maintenance of infrastructure have ground to a halt since 1980 in many villages (see table 9). In the past, construction and maintenance of infrastructure were the responsibility of the collective.

Table 9. Changes in Rural Infrastructure, 1978-86

<table>
<thead>
<tr>
<th>Year</th>
<th>Machine-tilled area (10,000 ha.)</th>
<th>Total irrigated area (10,000 ha.)</th>
<th>Power-irrigated area (10,000 ha.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>4,067</td>
<td>4,496</td>
<td>2,489</td>
</tr>
<tr>
<td>1979</td>
<td>4,222</td>
<td>4,500</td>
<td>2,532</td>
</tr>
<tr>
<td>1980</td>
<td>4,099</td>
<td>4,489</td>
<td>2,532</td>
</tr>
<tr>
<td>1981</td>
<td>3,648</td>
<td>4,457</td>
<td>2,526</td>
</tr>
<tr>
<td>1982</td>
<td>3,512</td>
<td>4,418</td>
<td>2,515</td>
</tr>
<tr>
<td>1983</td>
<td>3,357</td>
<td>4,464</td>
<td>2,526</td>
</tr>
<tr>
<td>1984</td>
<td>3,492</td>
<td>4,445</td>
<td>2,507</td>
</tr>
<tr>
<td>1985</td>
<td>3,444</td>
<td>4,404</td>
<td>2,463</td>
</tr>
<tr>
<td>1986</td>
<td>3,643</td>
<td>4,423</td>
<td>2,503</td>
</tr>
</tbody>
</table>

.. Not available


Third, the growth in incomes has increased personal consumption, not savings. The 20 percent savings from net farm income are mainly set aside for future consumption—new housing, durable goods, future weddings, retirement, possible health problems, and so forth. Just a small proportion of the savings is invested in agriculture.

Rural Nonfarm Industries

In China, the policy to develop rural industry and other nonfarm sectors was first introduced in 1958. At the time, the focus was on simple processing of local farm produce (for example, milling rice and flour, making bean curd, and pressing oil); preparing handicrafts (for example, making straw pads, weaving baskets, and ginning cotton); manufacturing and repairing farm tools (for instance, hoes, sickles, and wheels); and developing and processing local industrial resources (coal, quarry, tiles, iron, fertilizer, power generation, and the like). These industries were small, and used primitive techniques and local raw materials to satisfy the demand of local commune members. Just a few plants transported outside materials or manufactured for an outside market. Apart from
industry, other nonfarm activities were few. All enterprises were owned by the commune; no private operations were allowed.

To achieve the high targets in industrial production, particularly of steel, millions of farm laborers were transferred from agriculture to industry and from rice fields to construction sites. Consequently, the labor available for agriculture vis-à-vis industry was drastically reduced: from a ratio of 14:1 in 1957 to 6:1 in 1960. Agricultural production was seriously affected during that period. For instance, bumper crops of cotton and grain in 1958 could not be fully harvested because of farm labor shortage, and this led to considerable waste.

After the calamities that accompanied communization, most rural industrial plants and some nonfarm enterprises were shut down. Of the small number that remained, they did not expand for the next eight to nine years. During the "Cultural Revolution," these industries were often branded as "capitalist economic practices" and banned. Real advances occurred only after 1978.

Rural industries now include machine building, power, coal mining and coke, oil, chemicals, building materials, forestry, foods, feeds, textiles, apparel, leather, paper making, and supplies for art, culture, and education. At the same time, construction, commerce, transport, and the service trades have been growing. Between 1979 and 1985, total real nonfarm income in rural areas increased at an average rate of 28.2 percent a year;12 the total output value of industry, construction, transport, and commerce grew by 21.8 percent a year between 1984 and 1987, and the share of these sectors in the total rural social product value increased from 36.5 percent to 50.8 percent during the same period.13 By 1986, rural industrial output value had accounted for 23 percent of the nation's total industrial output value.14 Data on the distribution of employment, total income, and total output value in rural nonfarm industries are given in annex 15.

By the end of 1986, the number of rural nonfarm workers nationwide reached 79.45 million, or about 20 percent of the rural labor force,15 and a 234 percent increase over 1979. The size of the vast majority of rural nonfarm undertakings has been small, but expanding: on average, each enterprise hired 23 persons in 1979 and 29 persons in 1985. These figures do not include joint capital nonfarm enterprises.

13. "Total rural social product value" includes the entire gross agricultural output value plus the total output value of rural collective and individual industry, construction, transport, and commerce. Data are from China Statistical Digest, 1987.
3. Nonfarm Development Models

Several models for the development of nonfarm sectors have been promoted in rural China. The town/township public ownership model and the farmers' private ownership model have been more prevalent, but various forms of mixed ownership have also been supported.

The town/township ownership model dates back to 1958. However, the first nonfarm enterprises appeared in the 1970s, set up by different levels of the commune authority (the commune, the brigade, or the team), and using public accumulated funds. Later, the existing enterprises used their own accumulated funds to expand or to build new enterprises. After the reorganization of the people's commune, publicly owned enterprises were turned over to the town/township or the village. In recent years, the development of these enterprises has been quite astounding in certain areas (especially in southern Jiangsu Province). The value of output in such industries grew by an average of 34 percent a year between 1979 and 1986, with another 30 percent increase during the first half of 1987. The success of these enterprises has caught the attention of the people, who have called the public ownership pattern the "Southern Jiangsu model." 17

The farm private enterprise model did not exist until the institution of the responsibility system in 1979. Known as the "Wenzhou model," after the city in southern Zhejiang Province, this form of development attracted a great deal of attention. By 1986, Wenzhou city had a total of 146,500 private industrial enterprises run by farm households, employing 338,600 persons, or about 13 percent of the rural labor force, and producing ¥1.7 billion in output value—a 113 percent increase over 1984. These two models represent different paths of development for nonfarm industries. Which path to follow in rural areas is the subject of much debate.

The Southern Jiangsu Model

Under the Southern Jiangsu model, the township or village government, as the main initiator and organizer, plans, sets up, and finances rural nonfarm industries. The government uses the profits from township enterprises, and funds obtained from other sources, to build more enterprises or expand existing ones. Production plans, income distribution, appointment of managers, and labor allocations in the affiliated enterprises are managed centrally by the government. A portion of the profit is remitted to, and the loss is absorbed by, the township

17. The term "Southern Jiangsu" generally refers to the five cities of Suzhou, Wuxi, Changzhou, Nantong, Changshu, and their adjacent 17 counties.
18. Stipulations differ from place to place. In Jinxiang Township (Suzhou), in addition to paying state taxes, enterprises must remit 25 percent of their profit to the township government. New plants, which are exempted from state taxes, must remit 50 percent of their profit. In the
government. There are many similarities in management between township-owned enterprises and state-owned enterprises in urban areas. Under this model, it is easier for the township government to control and regulate enterprises in order to reduce haphazard development, stabilize operations, and protect various economic interests. The shortcomings of township-owned enterprises are commonly found in state-owned enterprises: for instance, they lack autonomy and are not overly concerned about profit or loss. In some areas, enterprises are burdened by many levies (for education, roads, and so forth). Sometimes, the cadres use (or abuse) their authority and treat the enterprises as their personal property. Therefore, the management system in these enterprises must be reformed.

