

Assigned by the Ministry of Agriculture, Forestry and Fisheries

**Report on the Survey of Rural Population
and Agricultural Development
in Asian Countries
— China —**

FEBRUARY 1988

**The Asian Population and Development
Association**



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THE ASIAN POPULATION AND DEVELOPMENT ASSOCIATION, 1988

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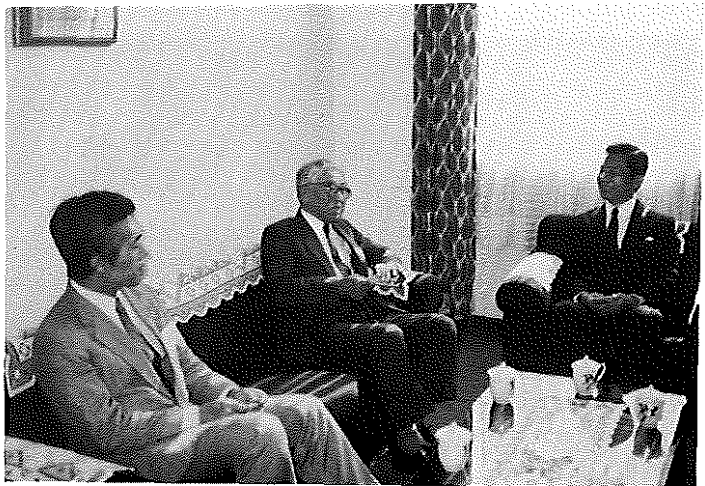


◀ Discussing survey outline.

From right: Mr. Wang Wei, Minister of the State Family Planning Commission
Dr. Shigeto Kawano
(Chief of Research Team)

Courtesy visit to the Japanese Embassy. ▶

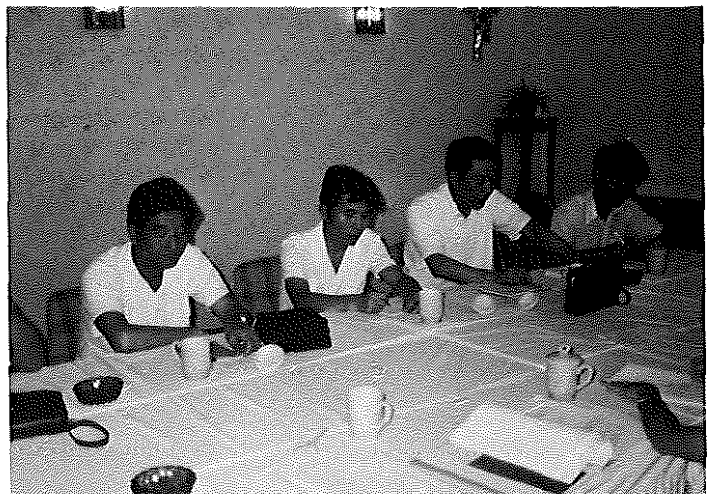
From right: Mr. Hiroyuki Yushita (Minister)
Dr. Shigeto Kawano
Mr. Takeshi Hamashita



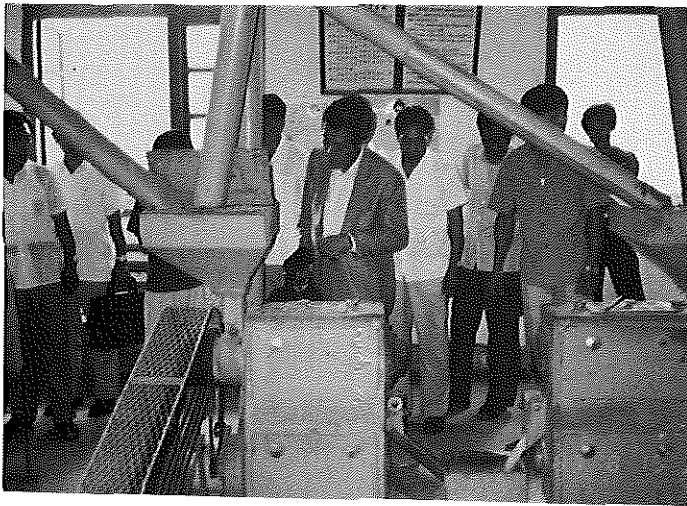
◀ At Ministry of Agriculture, Animal Husbandry and Fishery

From left: Mr. Chen Xiaojun
Mr. Gan Zuofu
Dr. Shigeto Kawano

The Jiangsu Provincial Agricultural and Forestry Department ▶

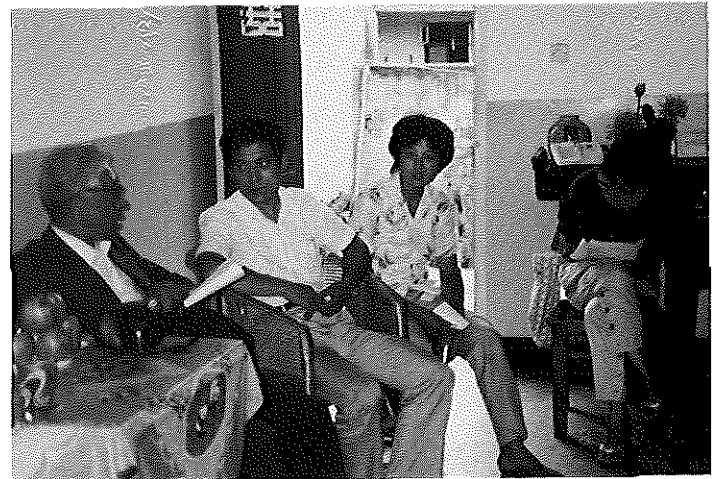


At Jiangning County Office in Jiangsu Province, Ms. Zhu Shanlin (Deputy Head of County) ▶



◀ Visit to a rice mill, town enterprise, at Mulin township in Jiangning County

Farmer's house at Mulin township ▶



◀ "Ten-thousand-yuan Farm" at Ganshan Village, Fanshan Township

Foreword

The following report represents the results of a "Survey of the Rural Population and Agricultural Development in the Asian Countries," consigned by the Ministry of Agriculture, Forestry and Fisheries in 1987, and entrusted to be implemented by the Asian Population and Development Association (APDA) for People's Republic of China. The survey and compilation of the results were carried out mainly by members of APDA's survey committee (Chairperson: Dr. Shigeto Kawano, Professor Emeritus, the University of Tokyo).

The survey was conducted to pursue the following objective: In extending cooperation in terms of rural and agricultural development to Asian countries, it is necessary to give due considerations to enhance productivity, to develop rural community, and to improve the standards of rural life. In particular, special note must be taken to assist in sustenance of rural population carrying capacity. For this goal, a field survey will be conducted in a model district selected from among the Asian nations to determine the rural community and agricultural development programs to be implemented, with the objective of maintaining and enhancing the population carrying capacities. The results will establish a guideline for Japan's international cooperation in the area of agriculture, forestry and fisheries.

The field survey in China was conducted with the guidance and cooperation of Mr. Wang Wei, Minister of State Family Planning Commission, and the members of the Japanese Embassy in China, Mr. Hiroyuki Yushita, Minister, Mr. Toichi Hayami, Councilor, and Mr. Toshio Okubo, First Secretary. Also, members of the Jiangsu Provincial Family Planning Commission extended their support in the implementation of the survey. In Japan, members of the International Cooperation Division, Economic Affairs Bureau, the Ministry of Agriculture, Forestry and Fisheries, and Aid Policy Divisions, Economic Cooperation Bureau, the Ministry of Foreign Affairs, cooperated in the guidance of the survey substance and arrangement of the field survey. I would like to extend my deepest gratitude to these people.

In conclusion, I sincerely hope that this report would hopefully contribute to the advancement of the rural community and agricultural development programs in the People's Republic of China, as well as support the Japanese Government's cooperation there in an effective manner. Furthermore, I would like to note that this report was compiled by and is the sole responsibility of APDA, and does not reflect any views nor policies of the Ministry of Agriculture, Forestry and Fisheries or the Japanese Government.