Township-owned enterprises operate in areas close to big cities, where they receive the backing of large industries. They generally work in cooperation with, or in an ancillary position to, large urban industries, or manufacture parts and components for the latter, or turn out products (using the old trademarks) that are no longer produced. Some urban and rural enterprises have become partners through investment, provision of technology, or technical assistance. In such cases, rural plants often recruit retirees from city plants to serve as the technical "core." Therefore, publicly owned township enterprises are often larger in scale, have higher technical input, and produce better quality products than privately owned rural enterprises under the "Wenzhou model."

In Southern Jiangsu, each industrial plant employs an average of 83 persons. In Wuxi city, plants hired on average 95 persons; the average original value of their fixed assets was ¥200,000 in 1985; the average fixed-asset equipment per person was around ¥2,100; and the average annual output value was ¥1.05 million. However, township enterprises are by no means inferior to their city counterparts in size, technical input, and product quality. Some of their products are sold around the world. But, establishing public enterprises in rural areas can be difficult because of limited access to technology, technicians, and funds. Therefore, most public enterprises in remote areas are simple agricultural processing plants that do not require much technology, or handicraft factories using local resources, or mining and building material enterprises whose products are sold locally or to neighboring areas.

Because of unified management by the local government and the concentration of portions of enterprise profit, the township government has more power to regulate income distribution. As a result, income gaps are narrow and stability in society is easier to maintain. However, the role of increased income as an incentive for economic growth is also minimized.

case of "overfulfilled profit," 20 percent must be turned over to the township, which also has the right to borrow another 20 percent to use as investment in other enterprises.
The Wenzhou Model

Under the Wenzhou model, the principal initiators in the development of nonfarm industries in rural areas are individual farmers. The local government's role is mainly to implement appropriate policies to create a congenial environment for the development of privately owned enterprises. At present, farmers own two types of private industry: the rural household enterprise, set up by farm families; and the joint-capital enterprise, set up through joint investment by farm families. The latter is also called a joint household enterprise or economic association.

Because the local government regulates them only indirectly, these enterprises enjoy more independence and autonomy. Under market competition, their operations are more adaptable to changes in demand than those of state-owned urban enterprises and township-run rural public enterprises. Because each is responsible for its own profit and loss, these enterprises need to improve their operations, raise efficiency, lower costs, and expand to survive. Indeed, they do achieve a higher degree of efficiency generally, are more competitive, and their products cost less. However, they tend to emphasize short-term interest over long-term growth. And since the initiator of rural nonfarm development is the farmer, rural modernization cannot be easily planned and executed by the government as under the Southern Jiangsu model.

Villages that have adopted the Wenzhou model are generally located away from big cities; therefore, assistance from the urban industrial sector is hard to obtain. Private nonfarm enterprises, of necessity, are small, use backward technologies, and need limited investment. For instance, in 1985 an average private enterprise in rural Wenzhou employed only three persons, who produced ¥8,600 in output value. Leqing County of Wenzhou was the location for 12,770 rural enterprises in 1986; 30 percent of these employed eight workers or more.

In contrast, joint-capital enterprises are larger. A survey of 31 such enterprises in 1985 showed that, on average, each enterprise employed 50 persons, produced output valued at ¥300,000, held fixed assets worth ¥74,000, and generated ¥36,000 in profits (in 1986). Two enterprises suffered losses.

Because these private nonfarm enterprises need little capital and technology, they have spread easily in the vast rural areas. Between 1981 and 1985, the output value in Wenzhou city's township enterprises increased at an average rate of 34.7 percent a year. The growth rate in 1985 was 42 percent faster than in 1984. Of course, because of crude technologies used, product quality was usually low. Also, fraud and tax evasion were widespread.

Many rural households have increased their incomes by setting up nonfarm enterprises. In the coastal counties of Wenzhou, some 400,000 households (one-third of the total in the municipality) are fast becoming prosperous. In the five villages in Yishan District, per capita annual income has reached ¥1,000. In Qiaotou Town, Yongjia County, the annual income of 80 percent of the households tops ¥10,000; 70 percent have built new houses, averaging 101 square meters. However, because of

20. Investment required for each laborer in the family industry is ¥160 in Yishan District of Cangnan County, Wenzhou City, where textiles are the staple. Statistical data are hard to come by.
an ineffective taxation system, the local government has been unable to regulate the incomes of enterprises.

The income gap among different rural occupations is rather large. In Yishan District in Wenzhou, the income of those engaged in processing and commerce exceeds that of farmers by five and eleven times, respectively. Also, the income of those employed in rural nonfarm enterprises has exceeded that of salaried staff in state-owned enterprises, government workers, doctors, and teachers by a ratio of 10 or more. Consequently, a large proportion of the salaried employees in the public sector work at a second job.

**Other Models**

In some areas in Jinhua City, Zhejiang, a mixed model, represented by parallel development of rural private enterprises and township-owned public enterprises, has been used. Elsewhere, a mixed ownership model, which combines public and private ownerships in a variety of forms, is being tried. Because rural areas are so varied across the country, the selection of a model should be the responsibility of local governments and communities.

Judging by current trends, private nonfarm industries have been developing faster than public nonfarm industries. In the future, a situation may well arise in which certain areas develop public nonfarm industries, certain other areas develop private nonfarm industries, and still other areas develop both (though the private model probably will be the major form). The mixed model could help combine the advantages of the two models, while mitigating their weaknesses.

Although both the Southern Jiangsu and the Wenzhou models have been adopted in the economically more developed coastal areas, or in regions with tradition in commerce, their experiences hold significance for the rest of China's vast countryside. In recent years, nonfarm industries have been developing rapidly even in some of the economically backward regions. The policies adopted by the Chinese government to encourage a part of the populace to become prosperous first, and also to encourage rural households to run nonfarm industries, have hastened the development of the nonfarm sector in the countryside.

**The Role of Nonfarm Industries in Rural Modernization**

Rural modernization through rural nonfarm industries is a different strategy from traditional socialist industrialization; it is also different from developing

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21. For instance, the average monthly salary of an employee in Wenzhou's state-owned enterprises was ¥105 in 1985. In contrast, according to a survey of 1,645 households in Liushizhen Town, household income in 1984 was as follows: over ¥10,000, 1,216 households; above ¥30,000, 296 households; above ¥50,000, 89 households.

22. According to a survey conducted by the Wenzhou Textile Industrial Corporation, the following percentage of workers now have a second job: knit goods industry, 79 percent; cotton spinning industry, 39 percent; silk industry, 65 percent.

23. For instance, regions in Anhui, Jiangxi, Shaanxi, and Shanxi provinces, and the rural areas in Gansu, Yunnan, and Guizhou provinces. In Gansu, the output value of township enterprises now accounts for 25.8 percent of total rural social output value.
industry in the urban areas, a policy many developing countries have adopted.\(^{24}\) Rural development through nonfarm industries has several advantages.

First, nonfarm industries can quickly absorb large numbers of rural surplus laborers. Between 1979 and 1985, about 22 million rural laborers switched from farm work to nonfarm industries; another nine million laborers made the switch in 1986.\(^{25}\) In some areas where nonfarm industries are well developed, the proportion of people working in nonfarm sectors exceeds the proportion engaged in farming. In Southern Jiangsu, for instance, nonfarm labor constituted 65 percent of the total rural labor force in 1986.\(^{26}\) In Wuxi Municipality, there is already a labor shortage in rural areas. In Wenzhou City, 89 percent of the 1.8 million rural laborers in 1978 worked in agriculture, and the remaining 200,000 (or 11 percent) worked in nonfarm industries. In 1986, only 58 percent of the 2.67 million rural laborers worked in agriculture. An estimated 830,000 laborers moved to the nonfarm sector in Wenzhou City between 1979 and 1985.\(^{27}\) In the coastal villages in Wenzhou’s various counties, over 70 percent of the laborers have found employment in the nonfarm sectors; in some villages, the figure is as high as 90 percent.

Second, nonfarm industries can rapidly increase rural income growth. In one sample survey, the per capita net income in an average rural household more than doubled during an eight-year period—from ¥134 in 1978 to ¥424 in 1986 (see table 10).

According to another sample survey, which compared the data of 1985 with 1984, cash income from farming increased 2.8 percent, while cash income from nonfarm activities increased 43.1 percent. More than half of the increase in cash income came from nonfarm industries;\(^{28}\) in rural areas with more developed nonfarm sectors, the share was even larger. For instance, the share of agriculture in the total income in Southern Jiangsu was 20 percent in 1986, while the share of nonfarm activities was 80 percent.\(^{29}\) In these areas, the growth in farm income now depends on the growth of nonfarm industries.

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24. The adoption of this strategy stems from the Chinese policy forbidding rural people from freely migrating to cities to live and work. There have been some recent revisions in the policy. For example, rural people are now allowed to take up various occupations, even to operate inns and restaurants in cities, provided they do not seek urban residency. A small number of cities now even allow them to become registered residents after paying a specific fee. In addition, farm workers are now allowed to move their residence to small towns and take up employment in nonfarm industries. These small towns will gradually develop into small cities. Therefore, the urbanization of China is taking place along with the development of rural nonfarm industries.


27. Of these, 330,000 worked in industry, 220,000 in commerce, and 280,000 left their rural homes to provide labor services elsewhere.


Table 10.  Per capita net income in rural household, 1978 and 1986

<table>
<thead>
<tr>
<th></th>
<th>1978</th>
<th>1986</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(yuan)</td>
<td>(percent)</td>
</tr>
<tr>
<td>Per capita net income</td>
<td>133.57</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
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<td>100.0</td>
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<td></td>
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<td></td>
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<td></td>
<td>95.70</td>
<td>22.6</td>
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<tr>
<td>Nonproductive income</td>
<td>10.71</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td>49.08</td>
<td>11.6</td>
</tr>
</tbody>
</table>


Third, rural nonfarm industries have helped specialization, changed the production structure, and raised social productivity. In 1986, the value of output of township industries accounted for 71 percent of the value of the rural gross social output in Southern Jiangsu; in Wenzhou City the share of nonfarm output value was 66 percent. Over 400 commodity markets have been formed; of these, ten have a transaction volume exceeding ¥100 million a year. Some markets are specialized. So long as there is a need, market mechanisms under the Wenzhou model will play a role in rationalizing the use of resources in order to satisfy that need. However, under the Southern Jiangsu model, the role of market mechanism is constrained by the relatively strong regulations and controls imposed by township governments over enterprises.

Fourth, the expansion of nonfarm sectors has helped build rural market towns. After agricultural collectivization, farmers were not allowed to engage in commerce or to run enterprises in market towns. As a result, the market towns lost their status as centers of rural economic activities and began to deteriorate. Since the change in policy, modern facilities have been built, and the economic and social gap between the city and the countryside has narrowed. In Jiangsu, the government has used some of the remitted profit to rebuild the market towns. As a result, these towns have taken on an entirely new look, with theater halls, cultural centers, parks, and primary and middle schools, which make them difficult to distinguish from the cities. Wenzhou has also made impressive gains. From 1979 to 1985, 2,197 projects for new housing, water plants, schools, theaters, and hospitals, worth ¥1.49 billion, have been completed. Almost 80 percent (¥1.184 billion) of the investments were made by local residents.

Some people believed the Southern Jiangsu model was better suited for constructing market towns because local governments could collect and use a part of public enterprises' income to build market towns. In contrast, under the Wenzhou model, government funds would be limited, and it would be impossible to rely on rural households to finance the construction of market towns. Facts have proven these people wrong. In the past three years, market towns in Wenzhou have increased from 24 to 87, and they are playing an increasingly important role in rural economic life. These towns may further develop into small cities; and by serving as a link between the city and the countryside, they may play an even bigger role in rural modernization. Through these towns, culture, technology, and
information can be quickly transmitted to rural areas to enable the rural economy to benefit from the modernization of the nation's economy.

The development of nonfarm industries in rural areas and the building of modern market towns have advantages over the strategy followed by some developing countries, namely, to build industries mainly in the cities. Rural workers can find employment locally; they need not be uprooted, so large amounts of money can be saved in urban construction. Also, social problems associated with rural outmigration can be minimized. Of course, the development of nonfarm industries in rural areas also brings some problems.

Fifth, the development of nonfarm industries has been accompanied by changes in people's traditional ideas. Concepts of time, market, competition, accounting, and entrepreneurship, which the traditional self-sufficient agrarian society did not understand, are now taking hold. The pace of life has quickened, people pay more attention to efficiency, and some farmers have learned to operate industrial and commercial businesses. For instance, the button market at Qiaotou Town in Wenzhou City is the largest in China, and sells one half of all buttons needed by the nation's apparel industry. Nearly 300 button factories are clustered around this market, and an additional 400 family-run factories are located in the nearby Yongjia County. As the industry grows, and markets are developed in rural areas, other nonfarm industries (transport, post and telecommunications, hotel, catering, finance, information, and so forth) will also grow rapidly.