February, 1988

Tatsuo Tanaka
Chairman
The Asian Population and
Development Association

< C O N T E N T S >

Foreword	1
Chapter 1 SUMMARY	5
Chapter 2 OVERVIEW	
- PRESENT STATE OF AGRICULTURE -	11
1. Agricultural Policy	13
2. Agricultural Production	16
3. Forms of Agriculture	17
Chapter 3 RURAL VILLAGES AND THEIR AGRICULTURAL DEVELOPMENT IN JIANGSU PROVINCE	39
1. General Overview	41
2. Recent Economic Development	41
3. Changes in Agricultural Production	42
4. Implementation of the Farming Household Output Quota System	45
5. Rural Enterprises	46
Chapter 4 PRESENT SITUATION OF AREAS OF THE SURVEY	57
1. Summary of General Situation	59
2. Outline of Recent Economic Changes	60
3. Changes in Agricultural Production and Conditions	62

4.	Changes in Non-agricultural Sectors	
	- Development of Enterprises Operated	
	by Township and Village	67
5.	Living Environment	69
Chapter 5	PROBLEMS IN INTERNATIONAL COOPERATION	79
1.	Perspectives on International Cooperation	81
2.	Tasks in Cooperation	85
Chapter 6	SURVEY ITINERARY AND MEMBERS	89

CHAPTER 1

SUMMARY

Japanese economic assistance for China has made marked progress since 1979 when then Prime Minister Ohira visited China and pledged to provide as much assistance as possible for the modernization in China. Since 1982, China has been the largest recipient of Japan's Official Development Aid (ODA) on a total grant basis.

Seeing from the Chinese side, Japan is the nation which provides the largest financial aid on a bilateral basis. Japan's assistance accounted for 68% of the total grant China received in 1985.

Especially, the assistance in the area of agriculture, forestry, and fisheries has an extremely significant meaning and plays a vital role for China, which has set agricultural modernization as the top-priority objective of the policy of "Four Modernizations." Japan has been providing positive assistance in this area:

- (1) Exchange of agricultural technology on a governmental level, mainly by the "Japan-China Agricultural Technology Exchange Group"
- (2) Technological assistance through the Japan International Cooperation Agency, including technological assistance in project methods, R&D, as well as by sending technical advisors, and accepting trainees.
- (3) Financial cooperation such as gratuitous financial assistance and aid for increasing food production.
- (4) Agricultural technology exchange on a non-governmental level.

On the other hand, Chinese agriculture and rural villages actually have undergone complete and substantial changes in terms of system and policy since 1979. The most prominent change was the adoption of the "output quota system". In 1978, Deng Xiao-ping made a major proposal for the promotion of the agricultural reform at the 11th meeting of the 3rd General Assembly of the Central Committee of the Chinese Communist Party. Replacing the People's Commune, individuals have come to manage agriculture, the agricultural household output quota system has been adopted, which took place of the centralized purchasing system by the government. These measures have markedly increased agricultural productivity, and moreover, brought about the diversification of agricultural production, or expanded production of so-called commercial crops. Once an output quota is met, surplus products can be sold at free markets with free pricing. This flexible new system has substantially increased farmers' income, and as a result 10,000-yuan households have been created. But the change did not stop there.

The increase and advancement of agricultural production created surplus labor force in rural villages and this served as a pre-condition for the birth of "rural enterprises". The spread of rural enterprises

further increased the total income of rural villages providing a major income source for 10,000-yuan households. This is because the employment of labor of farming household by rural enterprises has helped to increase the total earnings of farming households by supplementing the agricultural income.

Furthermore, the surplus of the agricultural labor force resulted in the expansion of subsidiary businesses, such as fishing and livestock production, and helped to promote transportation and processing industries.

Generally speaking, the improvement of agricultural productivity has not only expanded agriculture-related businesses but also promoted manufacturing and service industries. These changes, however, will create new problems and tasks for cooperation in agriculture, forestry and fisheries. The first problem is the influence of the dissolution of the people's commune. At present, only the positive impact of the dissolution is stressed. Aren't there any negative effects? The question is what contribution the people's commune made and what future problems it left behind.

Another question is what the fundamental conditions are for the improvement of productivity and economic development which are apparently taking place in China. There are of course two speakers of development: "hardware" and "software" developments. In each sphere of development, what outside assistance can be provided and what measures should be taken to help make further progress?

Third, there is no doubt that the population policy under the people's commune was closely connected with the actual condition of the Chinese economy. The problem is how to examine the relationship between the current population situation and future problems of the Chinese population policy. What change should be made for the population policy under this changing environment, including the emergence of "10,000-yuan households." This is not a question merely concerned with the manner of cooperation in formulating appropriate population policy. Rather, it is a major part of the fundamental question concerning overall economic assistance for China.

Our team did study in China from August 6 through 21, 1987, as a part of our research project on the agricultural population and agricultural development in Asian countries, which was entrusted by the Ministry of Agriculture, Forestry, and Fisheries in Japan.

Focal points of our research and data collection were: (1) the diversification of agricultural production through the introduction of commercial crops, while maintaining self-sufficiency in food supply, and (2) the development of rural industries as a means of absorbing excessive agricultural labor force. The logic of analysis was explained

above.

Therefore, in conducting a field study, we interviewed officials from various sections of the central government and those at each level of local authorities: province, prefecture, and village. At the same time, in some villages, we visited farmers for interviews, including those classified as "10,000-yuan household". We had also prepared a questionnaire for farming households, but the circumstances did not allow us to use them this time.

The research was conducted in a very effective and efficient manner thanks to the assistance provided by the governmental authorities, for instance the data collection and interviews at the Agricultural, Livestock Farming and Fishery Division of the State Production Planning Committee of the central government were conducted smoothly. All the people we interviewed were willing to give us a clear answer and full explanation. Although it cannot be said that there was always enough data available, the research was conducted much more efficiently than we had expected. We would like to express our deep appreciation to the Chinese people who provided us valuable cooperation and assistance.

CHAPTER 2

OVERVIEW - PRESENT STATE OF AGRICULTURE -

The agricultural policy under the liberalized economic system has been carried out based on the following three key reforms:

(1) The farming household output quota system was introduced in the agricultural operation. This new system departed from the traditional method of production in which each household received averaged income earned from the collective production. It is a system in which output quota is contracted to each household and the surplus output of household can be retained as personal earnings.

(2) The distribution system was reformed: Up to 1983, the state controlled and intervened the distribution of all the farm products. After 1984, however, the government controls only basic food supplies (e.g., rice and wheat) through a contract with farmers while farmers can sell crops and economic products which are not included in the contract and in the free market to earn their own extra income.

(3) As a policy for income growth, diversified farm management including the production of economic crops has been encouraged. At the same time, factories managed by rural villages and communities, generally called rural enterprises, were encouraged in order to increase farmers' income and to improve financial situation in rural communities.

1. Agricultural Policy

The above reforms are included in the policy announced on January 1, 1985 in a more comprehensive manner. The policy consists of ten provisions. First, the present situation is clearly recognized and the recent improvement and the increase in agricultural production are affirmatively evaluated. Then, the importance of overcoming some unbalanced situation and discordance in agriculture are emphasized. One of such undesirable phenomena is that the agricultural production is not meeting the actual market demand. Specifically, quality and variety improvement is not catching up with the rapid increase in production. In addition, clogged product distribution system, the mismatch between production assignment and production units, and the existence of regional gap are pointed out as problems to be solved in the future. Then, as a cause of these problems, the report admits that the consolidated purchase by the state does the harm and concludes that it is necessary to reform the state purchasing system.

In this context, the following ten economic measures were adopted:

- 1) Reform of the unified purchase system and the purchase quota of farm products

Food supplies and cotton should be purchased on a contract base and the unified purchasing system should be terminated. The three-to-seven

allocation is applied to the government's purchase of food supplies: A 30 percent should be purchased at common prices and a 70 percent should be purchased at prices determined through consultation. Surplus output exceeding the amount agreed in the contract can be distributed at their discretion at the free market. In addition, all the agricultural products should be purchased based on a contract from now on, and any organizations and government agencies should not one-sidedly decide or order a production plan to farmers.

- 2) To make an affirmative effort to adjust production structure in rural areas.

The diversification of agricultural management should be aggressively promoted without neglecting the production of food supplies. Livestock-farming, fisheries, and forestry should also be promoted.

- 3) Liberalization of the policy for mountain areas.

The lumber market should be liberalized and the lumber produced by farmers specialized in forestry business and collective enterprises should be purchased after consultation. The free trade of materials for Chinese medicine shall also be granted.

- 4) Transportation industry should be vigorously promoted.

In order to promote road construction, local authorities are allowed to issue bonds for roads and water route construction within the limit set by the government. Construction and design can be contracted to an enterprise which won the bid, and any enterprises -- national, collective, and individual enterprises -- can participate in the bid. The administration of transportation should be more strongly controlled. At any event, cars and ships that farmers own should not be collected by any authorities.