Sixth, the impact of nonfarm industries on rural modernization, though not fully analyzed, has generally been regarded as positive. This is mainly for the following reasons:

* Rural surplus labor can move from agriculture to nonfarm industries. If more land is concentrated among a diminishing number of farm families, the action could help the adoption of modern farming techniques by farmers.

* As surplus labor moves into nonfarm sectors, agricultural labor productivity and farm income will rise. This trend will enable farmers to increase their investments in agriculture.

* The nonfarm sectors can also make agriculture more market oriented, that is to say, farmers will produce for the market, not just for their own consumption. This can promote specialization in agricultural production.
4. Issues and Future Directions

Issues and Problems

Many issues need to be addressed in developing rural nonfarm industries. These issues include providing capital to set up enterprises; making arrangements to ease shortages of energy and raw materials; improving technologies to increase productivity; tapping local talent to develop skills; and educating people to change their perceptions of risk, trading, wealth, and so on.

Funding

Where should the capital for developing nonfarm industries come from? In the beginning stages, it could come from the farm sector, since nonfarm operations are to be located in rural areas. Once these operations are established, they can start their own capital accumulations. Of the Y33 billion new investment made by Chinese village and township enterprises during 1980-83, about 57 percent came from the internal savings of enterprises, about 13 percent from funds raised by enterprises themselves, and the remainder from bank and credit co-op loans.30

When some of the publicly owned nonfarm industries of the Southern Jiangsu model were first established in 1958, it was not easy for rural areas with few nonfarm operations to raise the substantial capital required. Several sources now exist for raising capital. One is bank loans, which are limited and therefore cannot always satisfy demand. Another is for urban industrial enterprises to make investments in the form of equipment they no longer need, or for urban enterprises to contract out the manufacture of some of their products, parts, and components to rural industries, providing them with some funds at the same time. A third way is for the village or township government to let rural people raise the capital. Nonfarm operations under the Wenzhou model were developed with farm households’ own savings. These households can make a beginning on a small scale with simple equipment.

For nonfarm industries to expand, rural areas must develop their own capital markets. These markets are not well developed yet in areas that follow the Southern Jiangsu model, because industries are launched mainly by village or township governments, which also provide the capital. But in areas applying the Wenzhou model, private capital markets are essential to the growth of privately owned enterprises. Private capital markets have developed very quickly in rural Wenzhou. Because of the rapid growth of nonfarm operations, and the demand for capital exceeding the supply, interest rates charged by private organizations range between 2.5 percent and 7.0 percent per month. (The comparable rate charged by the Agricultural Bank and credit co-ops is 1 percent, and by the Industry and

Speculative activities of all kinds have appeared. But private capital markets should not be banned because state banks and rural credit co-ops cannot satisfy the demand. However, private financial activities may need to be regulated, and speculative activities may need to be curbed. State banks—agricultural banks and farmers' own cooperative organizations—and credit co-ops need to work together, to develop both publicly owned and privately owned nonfarm enterprises, as well as to provide guidance to rural private capital markets. In the poorer rural regions, the government can help through budgetary allocations, while the agricultural banks can help through the provision of farm credits to nonfarm enterprises.

**Energy and raw materials**

Rural areas are often short of energy and raw materials and often have to compete with advanced industries in urban areas to gain access to these resources. But some enterprises have found ways to overcome this problem. For instance, some rural operations in Wenzhou have prospered by using bits and pieces of industrial materials (such as acrylic fibers) discarded by urban enterprises, and by recycling industrial and household waste (such as plastics), to produce acrylic clothing and woven plastic bags. The collectively or individually owned coal mines in Shanxi Province have played a part in easing the energy shortage in China by increasing coal production. Coal production by rural enterprises accounts for over 28 percent of the country's total coal production. Enterprises elsewhere have opened up other local resources (stone, sand, metal and nonmetal ores), or have taken up the production of raw materials (bricks, tiles, lime, and cement) using local resources. Encouraging cooperative production between urban and rural industries is one solution to the raw materials problem. Rural enterprises should also be encouraged to process the farm produce. Steps should be taken to avoid the duplication of industrial structure and to encourage specialization.

**Technology**

The rural nonfarm sector has often been regarded as technically backward. But this should be no reason to deny it access to technology, or to hold back efforts to develop this sector. The productivity of nonfarm industries is much higher than that of farming; and by shifting rural labor to the nonfarm sector, the productivity of the rural workforce could be increased. Besides, under market competition, the rural nonfarm sector has been making rapid technical advances.

Consider, for example the plastic shoe industry in Wenzhou's Xianjiang Township. This industry began with the experiments of a cobbler in late 1979. By 1984, 8,000 people in 1,500 households began making plastic shoes. At first, everything was done by hand, with the help of a household iron. A few months later, one household introduced a compression molding machine, and by the end of the year 162 machines were in place in the township. In early 1985, mechanical molding was replaced by injection molding. By 1986, over 30 enterprises had purchased injection-molding machinery. Daily per capita productivity increased from 10 pairs in 1979 to 100-150 pairs in 1986. In Wenzhou's Liushi District, 15 percent of the rural households make metal products and over 1,200 kinds of low-
voltage electrical appliances, some equipped with integrated circuits. Mastery of these technologies is undoubtedly a big leap forward for farm workers, who knew only how to till the land.

In a competitive environment, nonfarm industrial development requires the upgrading of technical skills, and as the sector grows, rural laborers are able to acquire increasingly advanced technologies. The technologies used by some publicly owned rural enterprises, situated close to large cities, are as advanced as those used by large urban industries. Rural enterprises cooperating with urban industries also use relatively sophisticated technologies. Cooperative production by rural and urban industries, with the latter providing technical assistance, is an effective way to promote rural nonfarm industries, and is beneficial to both sides.

**Skills development**

The lack of access to information on technology and technical skills is an important reason for the underdevelopment of nonfarm industries in many rural areas, although those areas close to big cities do have such access. For instance, many retired workers in Shanghai have become an important resource for nonfarm industries in rural Wuxi and Suzhou. In the Wenzhou countryside, people knowledgeable in handicrafts or trading have been tapped to teach their skills to others.

Tapping local potential for training should be the principal means of creating a pool of skilled people. In most rural areas, there are a number of educated farmers who could learn about manufacturing technologies, or trading, or managerial skills. Rural areas could also organize training in metalwork and electrical appliances (as is done in Liushi in Wenzhou City), or send people to universities or technical schools (as is done in the Suzhou villages).

**Marketing**

The development of the rural nonfarm sector also depends on marketing. Some rural operations, such as flour milling, oil extraction, bean curd making, and simple processing of farm produce, have only a local market. In many rural areas, finding markets is more difficult than getting capital. There are two problems here. The first is lack of information. Many remote rural areas have no way of knowing what products are marketable and profitable. The second problem is the inability to break through the limited local market to seek wider sales.

Much can be learned from the Wenzhou experience. Despite inadequate transportation to this coastal area, local producers have developed specialized markets for buttons, low-voltage electrical appliances, acrylic clothing, plastic goods, and metal badges. These markets attract buyers from all over the country. Over 100,000 traders from the Wenzhou countryside travel to other places to promote their products, buy raw materials, and bring back market information. Markets have become not only the backbones, but also the directors and organizers of rural nonfarm industries.

To promote the nonfarm sector, therefore, it is important to develop not only manufacturing industries but also commerce, transportation, post and telecommunications, information, and banking. The rural nonfarm sector in
Wenzhou prospered precisely because all these industries developed in tandem. The Wenzhou area has enterprises engaged exclusively in providing market information and well-developed postal and telecommunications services. In developing township enterprises, the governments in Southern Jiangsu initially neglected these service industries, but they soon learned from the Wenzhou experience.

**Tradition**

The impact of tradition in developing nonfarm industries should not be ignored. Very often, influences of old traditions have impeded the growth of nonfarm operations. Unless the limitations imposed by these traditions are broken down, nonfarm industries cannot develop. Traditional influence is felt in the following attitudes:

**Risk**

Nonfarm operations carry risks. Since Wenzhou is close to the sea and land availability is scarce, farmers have always been ready to leave home to "try their luck" in making a living elsewhere. During the slack farming season, many farm workers leave home to work as itinerant cotton fluffers, carpenters, cobblers, and tailors. This tradition is also alive in the rural areas in Southern Jiangsu Province. But elsewhere, people are content to stay on the land and do not want to move to other places. This attitude has fostered a tradition of sticking to old ways, seeking stability, and fearing change, which does not favor the development of a nonfarm sector.

**Trading**

Peasants in the Wenzhou countryside have traditionally regarded trading a proper thing to do. In other places, people look down on traders and regard peddling as something inglorious, and the money earned through trading as improper.

**Wealth**

In Wenzhou, rural people have a strong desire to make money. People would take up any line of work as long as it brings in money. In contrast, many people elsewhere seem more prone to be "content with their lot." The influence of egalitarianism still exists; there is fear that wealth will bring censure or arouse jealousy.

Traditions are difficult to change. However, once nonfarm operations gain a foothold, they will have an impact on old traditions. Special attention must be paid in fostering new attitudes among the rural youth to hasten rural modernization. Transportation and mass media can also play a role in changing old traditions to encourage the growth of new skills and trades.

**Coordinated development of farm and nonfarm operations**

Coordinating development between farm and nonfarm operations is a difficult problem. Handled well, the farming and nonfarming sectors can complement each other. (Jiangsu is an example of balanced, coordinated development of the two
sects.) Handled poorly, farming can suffer. Several problems need to be addressed.

First, prices of farm products need to be adjusted relative to those of manufactured goods. Historically, prices of farm produce in China have always been lower than those of manufactured goods. After 1949, prices of farm produce were raised relative to those of manufactured goods. From 1961 to 1978, however, prices of farm produce did not change significantly. The situation improved after 1979, when the state raised the procurement prices of 18 important products by an average of 20 percent. By 1986, procurement prices of farm and sideline products had risen by 77.5 percent over 1978. However, prices for farm produce are still low, and farm income is lower than nonfarm income. For instance, in Southern Jiangsu Province, an agricultural laborer earns between ¥600-700 a year, while the wage of an industrial worker can be as high as ¥1,300. In Jinxiang Town, Wenzhou City, the income ratio between a worker in industry or commerce and a farm laborer ranges between 5:1 and 7:1. Such a situation is not conducive to agricultural growth, but under the present situation in China raising farm prices further is very difficult. Therefore, substantial price supports are given to more than 30 farm and sideline products. In 1983, state subsidies for farm and sideline products amounted to about ¥102 billion. Raising procurement prices further would require even larger state subsidies.

In areas with well-developed, publicly owned nonfarm industries, township governments are spending a part of their revenue from nonfarm industries to subsidize agriculture. Several methods are used. In some places, farm and nonfarm operations come under centralized accounting and distribution, so that the incomes of farm and industrial workers are kept at roughly the same levels. In other places, a part of the profit from nonfarm industries is invested in farming, or in buying farm machinery to provide low-fee or free service to farmers. Elsewhere, a part of the profit from nonfarm industries is used to provide social security for farm workers, or measures are taken to employ at least one member per rural household in nonfarm industries. These methods have contributed to a coordinated development of farm and nonfarm operations. Of course, the long-term solution still lies in proper adjustment of relative prices of farm products and manufactured goods.

In addition, taxes should be used to adjust farm and nonfarm incomes. This measure is especially effective in the Wenzhou-type rural areas where township governments cannot use profits from nonfarm industries to subsidize farming. However, they can use taxes to adjust income differences, and tax revenue from nonfarm industries to support farm development.

Second, concentration of land should be promoted, the scale of farm production should be expanded, and farm productivity should be raised. The income gap between farm and nonfarm workers stems from the productivity gap. An important step in narrowing these gaps is to shift surplus farm labor to nonfarm operations, and concentrate more land among fewer households to expand the scale of

31. For example, 100 jin of wheat exchanged for 70 kg. of table salt in 1952, and 95 kg in 1978. The same 100 jin of wheat exchanged for 19 meters of white cloth in 1952, and 30 meters in 1978.
production. This step is a prerequisite to using advanced technologies, raising farm productivity, increasing farm income, and narrowing the income gap. In some villages in Southern Jiangsu, a higher degree of mechanization has resulted in improvements in farm productivity and income. By instituting compensatory transfer of land use rights, the process of land concentration has been accelerated.33

Third, township governments should be permitted to establish independent treasuries. In China, taxes and revenues collected by township governments must be remitted to higher authorities, which then reallocate funds to township governments for their day-to-day expenditures. Township revenues are thus not related to their expenditures. With their own treasuries, township governments could retain a specified percentage of tax revenues. This method would provide an incentive to collect taxes, promote nonfarm industries, assist farming, and develop townships. In 1986, Zhejiang Province decided to let township governments set up their own treasuries.

The price of developing a nonfarm sector

Many developing countries have experienced pain and conflict in the process of their economic development. China experienced the same from the late 1950s to the mid-1970s. By reviewing the lessons of China and other countries, some of the pain can be avoided. Nevertheless, a price must be paid for development.