- 5) Credit of fund will be extended to rural enterprises and favorable treatment is also given in terms of taxation. The development of mining and other digging businesses by farmers shall be encouraged.
- 6) Technology transfer and the reallocation of human resources should be promoted. Science researchers and technological staff in urban areas can participate in scientific work and technological development in rural areas with a consent of the unit they belong to. In addition, professional schools and urban enterprises will conduct study requested by rural enterprises, and may jointly organize "the scientific research-production unit".

Mutual assistance between the East and the West is advocated. Coastal areas should transfer their technology to the inland area so as to develop abundant resources in the West and share the benefits.

- 7) Aggressive financing policies should be promoted in rural areas in order to increase the efficiency of fund circulation.

Trust fund organizations established in rural communities can be individually managed, and in turn they should be responsible for the loss. After financing agricultural operations, surplus fund can be provided by the development of industrial and trade industries in rural areas. Trust funds can conduct deposit and loan businesses over several areas, and it is approved to establish a network among trust funds organizations or between trust fund organizations and specialized banks.

- 8) Collective agricultural management in rural communities should be promoted based on the rule that farmers should spontaneously seek mutual benefits and on the requirements of commodity economy.

The output quota system and individual home management of farmers will be guaranteed over a long period of time. On the other hand, the farming by a contract of land and the assignment system in the forestry and fishing industry as well as rural community-based enterprises need to be modified into a more complete system. In some collective management organizations, management by joint investments and profit sharing according to the ratio of investments are already adopted. Also it allows to inclusion of funds in individual investment in company stocks. While labor work provided for production of materials and basic construction are considered as a part of investment and counted as stocks. Accordingly, it is allowed to distribute a part of profits based on the number of shares held.

- 9) Economic exchanges should be vigorously promoted between urban areas and rural communities, and the government guidance for the establishment of small cities should be strengthened.
- 10) External economic relations and overseas technological exchange should be facilitated further.

The explanation we heard from Agricultural, Livestock, and Fisheries Department was consistent with the ten principles listed above. Especially, the following points were emphasized as features of the current Chinese agriculture.

- (1) Increase in agriculture output by introducing the output quota system.
- (2) Price increase (prices of farm products increased by about 40 percent on the average.)
- (3) In addition to the production of food supplies, a variety of forms of agricultural management have come to exist in order to suit each local conditions.
- (4) Due to the reform of the distribution system, farmers can now sell surplus products in the free market. Products the government

directly purchases from farmers are food supplies (rice, wheat, corn, and sorghum) and cotton. For instance, the state purchases 20 percent of the total rice produced, of which a 80 percent is purchased at a contract price, and the remaining 20 percent is sold at the price decided through consultation. The government's purchase price is higher than the consumer price. The government intends to decrease the ratio of the contract purchase method in order to reduce financial burden (60 million tons of rice was purchased on a contract basis in 1986, but in 1987, the amount will be reduced to 50 million tons.) Specifically, the government's purchase price is 0.2 yuan per kilogram, the consumer price is 0.18 yuan per kilogram, the market price is 0.2 - 0.3 yuan per kilogram.

- (5) Promotion of rural community enterprises
- (6) Development and penetration of science and technology.
- (7) International cooperation

2. Agricultural Production

Since the output quota system was introduced in the economic reforms, total agricultural output has continued to increase. Furthermore, the unified purchase and quota purchase system by the state was reformed, and as a result, the output of economic products to meet marked demand have increased rapidly. In early 1986, the State Council, on the one hand, highly evaluated the revitalization of the agricultural industry achieved in the past several years, but on the other hand, it considers this substantial progress is an achievement of potential power of the agricultural industry in China. Therefore, the State Council urged that in order to secure stable development in the future, it is necessary to further improve agricultural foundation and pay due attention to the relation between urban and rural areas. This evaluation pointed out some disharmonious phenomenon caused by so rapid a production expansion. (1986 Agricultural Yearbook in China, p.1)

In the following data, we will trace back the agricultural production during the period of a rapid growth.

Basically, the outputs of major farm products have shown a steady increase (See the following tables (Table 9 (1)-(5)).) However, after the peak in 1984, grain production has tended to decline while economic products have increased at a dizzying rate.

The reasons for the decline in grain production after 1984 are: (1) There were natural disasters; (2) As a result of adjustment of production structure in rural villages, some farmers changed their operation from farming to forestry, livestock farming, and fisheries, and the acreage for grain decreased accordingly; (3) In some areas, administrative guidance for grain production was not fully permeated and thus farmers were reluctant to produce grain. These facts suggest that

the two distinguishable phases exist simultaneously: planned production and a sharp inclination to commercial products. They say that the decline in cotton production was planned from the beginning. (1986 Agricultural Yearbook in China, p.5)

The data for other commercial farm products (silkworm cocoons, tea, fruit) is shown in the following tables (Table 10-17), and basically, their outputs have shown a growing trend.

Table 18 shows the agricultural output value by province as of 1986. (The data for special municipal district was obtained separately.) In the field of farm products, Shandong, Jiangsu, and Sichuan are the largest producers in this order, and generally, the coastal area and the areas along the Yangzi Jiang have greater agricultural production than other areas. Also, it should be noted that in forestry, livestock-farming, sideline businesses, and fisheries, Guangdong took the position of the largest producer. The output of each product by province is shown in Table 19, and it can be said that there is no definite differences in the basic trend.

3. Forms of Agriculture

Since the introduction of the output quota system, independent agricultural management by a family or an individual as an economic unit has been approved. It has also become possible that, based on the agreement reached at the Village Committee Meeting, the land allotted to each farming household can be expanded over the originally assigned acreage. On the other hand, due to the distribution system reforms including the changes in collective purchasing system and quota purchasing system, the production of economic farm products has substantially increased and so-called "10,000-yuan households" have emerged. In order to solve newly developed problems, for instance, how to narrow the income differentials and how to increase the income of rural villages as a whole, it is currently emphasized to expand the community-based rural enterprises as a part of agricultural management. In the following section, the present situation of rural enterprises will be analyzed based on statistical data.

In Table 20, the output quota system has been already introduced in more than 98 percent of villages. The ratio of farming households which are involved in the output quota system is as high as 97 percent. Since the output quota system is so widely adopted in China, it can be assumed that there are various forms and degrees of the quota system actually applied. For instance, in Yuanhe Village of Qinnan, Changshu City of Jiangsu province, 90 percent of the work force is working at rural enterprises, and the acreage of 556 mu (3700 are) is allocated to four families, and each family independently manage a small farm. A total of 22 are cultivating 25 mu each on the average. In these rural villages,

agricultural machinery is purchased with industrial profits made from community-based rural enterprises. The support and the security at the time of disaster is also provided by rural enterprises. (1986 Agricultural Yearbook in China, p.33)

From the local district and village level to the family level, a group of people at any level can function as an independent economic unit. It has been strongly encouraged for such economic entities to diversify their businesses. At the same time, there are organizations called "New Economic Incorporation", which are to unite those individual economic units for the pursuit of further efficiency. The new economic body is an organization uniting several related economic units to establish a network which enables more systematic business management. There are 470,000 households or 3.56 million people who are currently participating in this new economic body system.

Moreover, there are individual management units called "household-based enterprise" in rural areas, and the largest percentage of household-based enterprises, or about 5 million people nationwide, are engaged in commerce. (China Agricultural Yearbook, 1985, p.10)

When farmers living in suburban rural villages sell their product in the free market, in some cases, they themselves go to the market individually or by group, and consign traders to sell their products. Compared to the 1978 daily food prices, the price of grain has approximately doubled, the price of economic crop have increased by 50 percent, and livestock products have increased by 40 percent (based on the 1985 data). Usually, the prices in the free market are relatively higher, but some cities set suggested prices in order to prevent price hike.

(1) Rural Enterprises

Rural enterprises were born spontaneously in the course of history, but they were also a planned and intentionally promoted method of management as a part of agricultural policies taken by the Chinese government. These rural enterprises have been playing a valuable role in meeting diversified demands in both rural and urban daily life. Therefore, the type, the scale, and the method of businesses and the financial resources vary from one enterprise to another. At present, these widely diversified enterprises are being classified and reorganized for the purpose of increasing rural villages' income by "complementing the agriculture with the manufacturing".

In 1985 the total manufacturing output of these rural enterprises accounted for 19 percent of the total manufacturing production. In some industries, a substantial portion of the output was produced by rural enterprises. For instance, rural enterprises accounted for 26 percent

of the total coal production, 50 percent of clothing, and 53 percent of construction materials.

Table 21 clearly indicates the development process of rural enterprises in China.