Widening income gaps

The development of nonfarm industries, especially privately owned ones, has widened income gaps among people. The socialist principle of equitable distribution had ensured commune members free food, clothing, housing, medical care, and education; but this state of affairs could not be maintained. The experience of China and other countries has shown the importance of stimulating economic growth. Widening income gaps in the early stages of economic development—when the average per capita income is low—is inevitable and, perhaps, even necessary for further development. The gap can be narrowed successfully only when average incomes are moderately high. Only when the economy grows is it possible to provide social security. In Southern Jiangsu Province, for instance, township governments were able to offer retirement funds to farmers who remained on the land, only when nonfarm industries prospered. In Wenzhou, some enterprises, built with farmers’ capital, provide free medical care to their workers, as state-owned enterprises do. However, too many social welfare and security facilities should not be provided because they would hinder further economic growth. We should look upon the widening of income gaps, while nonfarm industries grow, as a price to pay for economic growth. Of course, excessive income gaps should be prevented by levying progressive income tax and through other regulatory measures. China has already instituted a ten-level

33. In Yuanhe Village, Qinnan Township, Changshu Municipality, in Southern Jiangsu, the area of land tilled by an average farm laborer in 1985 had expanded to 25.3 mu. See Wang Huaishiiui and Wu Dasheng, “Tentative Analysis of the Southern Jiangsu Model and Rural Progress.” In Studies in Sociology, No. 5, 1987, p. 16.
progressive tax system but, because of various constraints, has not been able to implement it in full.

**Hiring of labor**

Labor markets have appeared in some rural areas that have well-developed privately owned nonfarm operations. As a rule, hiring labor is forbidden in a socialist economy, but China's experience has shown that this ban has not promoted economic growth.

The practice of hiring labor can help both employers and employees. People who live in poor regions may be prepared to work as hired hands in the more developed regions, and those with steady jobs may want to work at a second job. The wages of hired labor are generally not much lower than those at state enterprises; some may have even higher wages. Some enterprises, operated with pooled private capital, are even able to provide labor protection and social insurance, along the lines of state enterprises. However, problems remain.

One problem is that employers get excessively high incomes—five or more times higher than their employees. Other problems include the appearance of child labor, long work hours, poor working conditions, lack of job security, and excessively high numbers of hired hands in some cases. These problems can be alleviated by implementing relevant policies and laws.

**Environmental pollution**

Some consider pollution as a price that must be paid for economic growth. Private nonfarm industries, especially those making plastic products, pay little attention to controlling pollution. Both air and water pollution is a serious problem in some rural areas in Wenzhou. The environment is also being destroyed by such rural industries as brick making (land) and lime making (forests). No sound preventive and positive measures have yet been taken to solve these problems and, given the current level of economic and scientific development, it is difficult to avoid pollution completely. However, policies and monitoring measures can be implemented to help reduce pollution and environmental destruction.

**Conclusions**

The conclusions in this paper are based mainly on the on-site studies I made in the rural areas of Southern Jiangsu Province, Southern Zhejiang Province, and Henan Province. Four conclusions can be drawn from China's experience since 1979 in rural reforms, nonfarm development, and rural modernization.

First, reform of the rural economic system is a prerequisite to the rapid growth of the rural economy. How to reform, and what new structure is needed, must be
determined on the basis of rural realities and be acceptable to rural people. The reform should also promote economic growth in rural areas.

Second, while industrialization is a prerequisite to agricultural modernization, the industrialization strategy and economic policies in China must favor agricultural development and modernization. An industrialization strategy that harms agriculture and the interests of rural communities, and disrupts the coordinated development of agriculture and industry, would ultimately hurt industrialization itself.

Third, the development of a nonfarm sector in rural areas is an important way to change the present dual economic structure and to promote rural modernization. Relying solely on urban industrialization in a predominantly agricultural country would only slow the shift from a dual economic structure to a mono economic structure. The rural nonfarm sector must receive support, and the problems faced by farm workers (especially those in poor regions) must be solved. Urban areas should assist in this process, since rural nonfarm industrial development will contribute positively to urban economic growth. Rural modernization should be viewed as an essential link in the modernization of the whole society.

Fourth, in the development of a rural nonfarm sector, rural areas should be free to adopt economic models to suit their own specific conditions. While problems may arise in the process of developing rural nonfarm industries, the growth of a rural economy itself is of paramount importance. Once this economy flourishes, it will have the strength to solve other problems. Rural nonfarm industries must be developed alongside farming to promote, rather than to hurt, the latter.
### 5. Annexes

#### Annex 1. Productive Structures in Developing Countries, 1979 (in percent)

<table>
<thead>
<tr>
<th>Country</th>
<th>Agriculture</th>
<th>Industry</th>
<th>Services</th>
<th>GDP a</th>
</tr>
</thead>
<tbody>
<tr>
<td>China b</td>
<td>31</td>
<td>47</td>
<td>22</td>
<td>100</td>
</tr>
<tr>
<td>(Adjusted)c</td>
<td>34</td>
<td>40</td>
<td>26</td>
<td>100</td>
</tr>
<tr>
<td>India</td>
<td>38</td>
<td>27</td>
<td>35</td>
<td>100</td>
</tr>
<tr>
<td>Indonesia</td>
<td>30</td>
<td>32</td>
<td>38</td>
<td>100</td>
</tr>
<tr>
<td>Low-income countries</td>
<td>33</td>
<td>24</td>
<td>38</td>
<td>100</td>
</tr>
<tr>
<td>Middle-income countries</td>
<td>15</td>
<td>38</td>
<td>48</td>
<td>100d</td>
</tr>
</tbody>
</table>

a. At market prices.
b. Adjusted because the norms of accounting were different.
c. In view of higher relative prices in China's industry, the World Bank has made adjustments using India's prices as basis.
d. Figures do not add up because of rounding.


#### Annex 2. Productive Structures in Industrial Countries (in percent)

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Agriculture a</th>
<th>Industry b</th>
<th>Services</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>1983</td>
<td>2</td>
<td>32</td>
<td>66</td>
<td>100</td>
</tr>
<tr>
<td>Japan</td>
<td>1983</td>
<td>3</td>
<td>42</td>
<td>55</td>
<td>100</td>
</tr>
<tr>
<td>Fed. Rep. of Germany</td>
<td>1983</td>
<td>2</td>
<td>41</td>
<td>57</td>
<td>100</td>
</tr>
<tr>
<td>Britain</td>
<td>1984</td>
<td>2</td>
<td>36</td>
<td>62</td>
<td>100</td>
</tr>
<tr>
<td>France</td>
<td>1984</td>
<td>4</td>
<td>34</td>
<td>62</td>
<td>100</td>
</tr>
<tr>
<td>Australia</td>
<td>1980</td>
<td>6</td>
<td>37</td>
<td>57</td>
<td>100</td>
</tr>
</tbody>
</table>

a. Includes farming, forestry, animal husbandry, and fisheries.
b. Includes construction, mining, manufacturing, water, power, and gas.