In this table, all items consistently show an increase, and in particular, a sharp increase is seen in 1984. Taking a closer look, however, the average number of workers per enterprise has been decreasing: slightly less than 30 in 1983, slightly more than 8 in 1984, and slightly less than 5 in 1985. Enterprises which are smaller in size are thriving.

In fact, there are a wide variety of management forms and fund raising methods. As shown in Table 22, rural-based factories produce textiles, construction materials (e.g., bricks), processed food, mineral resources, fertilizer, agricultural tools, and many of them are small- and medium-size enterprises.

Besides industries shown in Table 22, there are other enterprises which are engaged in the service industry such as transportation, while others send a group of members to cities to work for a short or long period of time.

Of these various types of rural enterprises, great expectation is placed on the enterprises which seek the cooperation with urban areas. This type of rural enterprises utilizes technology, financial and human resources of the urban areas in combination with work force and materials of the rural areas. Some examples of such cooperative type of enterprises are given below.

1. Management of a joint factory: An urban enterprise of a scientific research institute makes an investment in a rural enterprise to establish an economic incorporation. Profits will be distributed among investors according to the investment amount.
2. Opening of a retail store through joint investment: The urban side provides capital and products to open a retail store in a rural village. Profits will be divided to both rural and urban sides. Construction materials are often sold in this manner.
3. Compensation trade method: The urban side makes an investment to build a factory to process raw materials in a rural village. Products will be given back to the urban investors for the return on investments.
4. Transfer of business stemmed from the conversion to new products: When an urban enterprise develop a new product, the business of the previously developed products with stable distribution channels is transferred to a rural enterprise.

5. Consignment of parts production: An urban enterprise made a contract with qualified rural enterprises to produce some parts required for production, and later assemble them into the product.
6. Production-sales contract: A contract is made between the urban side and the rural side, and they cooperatively provide and sell products.
7. Consignment of processing: Urban enterprises consign the processing part of business to rural enterprises. Sewing is a common case.
8. Building a material production base in a rural area: The urban enterprise establishes a material production base to secure raw materials in accordance with the purpose of rural development.
9. Production contract: An urban factory has a contract to manage a rural enterprise by taking advantage of technological and managerial ability.
10. Construction work contract: A construction team in a rural area makes a contract for construction work in a urban area. Depending on the ability to design and the conditions, whether or not the work should be completed by a single team, for instance, the team may have a complete contract or partial contract.
11. Technological assistance: An urban enterprise provides the technology which the rural enterprise requires and receive technical assistance fee.
12. Transfer of achievements: Technological achievements by a professional school, science research center, department of technological development of an enterprise, or by an individual is transferred to a rural enterprise at certain price. The transferred technology is applied to production.
13. Informaiton service: Up-to-date information for science and technology and the results of market researches will be given to rural enterprises. The science and technology information centers in urban areas establish an information network in rural areas.
14. Intermediation and Unification: An urban enterprise acts as an intermediary for rural enterprises and connects some enterprises to expand the range of production. (Pocketbook of Rural Enterprises, 1986, No. 1, pp. 25-28)

These various forms of cooperation between rural and urban areas are the best method to secure the necessary fund and they also support the brisk activities of rural enterprises. However, even though rural

enterprises are actually raising the income level of rural communities and effectively absorbing excessive rural work force, some serious problems still remain. They are: effective management and quality control measures, competition among rural enterprises, and the ability to produce quality products to effectively compete with urban enterprises.

(2) Reforms of the Distribution System

Diversified operation is sustained by the extended distribution channels. At the same time, it was made possible by the increased fund raising capability. In addition to the investments in agriculture at the national level, loans by farmers' banks and by credit unions are now available. Especially, by encouraging savings, the fund employment using these savings has been widely spread. Such a movement is shown in the table 23 in terms of the recent changes in deposit and lending.

The deposit by collective farming organization has tended to decline while the deposit made by rural enterprises and individual farmers has increased. Comparing the 1980 data with that of 1986, the deposit made by farmers increased seven times, and the loans to farmers boosted sixteen times.

The total agricultural loans including the lending by the Agricultural Bank was 77.66 billion yuan in 1985, and loans for rural enterprises accounted for 45 percent of the total loans extended (35.24 billion yuan). The agricultural loans excluding the loans extended to rural enterprises was 42.46 billion yuan, and the loans for collective farming organization was 10.78 billion yuan (25.4 percent of the total loans) while the loans for individual farmers amounted to 24.8 billion yuan, (58.5 percent). (1986 Agricultural Yearbook in China, p.327)

(3) Farm Mechanization, Spread of Chemical Fertilizer, and Other Marked Changes

As regards the farm mechnization situation in 1984 and in 1985, small and hand machinery increased by 17 percent. The total horse power of large machinery was 37 million while small machinery had 46 million horse power. In addition, heavy-weight automobiles for agricultural use increased 24 percent between 1984 and 1985, and a total of 430,000 cars were registered for agricultural purposes. As for draining and irrigation facilities, the equipment which uses diesel engines has 35 million horse power and others which use electric power have 43 million horse power (1986 Statistical Yearbook in China, p. 148)

The Table 24 shows machinery-cultivated acreage, irrigated area, the amount of fertilizer used, the number and the power of small

hydroelectric power plants, and the total electric power consumption in rural areas. It should be noted that the land cultivated by farm machinery has decreased by approximately 15 percent since late 1970s. It seems to be attributable to the fact that large-scale farming which makes use of agricultural machinery has relatively declined due to the increase in small-scale, widely diversified production of various economic products. The ratio of the irrigated area using irrigation machines is in the 50 to 60 percent range.

(4) International Cooperation in the Agricultural and Fishing Industries

Since the Third National People's Congress in the 11th Term held in December 1978, economic liberalization policies have been carried out. Both the state-level and private-level loans have been extended and financial assistance and cooperation through international organizations have been provided. In the agricultural industry, major supporters which provide cooperation to China are World Bank groups and the United Nations.

There are four projects the World Bank Groups (IBRD and IDA) are promoting in China in cooperation with the Chinese government:

- 1) Agricultural development project in North China plain. (Improvement of infrastructure)
- 2) Agricultural training and research projects
- 3) Construction of a grain base in Heilongjiang province
- 4) Promotion of rubber growing industry in Guangdong province

The United Nations also provides assistance through the following affiliated agencies:

- 1) Assistance given to Hebei province through the IFAD following affiliated agencies:
- 2) Assistance given to Beijing and Wuxi through the FAO (Food and Agriculture Organization)
- 3) Assistance to Xiji of Ningxia province, and six major cities through the WFP (World Food Conference)

Bilateral Agricultural Cooperation

Japan gives cooperation to China through the following four channels.

- 1) Government-based cooperation and exchange of agricultural technology, chiefly lead by the Japan-China Agricultural Technology Exchange Association.
- 2) Technological assistance for various projects through the Japan

International Cooperation Agency.

- 3) Financial assistance including gratuitous fund cooperation and the assistance to increase food supply production
- 4) Agricultural cooperation from private sector

Many other countries also provide cooperation in various forms: United States, grain trade, assistance of agricultural technology, and joint ventures; Canada and Australia, grain exports; assistance by European nations such as France, West Germany, and Denmark; Cooperative relation with the Philippines, Hong Kong, Brazil, Argentina, Kuwait, Egypt, and Congo. (Japan-China Economic Association, Agriculture and Agricultural Cooperation in China under the Dissolution of People's Communes, pp. 276-284. The Ministry of Agriculture, Forestry, and Fisheries, The Summary of Overseas Cooperation in the Agricultural, Forestry, and Fishery Industry by Countries 1986, pp. 78-81)

Table 1 Major Farm Products (1)

Year	Grain	Of which, summer grain	10 thousand tons		
			1. Rice	2. Wheat	3. Tubers
1949	11,318		4,865	1,381	985
1952	16,392		6,843	1,813	1,633
1957	19,505	3,029	8,678	2,364	2,192
1965	19,453	3,210	8,772	2,522	1,986
1978	30,477	5,938	13,693	5,384	3,174
1980	32,056	5,928	13,991	5,521	2,873
1981	32,502	6,399	14,396	5,964	2,597
1982	35,450	7,334	16,160	6,847	2,705
1983	38,728	8,444	16,887	8,139	2,925
1984	40,731	9,199	17,826	8,782	2,848
1985	37,911	8,874	16,857	8,581	2,604

Major Farm Products (2)