### Annex 3. Employment Structure in Developing Countries, 1979 (in percent)

<table>
<thead>
<tr>
<th>Sector</th>
<th>China (percent of 1979 total; adjusted)</th>
<th>India</th>
<th>Indonesia</th>
<th>Low-income countries</th>
<th>Middle-income countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>71</td>
<td>74</td>
<td>60</td>
<td>72</td>
<td>45</td>
</tr>
<tr>
<td>Industry</td>
<td>17</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>23</td>
</tr>
<tr>
<td>Services</td>
<td>12</td>
<td>15</td>
<td>29</td>
<td>17</td>
<td>32</td>
</tr>
<tr>
<td>Total employment</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>


### Annex 4. Employment Structure in Industrial Countries, 1984 (in percent)

<table>
<thead>
<tr>
<th>Country</th>
<th>Agriculture</th>
<th>Industry a</th>
<th>Services b</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>69</td>
<td>17</td>
<td>14</td>
<td>100</td>
</tr>
<tr>
<td>United States</td>
<td>4</td>
<td>28</td>
<td>68</td>
<td>100</td>
</tr>
<tr>
<td>Japan</td>
<td>9</td>
<td>35</td>
<td>56</td>
<td>100</td>
</tr>
<tr>
<td>Fed. Rep. of Germany</td>
<td>6</td>
<td>41</td>
<td>53</td>
<td>100</td>
</tr>
<tr>
<td>Britain c</td>
<td>3</td>
<td>34</td>
<td>63</td>
<td>100</td>
</tr>
<tr>
<td>France</td>
<td>8</td>
<td>33</td>
<td>59</td>
<td>100</td>
</tr>
<tr>
<td>Australia</td>
<td>6</td>
<td>27</td>
<td>67</td>
<td>100</td>
</tr>
<tr>
<td>India d</td>
<td>69</td>
<td>14</td>
<td>17</td>
<td>100</td>
</tr>
<tr>
<td>Indonesia d</td>
<td>61</td>
<td>10</td>
<td>29</td>
<td>100</td>
</tr>
</tbody>
</table>

a. Includes construction, mining, manufacturing, water, gas, and electricity.

b. Includes commerce, transportation, communications, finance, insurance, social groups and associations, and government organizations.

c. 1981.

d. 1978.

Annex 5. Output Per Farm Laborer, 1985

<table>
<thead>
<tr>
<th>Unit</th>
<th>China</th>
<th>United States</th>
<th>Canada</th>
<th>France</th>
<th>India^a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cereal</td>
<td>T</td>
<td>1.1</td>
<td>82.6</td>
<td>88.4</td>
<td>33.0</td>
</tr>
<tr>
<td>Meats^b</td>
<td>Kg.</td>
<td>56</td>
<td>4,250</td>
<td>...</td>
<td>2300</td>
</tr>
</tbody>
</table>

... Not available.

a. The figures for India are for 1981.
b. Includes pork, beef, and mutton.


<table>
<thead>
<tr>
<th>Country</th>
<th>Hectares</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>0.25</td>
</tr>
<tr>
<td>Holland</td>
<td>0.78</td>
</tr>
<tr>
<td>Egypt</td>
<td>0.15</td>
</tr>
<tr>
<td>Rep. of Korea</td>
<td>0.14</td>
</tr>
<tr>
<td>Indonesia</td>
<td>0.16</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>0.15</td>
</tr>
<tr>
<td>India</td>
<td>0.42</td>
</tr>
<tr>
<td>China^a</td>
<td>0.12</td>
</tr>
</tbody>
</table>

a. 1979


Annex 7. International Comparison of Urban and Rural Incomes (ratios; average incomes)

<table>
<thead>
<tr>
<th>Urban income to rural income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Based on person</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>China, 1979</td>
</tr>
<tr>
<td>Bangladesh, 1966-67</td>
</tr>
<tr>
<td>India, 1975-76</td>
</tr>
<tr>
<td>Sri Lanka, 1969-70</td>
</tr>
<tr>
<td>Indonesia, 1976</td>
</tr>
<tr>
<td>Thailand, 1975-76</td>
</tr>
</tbody>
</table>

. Not available

Annex 8. Ratios of Labor Productivity in Key Sectors, 1979

<table>
<thead>
<tr>
<th></th>
<th>China</th>
<th>India</th>
<th>Indonesia</th>
<th>Low-income countries</th>
<th>Middle-income countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry/Agriculture</td>
<td>6.1</td>
<td>4.8</td>
<td>5.9</td>
<td>4.1</td>
<td>5.0</td>
</tr>
<tr>
<td>Industry/Services</td>
<td>1.5</td>
<td>1.0</td>
<td>2.3</td>
<td>1.0</td>
<td>1.1</td>
</tr>
</tbody>
</table>


Annex 9. Agricultural Development in China Before Collectivization, 1950-52 (increase over previous year; percent)

<table>
<thead>
<tr>
<th>Year</th>
<th>Agr. products (Total output value)</th>
<th>Grains</th>
<th>Cotton</th>
<th>Oils</th>
<th>Pigs a</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>17.8</td>
<td>16.7</td>
<td>55.6</td>
<td>15.9</td>
<td>10.8</td>
</tr>
<tr>
<td>1951</td>
<td>9.4</td>
<td>8.7</td>
<td>49.0</td>
<td>21.8</td>
<td>16.2</td>
</tr>
<tr>
<td>1952</td>
<td>15.2</td>
<td>14.1</td>
<td>26.5</td>
<td>15.8</td>
<td>20.6</td>
</tr>
</tbody>
</table>

a. Year-end number


Annex 10. Agricultural Production During Collectivization, 1952-57 (1952=100)

<table>
<thead>
<tr>
<th>Year</th>
<th>Gross output of agriculture</th>
<th>Grain</th>
<th>Cotton</th>
<th>Oils</th>
<th>Pork, beef, and mutton</th>
</tr>
</thead>
<tbody>
<tr>
<td>1952</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>1953</td>
<td>103.1</td>
<td>108.1</td>
<td>90.1</td>
<td>92.0</td>
<td>..</td>
</tr>
<tr>
<td>1954</td>
<td>106.6</td>
<td>103.4</td>
<td>81.7</td>
<td>102.7</td>
<td>..</td>
</tr>
<tr>
<td>1955</td>
<td>114.7</td>
<td>112.2</td>
<td>116.4</td>
<td>115.1</td>
<td>..</td>
</tr>
<tr>
<td>1956</td>
<td>120.5</td>
<td>117.6</td>
<td>110.8</td>
<td>121.3</td>
<td>100.4</td>
</tr>
<tr>
<td>1957</td>
<td>124.8</td>
<td>119.0</td>
<td>125.8</td>
<td>100.1</td>
<td>117.7</td>
</tr>
</tbody>
</table>

.. Not available

Note: There were natural disasters in 1953, 1954, 1956, and 1957, particularly in 1954 and 1956—hence data were not easily available for pork, beef, and mutton production.

Annex 11. Agricultural modernization during first five-year plan, 1953-57

<table>
<thead>
<tr>
<th>Year</th>
<th>Total power of farm machinery (year-end number)</th>
<th>Large, medium tractors (year-end number)</th>
<th>Machine-tilled area (10,000 ha.)</th>
<th>Power irrig. area (10,000 ha.)</th>
<th>Use of chemical fertilizer (10,000 T)</th>
<th>Rural power consumption (100 M Kwh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1952</td>
<td>25</td>
<td>1,307</td>
<td>13.6</td>
<td>31.7</td>
<td>7.8</td>
<td>0.5</td>
</tr>
<tr>
<td>1957</td>
<td>165</td>
<td>14,674</td>
<td>263.6</td>
<td>120.2</td>
<td>37.3</td>
<td>1.4</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Year</th>
<th>GVAO (^a)</th>
<th>Grain (1,000 T)</th>
<th>Cotton (1,000 T)</th>
<th>Oil crops (1,000 T)</th>
<th>Meat (1,000 T)</th>
<th>Aquatic products (1,000 T)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1957</td>
<td>100.0</td>
<td>195,050</td>
<td>1,640</td>
<td>4,196</td>
<td>3,985</td>
<td>3,120</td>
</tr>
<tr>
<td>1958</td>
<td>102.4</td>
<td>200,000</td>
<td>1,969</td>
<td>4,770</td>
<td>. . .</td>
<td>2,810</td>
</tr>
<tr>
<td>1959</td>
<td>88.5</td>
<td>170,000</td>
<td>1,709</td>
<td>4,104</td>
<td>. . .</td>
<td>3,090</td>
</tr>
<tr>
<td>1960</td>
<td>77.3</td>
<td>143,500</td>
<td>1,063</td>
<td>1,941</td>
<td>. . .</td>
<td>3,040</td>
</tr>
<tr>
<td>1961</td>
<td>75.4</td>
<td>147,500</td>
<td>800</td>
<td>1,814</td>
<td>. . .</td>
<td>2,310</td>
</tr>
<tr>
<td>1962</td>
<td>80.1</td>
<td>160,000</td>
<td>750</td>
<td>2,001</td>
<td>1,940</td>
<td>2,280</td>
</tr>
<tr>
<td>1963</td>
<td>89.4</td>
<td>170,000</td>
<td>1,200</td>
<td>2,458</td>
<td>. . .</td>
<td>2,610</td>
</tr>
<tr>
<td>1964</td>
<td>101.5</td>
<td>187,500</td>
<td>1,663</td>
<td>3,368</td>
<td>. . .</td>
<td>2,800</td>
</tr>
<tr>
<td>1965</td>
<td>109.9</td>
<td>194,530</td>
<td>2,098</td>
<td>3,625</td>
<td>5,510</td>
<td>2,980</td>
</tr>
</tbody>
</table>

\(^a\) Gross value of agricultural output in 1957 prices.


Annex 13. Per Capita Output of Main Farm Products, 1952-78 (kilograms)

<table>
<thead>
<tr>
<th>Year</th>
<th>Grains</th>
<th>Cotton</th>
<th>Oils</th>
<th>Meats</th>
<th>Aquatic products</th>
</tr>
</thead>
<tbody>
<tr>
<td>1952</td>
<td>285</td>
<td>2.3</td>
<td>7.3</td>
<td>5.9</td>
<td>2.9</td>
</tr>
<tr>
<td>1957</td>
<td>302</td>
<td>2.5</td>
<td>6.5</td>
<td>6.2</td>
<td>4.8</td>
</tr>
<tr>
<td>1965</td>
<td>268</td>
<td>2.9</td>
<td>5.0</td>
<td>7.6</td>
<td>4.1</td>
</tr>
<tr>
<td>1970</td>
<td>289</td>
<td>2.7</td>
<td>4.5</td>
<td>7.2</td>
<td>3.8</td>
</tr>
<tr>
<td>1975</td>
<td>308</td>
<td>2.6</td>
<td>4.9</td>
<td>8.0</td>
<td>4.8</td>
</tr>
<tr>
<td>1978</td>
<td>317</td>
<td>2.3</td>
<td>5.4</td>
<td>8.9</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Source: Based on China Statistical Yearbook, 1985, pp. 185, 255, 267, 271.
Annex 14. Employees in Retailing, Catering, and Service Trades, 1952-78  
(units of 10,000 persons)

<table>
<thead>
<tr>
<th></th>
<th>1952</th>
<th>1957</th>
<th>1965</th>
<th>1978</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retailing</td>
<td>589.5</td>
<td>46.7</td>
<td>33.5</td>
<td>13.6</td>
</tr>
<tr>
<td>Catering</td>
<td>145.0</td>
<td>13.9</td>
<td>12.5</td>
<td>7.3</td>
</tr>
<tr>
<td>Services</td>
<td>91.0</td>
<td>17.7</td>
<td>10.0</td>
<td>5.3</td>
</tr>
<tr>
<td>Total</td>
<td>825.5</td>
<td>78.3</td>
<td>56.0</td>
<td>26.2</td>
</tr>
</tbody>
</table>

Note: The figures are for the year-end.
### Annex 15. Composition of Rural Nonfarm Industries, 1978 and 1986

<table>
<thead>
<tr>
<th></th>
<th>Employees</th>
<th>Total income</th>
<th>Total output value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number Composition (millions) (%)</td>
<td>Number Composition (millions) (%)</td>
<td>Amount Composition ($100M) (%)</td>
</tr>
<tr>
<td>Total</td>
<td>22.18 100.0</td>
<td>41.51 100.0</td>
<td>395.27 100.0</td>
</tr>
<tr>
<td>Industry</td>
<td>17.34 78.2</td>
<td>30.41 73.3</td>
<td>326.10 82.5</td>
</tr>
<tr>
<td>Transport</td>
<td>1.04 4.7</td>
<td>1.10 2.7</td>
<td>18.71 4.7</td>
</tr>
<tr>
<td>Construction</td>
<td>3.26 8.3</td>
<td>8.07 19.4</td>
<td>26.04 6.6</td>
</tr>
<tr>
<td>Other</td>
<td>1.44 8.8</td>
<td>1.93 4.6</td>
<td>24.42 6.2</td>
</tr>
</tbody>
</table>

a. Current prices

**Note:** The figures for the "Employees" column are based on calculations of data contained in sources mentioned here, minus those in agricultural enterprises in towns/townships. They cover only enterprises run by the township or village, and do not include those in rural, collective nonfarm enterprises below the village level run by farm households or jointly funded by farmers.

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