Year	4. Corn	5. Sorghum	6. Millet	10 thousand tons	
				7. Other grains	8. Soy beans
1949					509
1952	1,685	1,110	1,153		952
1957	2,144	765	856		1,005
1965	2,366	712	621		614
1978	5,595	807	656	1,350	757
1980	6,260	678	545	1,396	794
1981	5,921	665	577	1,451	933
1982	6,056	699	658	1,424	903
1983	6,821	836	754	1,392	976
1984	7,341	772	703	1,492	970
1985	6,383	561	598	1,279	1,050

Source: "Agricultural and Economic Statistics on China" (1985), p.17, Agricultural Statistics Department, National Statistics Bureau

Major Farm Products (3)

Year	Cotton	10 thousand tons			
		Oil-bearing crops	Of which peanuts	Rapeseed	Sesame
1949	44.4	256.4	126.8	73.4	32.6
1952	130.4	419.3	231.6	93.2	48.1
1957	164.0	419.6	257.1	88.8	31.2
1965	209.8	362.5	193.8	108.9	25.6
1978	216.7	521.8	237.7	186.8	32.2
1980	270.0	769.1	360.0	238.4	25.9
1981	296.8	1,020.5	382.6	406.5	51.0
1982	359.8	1,181.7	391.6	565.6	34.2
1983	463.7	1,055.0	395.1	428.7	34.9
1984	625.8	1,191.0	481.5	420.5	47.6
1985	414.7	1,578.4	666.4	560.7	69.1

Major Farm Products (4)

Year	Hemp crops	10 thousand tons		
		Of which, Jute and ambarry hemp	Ramie	Hemp
1949		3.7		
1952		30.6	4.0	
1957		30.1	5.3	
1965		27.9	3.0	
1978	135.1	108.8	2.6	8.9
1980	143.6	109.8	3.8	7.6
1981	157.6	126.0	4.9	5.0
1982	123.9	106.0	5.9	3.6
1983	124.8	101.9	4.5	2.9
1984	178.8	149.2	5.0	0.3
1985	444.8	411.9	8.2	5.5

Major Farm Products (5)

Year	Sugar crops	10 thousand tons			
		(1) Sugarcane	(2) Beet-roots	Tobacco	Of which, fluecured tobacco
1949	283.3	264.2	19.1		4.3
1952	759.5	711.6	47.9		22.2
1957	1,189.3	1,039.2	150.1		25.6
1965	1,537.5	1,339.1	198.4		37.2
1978	2,381.8	2,111.6	270.2	124.2	105.2
1980	2,911.2	2,280.7	630.5	84.5	71.7
1981	3,602.8	2,966.8	636.0	149.7	127.9
1982	4,359.4	3,688.2	671.2	217.9	184.8
1983	4,032.3	3,114.1	918.2	138.1	115.1
1984	4,780.3	3,951.9	828.4	178.9	154.3
1985	6,046.8	5,154.9	801.9	242.5	207.5

Source: "Agricultural Statistics" pp. 18-19

Table 2 Output of Silkworm Cocoons and Area

Year	Gross output of silkworm cocoons (10 thousand tons)	Of which, mulberry silkworm cocoons (10 thousand tons)	Tussah silkworm cocoons (10 thousand tons)	Area of mulberry gardens (10 thousand hectare)	Area of tussash hillside fields (10 thousand hectare)
1949	4.3	3.1	1.2	19.9	
1952	12.3	6.2	6.1	20.1	
1957	11.2	6.8	4.4	31.1	
1965	10.5	6.6	3.9	15.4	
1978	22.7	17.3	5.4	27.9	76.7
1980	32.6	25.0	7.6	28.7	85.5
1981	31.1	25.2	5.9	31.6	102.7
1982	31.4	27.1	4.3	36.9	102.1
1983	34.0	26.8	7.2	38.8	104.6
1984	35.6	30.6	5.0	41.3	101.2
1985	37.1	33.6	3.5	41.3	91.5

Source: "Agricultural Statistic" p.22

Table 3 Output of Tea and Area

Year	Gross tea output (10 thousand tons)	Of which, crude black tea (10 thousand tons)	Tussah tea (10 thousand tons)	Crude green tea (10 thousand tons)	Total area of tea plantation (10 thousand hectare)
1949	4.1				15.5
1952	8.2				22.4
1957	11.2				32.9
1965	10.1				33.6
1978	26.8				104.8
1980	30.4	7.1		17.8	104.1
1981	34.3	6.1		21.4	106.1
1982	39.7	6.9		24.7	109.7
1983	40.1	6.8		24.2	110.5
1984	41.4	7.6		24.3	107.7
1985	43.2	8.7		23.8	104.5

Source: "Agricultural Statistic" p.23

Table 4 Fruit Output (1)

Year	thousand tons				
	Gross fruit output	Of which, apples	Citrus fruit	Pears	Grapes
1949	120.0				
1952	244.3	11.8	20.7	39.4	4.8
1957	324.7	22.2	32.2	50.4	8.5
1965	323.9	31.8	25.4	51.1	10.0
1978	657.0	227.5	38.3	151.7	10.4
1980	679.3	236.3	71.3	146.6	11.0
1981	780.1	300.6	79.8	159.3	14.8
1982	771.3	243.0	93.9	175.5	18.6
1983	948.7	354.1	124.6	179.5	24.7
1984	984.5	294.1	149.9	210.0	29.4
1985	1,163.9	361.4	180.8	213.7	36.1

Fruit Output (2)

Year	thousand tons					
	Banana	Pineapple	Red dates	Persimmon	Longan	Litchi
1952	11.0					
1957	7.3					
1965	14.5					
1978	8.5	6.6	34.9	71.6		
1980	6.1	7.5	37.2	56.0	4.4	6.9
1981	12.6	9.1	39.8	50.6	9.9	10.4
1982	20.1	13.4	42.6	48.2	3.9	7.7
1983	20.7	12.5	38.7	55.3	7.7	10.7
1984	30.0	13.2	43.9	60.8	5.5	9.8
1985	63.1	18.3	43.2	68.0	10.4	10.1

Source: "Agricultural Statistics" pp.23-24

Table 5 Output of Major Forest Products

Year	10 thousand tons					
	Rubber	Lacquer	Tung oil seed	Tea-oil seed	Pine resin	Walnuts
1952			43.5	24.9		
1957	0.02	0.17	51.8	49.4		10.3
1965	1.66	0.19	13.0	35.6		4.8
1978	10.16	0.22	39.1	47.9	33.8	11.3
1980	11.30	0.25	30.3	49.0	42.1	11.9
1981	12.77	0.30	36.0	65.4	56.2	10.7
1982	15.26	0.29	33.9	49.4	47.0	10.3
1983	17.24	0.28	36.8	43.5	30.4	11.9
1984	18.88	0.23	36.2	53.6	36.9	12.8
1985	18.79	0.22	37.9	61.9	34.4	12.2

Table 6 Afforested Areas

Year	10 thousand hectare			
	Timber forest	Economic forest	Shelter forest	Renewal on the defforested land
1952	50.0		54.3	2.3
1957	173.5	135.0	99.4	5.7
1965	166.1	74.1		23.9
1978	313.0	88.1	42.0	45.8
1980	292.7	82.3	51.3	42.2
1981	253.1	63.0	63.7	44.3
1982	263.1	65.3	86.1	44.0
1983	380.5	82.0	109.8	50.9
1985	529.1	79.3	147.3	63.8

Source: "Agricultural Statistics" p.25

Table 7 Output of Major Livestock Products (1)

Year	10 thousand tons			
	Pork, beef and mutton	Pork	Beef	Mutton
1949	220.0			
1952	338.5			
1957	398.5			
1965	551.0			
1978	856.3			
1980	1,205.4	1,134.0	26.9	44.5
1981	1,260.9	1,188.4	24.9	47.6
1982	1,350.8	1,271.8	26.6	52.4
1983	1,402.1	1,316.1	31.5	54.5
1984	1,540.6	1,444.7	37.3	58.6
1985	1,760.7	1,654.7	46.7	59.3

Output of Major Livestock Products (2)

Year	10 thousand tons			
	Cow milk	Sheep and goat milk	Sheep wool	Goat hair
1978	88.3		13.8	1.0
1980	114.1	22.6	17.6	1.2
1981	129.1	25.8	18.9	1.3
1982	161.8	34.1	20.2	1.3
1983	184.5	37.4	19.4	1.1
1984	218.6	41.0	18.3	1.1
1985	249.9	39.5	17.8	1.1

Source: "Agricultural Statistics" pp.26

Table 8 Output of Aquatic Products (1)

Year	Fishes	Shrimps, prawns and crabs	Shell fishes	10 thousand tons	
				Algae	
1978	356.10	54.4	29.1	25.9	
1980	350.47	47.19	25.87	26.17	
1981	360.74	46.88	30.13	22.77	
1982	405.87	52.45	34.30	22.86	
1983	427.28	54.72	39.37	24.44	
1984	484.00	64.39	44.29	26.66	
1985	551.01	76.16	50.69	27.29	

Output of Aquatic Products (2)

Year	Greater croaker	Lesser croaker	Hair tail	10 thousand tons	
				Scad and mackerel	Kelp
1957	17.80	16.30	20.00	1.2	
1965	10.30	4.40	37.80	3.5	2.70
1978	9.40	2.40	38.70	28.20	25.10
1980	8.64	3.60	47.33	24.78	25.29
1981	7.98	3.52	49.90	21.42	21.95
1982	5.86	3.06	49.34	28.81	21.90
1983	3.36	2.85	45.18	36.64	23.13
1984	4.07	1.96	45.00	32.38	25.07
1985	2.61	3.06	45.08	32.65	27.29
	2.61	3.06	45.08	32.65	27.83

Table 9 Area for Culturing Aquatic Products

Year	Area	Of which, run by state	10 thousand hectare	
			1. Freshwater area	2. Saltwater area
1957	1,672.6	347.7	1,583.0	89.6
1965	3,094.0	539.0	2,696.0	125.0
1978	4,235.2	1,652.0	4,084.3	150.9
1980	4,490.3	1,686.7	4,290.9	199.4
1981	4,521.9	1,731.0	4,314.1	207.8
1982	4,815.8	1,887.7	4,571.1	244.7
1983	4,917.7	1,902.4	4,642.4	275.3
1984	5,262.7	1,858.1	4,893.4	369.3
1985	5,853.7	1,873.5	5,438.1	415.6

Source: Agricultural Statistic pp.29-36

Table 10 Major Farm Products by Region (1986)

Region	Unit: 10 thousand yuan					
	Total agricultural products	Farm products	Forest products	Livestock products	Sideline businesses	Aquatic products
Total	3,947.04	2,462.15	195.28	858.48	270.87	160.26
Beijing	27.50	15.90	0.80	9.10	1.00	0.70
Tianjing	26.50	16.90	0.30	5.80	1.50	2.00
Hebei	171.00	124.97	5.23	32.76	6.69	1.35
Shanxi	58.60	41.20	3.80	10.60	2.90	0.10
Nei Monggol	76.36	40.06	4.80	23.55	7.42	0.53
Liaoning	130.00	76.93	4.17	30.21	9.38	9.31
Jilin	90.50	63.20	3.50	18.20	5.00	0.60
Heilongjiang	134.60	96.55	6.61	22.96	6.95	1.53
Shanghai	33.83	16.86	0.24	12.68	0.56	3.49
Jinagsu	332.32	211.45	5.04	69.64	23.92	22.27
Zhejiang	189.10	98.90	9.10	40.10	21.90	19.10
Anhui	219.70	155.00	9.10	40.50	10.00	5.10
Fujian	107.00	49.70	10.30	21.90	11.20	13.90
Jiangxi	125.00	60.60	10.00	27.10	13.30	4.00
Shangdong	356.26	250.52	10.97	62.08	13.58	19.11
Henan	245.30	174.80	8.10	41.60	19.30	1.50
Hubei	219.10	146.80	8.74	43.86	8.93	10.77
Hunan	222.68	129.63	13.89	58.44	12.54	8.18
Guangdong	307.41	149.27	26.29	68.06	35.93	27.86
Guangxi	118.60	61.10	10.00	34.40	9.30	3.80
Sichuan	337.98	210.59	17.70	91.25	14.65	3.79
Guizhou	79.42	44.39	5.17	20.14	9.25	0.47
Yunnan	91.20	53.38	8.10	20.86	8.45	0.41
Xizang	9.79	3.51	0.19	5.30	0.79	0.00
Shaanxi	88.60	61.40	5.40	14.20	7.40	0.20
Gansu	56.40	37.30	3.40	12.50	3.20	0.00
Qinghai	14.10	6.40	0.70	6.10	0.90	0.00
Ningxia	13.60	9.80	0.80	2.60	0.40	0.00
Xinjiang	64.59	45.04	2.84	11.99	4.53	0.19

Source: China Statistical Summary, 1987 p.26

Table 11 Major Farm Products by Province (1), 1986

Region	Grain (10 thousand tons)	Cotton (10 thousand tons)	Oil-bearing	Sugar crops	Pork, beef and mutton
Total	39,109.4	354.1	1,472.5	5,858.7	1,918.3
Beijing	216.5	0.2	3.1	0.1	13.1
Tianjing	150.1	1.3	5.9		6.7
Hebei	1,965.5	51.1	61.8	8.4	91.9
Shanxi	722.4	6.4	35.2	27.2	20.8
Nei Monggol	528.5		66.0	159.0	37.4
Liaoning	1,222.2	1.2	31.6	21.8	58.0
Jilin	1,397.7		38.8	59.8	34.4
Heilongjiang	1,776.5		19.0	389.8	33.8
Shanghai	236.8	2.2	15.0		18.2
Jinagsu	3,339.4	40.1	116.8	31.5	140.5
Zhejiang	1,605.6	7.6	42.9	132.2	81.7
Anhui	2,322.1	16.3	131.6	13.0	76.8
Fujian	751.2		17.2	472.9	47.8
Jiangxi	1,453.8	5.5	31.6	172.0	72.9
Shangdong	3,250.0	94.2	207.6	5.9	130.9
Henan	2,545.6	39.9	99.0	19.5	74.2
Hubei	2,304.5	43.9	81.9	52.4	110.0
Hunan	2,631.5	8.3	47.2	166.2	155.9
Guangdong	1,718.9		65.6	2,041.3	118.7
Guangxi	1,117.9		23.8	1,123.1	63.3
Sichuan	3,921.6	9.8	158.4	255.0	315.9
Guizhou	669.4		41.8	19.3	54.9
Yunnan	869.7		10.9	531.7	57.3
Xizang	55.4		0.6		7.5
Shaanxi	985.5	4.2	30.1	6.0	32.0
Gansu	551.0	0.3	29.9	51.7	29.3
Qinghai	98.4		10.4	0.7	11.2
Ningxia	154.0		6.2	32.6	4.0
Xinjiang	547.7	21.6	42.6	65.6	19.2

Source: China Statistical Summary, p.32

Major Farm Products by Province (2), 1986

Region	Cow milk (10 thousand tons)	Year-end count of cattle (10 thousand heads)	Number of pigs shipped (10 thousand heads)	Year-end count of of pigs (10 thousand sand tons)	Aquatic products (10 thousand sand tons)
Total	286.0	11,896.1	25,692.3	33,693.3	812.9
Beijing	14.6	26.4	196.5	145.6	2.1
Tianjing	4.7	26.3	81.9	76.8	6.7
Hebei	8.4	475.2	1,139.5	1,407.4	15.5
Shanxi	10.6	270.1	272.0	366.5	0.4
Nei Monggol	24.3	751.3	295.3	481.1	2.1
Liaoning	10.2	313.9	650.9	1,031.7	65.0
Jilin	7.1	284.9	369.1	480.9	3.8
Heilongjiang	53.8	314.0	398.6	564.8	7.9
Shanghai	15.5	6.8	330.8	209.5	22.1
Jinagsu	8.3	87.5	2,155.6	1,902.3	80.5
Zhejiang	11.2	75.8	1,264.5	1,402.3	118.6
Anhui	2.2	486.2	934.3	1,233.5	21.0
Fujian	4.6	121.2	616.6	850.9	81.0
Jiangxi	1.9	267.9	987.8	1,344.1	19.3
Shangdong	4.0	480.1	1,681.2	1,668.9	91.5
Henan	2.6	957.4	852.3	1,539.4	6.6
Hubei	4.0	339.1	1,506.1	1,989.7	46.0
Hunan	1.0	366.2	2,471.8	2,596.9	37.5
Guangdong	4.7	537.9	1,519.3	2,255.1	141.4
Guangxi	0.7	618.1	734.3	1,570.2	21.0
Sichuan	24.1	1,010.8	4,852.7	6,063.3	15.8
Guizhou	0.7	572.0	661.1	1,214.4	1.4
Yunnan	4.8	904.5	704.7	1,712.4	3.1
Xizang	13.8	555.8	6.2	14.8	
Shaanxi	7.0	270.0	449.0	779.0	0.8
Gansu	5.8	538.9	422.2	574.7	0.1
Qinghai	15.5	621.3	47.2	88.0	0.5
Ningxia	1.6	78.7	44.0	65.8	0.3
Xinjiang	18.3	537.8	46.8	73.3	1.1

Source: China Statistical Summary, p.33

Table 12 Development in Farming Household Output Quota System

	Unit	1983	1984
1. Number of production units implementing the output quota system (10 thousand)	10 thousand	586.3	569.0
Ratio to the whole production units	%	99.5	100.0
Of which, units implementing the output quota system by household		576.4	563.6
Ratio to the total number of units implementing the output quota system	%	98.3	99.1
2. Number of households participating in the output quota system (10 thousands)		17,985.4	18,397.9
Ratio to the total number of households in villages	%	97.1	97.9
Of which, households implementing the output quota system by household		17,497.5	18,145.5
Ratio to the total number of households in villages	%	94.5	96.6
Ratio to the number of household implementing the output quota system	%	97.3	98.6
Number of production units which have not implemented the output quota system		2.7	0.2
Ratio to the total number of production units	%	0.5	

Source: Statistical Yearbook in Chinese Rural Areas 1985, p.3

Table 13 Development in Rural Enterprises in China, 1978-1985

Year	1978		1979		1980		1981		1982	
	Total	Total compar- ison	Y-Y	Total compar- ison	Y-Y	Total compar- ison	Y-Y	Total compar- ison	Y-Y	
Number of enterprises (10 thousands)	152.4	148.0	-2.9	142.5	-3.7	133.7	-6.2	136.2	1.9	
Number of workers (10 thousands)	2,826.6	2,909.3	2.9	2,999.7	3.1	2,969.6	-1.0	3,112.9	-1.0	
Total production (100 million yuan)	490.6	543.4	10.8	656.7	19.6	728.7	11.1	852.9	17.0	
Total income (100 million yuan)	431.4	491.1	13.8	596.1	21.4	670.4	12.5	771.8	15.1	
Tax payable (100 million yuan)	21.9	22.6	2.3	25.7	13.7	34.3	33.6	44.7	30.5	
Net profit (million yuan)	88.1	104.5	18.6	118.6	13.5	112.8	-4.9	115.5	2.1	
Year-end total fixed assets (100 million yuan)	229.6	280.2	22.0	326.3	16.5	373.5	15.1	429.3	14.3	
Year-end total floating fund (million yuan)	95.0	132.7	39.7	177.2	33.5	201.0	13.4	230.5	14.7	

Year	Y-Y	1983		1984		1985		Total growth (%)	Average annual growth (%)
		Total compar- ison	Y-Y	Total compar- ison	Y-Y	Total compar- ison	Y-Y		
Number of enterprises (10 thousands)		134.6	-1.2	165.0 606.5	22.6	156.9 1,222.4 (619.4)	-4.9 2.1	2.95	0.42
Number of workers (10 thousands)		3,234.6	3.9	3,848.1 5,208.1	19.0	4,152.1 6,979.0 (5,824.6)	7.9 11.8	46.90	5.65
Total produc- tion (100 million yuan)		1,016.7	19.2	1,433.0 1,709.9	40.9	1,987.8 2,732.3 (2,455.4)	38.7 43.6	305.20	22.10
Total income (100 million yuan)		928.7	20.3	1,268.2 1,537.1	36.6	1,827.4 2,565.6 (2,262.5)	44.1 47.2	323.60	22.90
Tax payable (100 million yuan)		58.9	31.6	79.1 90.6	34.4	108.6 137.2 (125.9)	37.2 39.0	395.90	25.70
Net profit (million yuan)		117.8	2.0	128.7 187.4	9.3	171.3 287.4 (237.7)	33.1 26.8	94.40	9.97
Year-end total fixed assets (100 million yuan)		475.7	10.8	575.0	20.9	750.4	30.5	226.80	18.40
Year-end total floating fund (million yuan)		262.5	13.9	398.7	51.9	590.1	48.0	521.20	29.80

Table 14 Major Industrial Output by Rural Enterprises

	1978	1980	1983	1984
Textiles (10 thousand meters)	6,919	10,730	19,961	29,095
Paper and paperboard (10 thousand tons)	43.2	80.5	137.0	158.4
Processed food (10 thousand tons)	1,077.5	1,003.4	1,046.0	1,288.8
Cotton (10 thousand)	879.9	982.7	1,240.0	2,467.0
Edible vegetable oil (10 thousand tons)	53.55	84.94	114.66	112.23
Sugar (10 thousand tons)	18.00	11.86	9.72	9.62
Unrefined salt (10 thousand tons)	148.83	155.43	142.07	143.32
Coal (100 million tons)	1.00	1.07	1.62	2.02
Electric power generation (100 million Wh)	28.71	33.96	56.47	59.12
Iron sulfate (10 thousand tons)		128.46	257.25	347.10
	13.68	10.99	11.47	24.30
Rock phosphate (10 thousand tons)	184.5	279.4	479.6	570.7
Nitrogenous fertilizer (10 thousand tons)	13.2	2.8	2.0	4.7
	194.6	86.1	167.4	132.9
Chemical fertilizer (10 thousand tons)	5.5	3.6	5.0	5.3
Metal cutting machines	33,769	4,314	2,990	2,993
Parts for agricultural machinery (100 million pieces)	7.2	2.3	5.1	4.8
	4.8	3.1	2.5	2.7
Wooden agricultural tools (10 thousand pieces)	11,186	5,390	5,360	7,553
Bamboo agricultural tools (10 thousand pieces)	8,420	4,927	3,450	3,281
Cement (10 thousand tons)	332	670	1,525	1,936
Cement tiles (10 thousand)		7.8	2.9	5.1
Bricks ()	730.3	1,104.3	1,705.1	2,027.1
Tiles (100 million pieces)	248.0	201.5	175.1	288.1
Lime (10 thousand tons)	3,495	3,224	4,062	10,753

Source: Statistical Yearbook in Chinese Rural Areas 1985, p.116

Table 15 Deposits and Loans by Rural Credit Unions

(Unit: 100 million yuan)

Item	Year-end balance			
	1980	1984	1985	1986
Total deposits	272.34	624.99	724.90	962.25
Deposits by collective farming units	105.48	90.00	71.92	82.67
Deposits by rural enterprises	29.47	81.11	72.13	72.54
Deposits by individual farming households	117.03	438.12	564.81	766.14
Other deposits	20.36	15.76	16.04	20.90
Total loans	81.64	354.52	399.96	568.33
Loans to collective agricultural units	34.54	38.41	41.35	44.68
Loans to rural enterprises	31.11	135.02	164.43	265.31
Loans to individual farming households	15.99	181.18	194.18	258.34

Source: China Statistical Summary, 1987, p.80

Table 16 Machine-cultivated Acreage, Irrigated Acreage, Chemical Fertilizer Used, And Electric Power Generated by Small-capacity Hydroelectric Power Plants

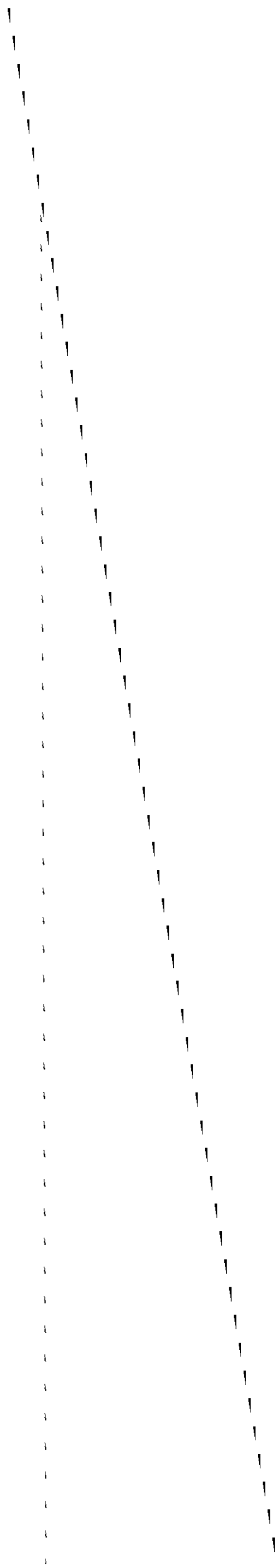
Year	Total acreage (10 thousand)	Irrigated acreage (10 thousand)		Ratio of ***** irrigation acreage to the total irrigated acreage (%)
		Total	Of which, ***** irrigation	
1952	13.6	1,995.9	31.7	1.6
1957	263.6	2,733.9	120.2	4.4
1965	1,557.9	3,305.5	809.3	24.5
1978	4,067.0	4,496.5	2,489.5	55.4
1979	4,221.9	4,500.3	2,532.1	56.3
1980	4,099.0	4,488.8	2,531.5	56.4
1981	3,647.7	4,457.4	2,523.1	56.6
1982	3,511.5	4,417.7	2,514.5	56.9
1983	3,357.2	4,464.4	2,526.5	56.6
1984	3,492.2	4,445.3	2,506.2	56.4
1985	3,44.2	4,403.6	2,462.9	55.9

Year	Chemical fertilizer used (10 thousand tons)	Small hydroelectric power generation plants in rural areas		Electric power generated for rural areas (100 million Wh)
		Number of plants	Electric power generation capacity (10 thousand kW)	
1952	7.8	98	0.8	0.5
1957	37.3	544	2.0	1.4
1962	63.0	7,436	25.2	16.1
1965	194.2			37.1
1978	884.0	82,387	228.4	253.1
1979	1,086.3	83,224	276.3	282.7
1980	1,269.4	80,319	304.1	320.8
1981	1,334.9	74,017	336.0	369.9
1982	1,513.4	66,256	353.0	369.9
1983	1,659.8	62,328	346.3	428.1
1984	1,739.8	60,062	361.5	464.0
1985	1,775.8	55,754	380.2	508.9

Source: 1986 China Statistical Yearbook, p.149

CHAPTER 3

RURAL VILLAGES AND THEIR AGRICULTURAL DEVELOPMENT IN JIANGSU PROVINCE



1. General Overview

Jiangsu province is located on a delta plain of the Yangzi Jiang and faces Huang Hai (Yellow Sea) on the east. It has a total population of 62,699,000 in the area of 102,600 square kilometers, and thus, the population density is 611 per square kilometer (1986 data). Jiangsu is the third most density populated region in China, following Shanghai and Tianjin. 70 percent of the land area is the plain and the water area is 17 percent, and the remaining 14 percent consists of hills. The Yangji Jiang flows from the west to the east in Jiangsu province over 400 kilometers, and the great canal runs through from the north to the south, extending about 690 kilometers.

The average temperature is 13.57°C, and the average annual rainfall is 800 millimeters in the northern part and 1,200 millimeters in the southern part. The period without frost last for 200 to 240 days in a year, and the soil is rich and fertile. Jiangsu is one of the most important agricultural areas in China.

There are 11 municipalities and 64 prefectures in Jiangsu province. There are about 100 cities with a population of more than 100,000 and 2,000 smaller cities with a population of less than 100,000.

2. Recent Economic Development

The total agricultural and manufacturing output in Jiangsu province was 145.9 billion yuan in 1986, an increase of 14.8% from the previous year, and ranked first among 29 provinces, cities, and self-governing districts in China. Compared to the 1949 production, it was 26 times greater.

Of the total production in 1986, the manufacturing production was 121.075 billion yuan, a 16.7% increase from the previous year. There are about 90,000 factories in the province, many of which are small- and medium-size factories. ("Jiangsu", p.7) The long-established textile industry produces a variety of products for both domestic and foreign markets. The machinery and light industries, including such traditional craftwork as embroidery, food, clothing, and leather, are also important. In Jiangsu province the chemical industry has recently developed rapidly, and it is also considered as a center of the electronic industry in China.

The Table 1 provides the demographic data for Jiangsu province. What stands out in this table is the increase in the number of children with no siblings, and the decrease in birth rate. In view of the fact that the fertility rate has declined with no significant changes in the average age of the first marriage, it can be said that the population policy has been effectively carried out.

3. Changes in Agricultural Production

As previously stated, the total population of Jiangsu is 62,699,000, and its rural population is 51,272,600, or 81.8 percent of the total population. (The material to be distributed on the day of presentation will show somewhat different figures: total population 61,700,000, proportion of rural population, 84.7 percent.) The total agricultural production was 24.8 million yuan. The average annual growth rate of the agricultural production in the past 36 years was 6 percent, and 14.3 percent for the past eight years.

Table 2 shows the changes in the production of major agricultural products. Agricultural production has increased rapidly since the beginning of 1980s when the "output quota system" was introduced. Other than those listed in this table, the livestock including cattle, sheep, and rabbit, and poultry, as well as flax, tea, mint, Chinese herbs, and fruit have shown substantial increases. ("Rural villages in Jiangsu," p.3)

The total cultivated acreage is 4.63 million hectares, which is 45 percent of the total area of Jiangsu province. (See Table 3 for planted acreage, compared with the above cultivated acreage.)

As clearly shown in Table 2, not only the production of rice and economic crops but that of livestock farming and fishery have also expanded. In Jiangsu province, which has a large population but has relatively small cultivated land, considering higher productivity in the agricultural industry has resulted in a surplus rural work force, what should leave agricultural work. Therefore, it will be necessary to expand the range of production as well as to improve product quality in local industries. ("Rural Villages in Jiangsu," p.6) In recent years there has been a shift from a simple farming to more integrated agricultural production, including agriculture, forestry, livestock farming, sideline businesses, and fishery. More comprehensive development is currently under way in the manufacturing, commercial, construction, transportation, and service industries.

In 1986, the share of each operation listed above in the total agricultural production is: forestry, 1.2%; livestock farming, 19.6%; sideline businesses excluding village-run factories, 8.7%; and fishery 4%. The production of these four major operations exceeds one third of the total agricultural production. In addition, rural community enterprises have developed at a remarkable pace. (Figure 3)

Such rapid agricultural development in the last several years, especially in the area of cultivation of crops, is attributable to the following several factors:

First, Jiangsu province has a large population in rural area and

has been placing emphasis on agriculture on the ground that agriculture, more specifically, food production, is a foundation of national economy.

Therefore, a large amount of money has been invested in basic construction work for irrigation and preservation of farm land. The areas of the lower Yangzi Jiang and other rivers often plagued with flood, but flood control measures have been taken for the last thirty years. To date, five major construction projects, including an irrigation canal in Subei district, a general irrigation station in Jiangdong prefecture, and Huaihe, have been completed. The total investment made between 1949 and 1985 amounted to 15.7 billion yuan. Of the total investment, the central government contributed 4.15 billion yuan while local authorities (prefectures, cities, and people's communes) spent 3.57 billion yuan. Farmers themselves turned out to contribute 8 billion yuan, the total figure obtained by multiplying the total amount of work done by average wages for farmers. It is said that the total amount of construction work can also be expressed as 24 billion cubic meters of earth and sand.

As a result of such massive investments, droughts, floods, and salt damage have come to be effectively prevented. The 2.53-million-hectare acreage, or 54.7 percent of the total cultivated land, is now able to produce a stable amount of crops, regardless of the amount of rain fall, and the area with effective irrigation facility have been expanded to 3.93 million hectares, 85 percent of the cultivated area in Jiangsu province.

Another factor for the improvement of agricultural production is the progress in scientific research and the spread of agricultural education. There are four (the person interviewed quoted five) advanced and twelve middle schools in agriculture and forestry, irrigation, and fishery. In addition, Jiangsu province has the Agricultural Science Institute, and each of the 16 agricultural districts has the Agricultural Research Center, and furthermore, there are research institutes, each of which specializes in forestry, poultry farming, agricultural machinery, or freshwater fishery.

One of the major accomplishments made by these research institutes is the spread of crossbred varieties of rice and corns which were produced through heterosis. The crop of crossbred rice is 100 kilograms greater than the traditional Japonica rice per mu (1 mu = 6.667 are). (The former bears 500 kilograms of unhulled rice per mu while the latter produces 400 kilograms.) The average of both crops of rice combined was 449 kilograms per mu in 1985, and increased to 469 kilograms per mu in 1986 (both figures are for unhulled rice). The total crop of rice and wheat was 240 kilograms per mu in 1978, and increased substantially to 343 kilograms in 1984. Presently recommended varieties of rice in Jiangsu province are Shanyou No. 63 for crossbred rice and Yanjing No. 2 for Japonica rice. The former yields a 50 kilograms more crop per mu

than the latter. Generally speaking, crossbred rice, which has higher yeild but inferior taste, is planted in the land to meet the production quota set by the state, and Japonica rice is grown for family use.

In addition to the development and spread of crossbred varieties, there are some other noteworthy accomplishments in agricultural research: land improvement of barren land in the Lixiahe of Subei district; irrigation of drought area in the Huaibei district; land improvement of the coastal area suffered salt damage and conversion of the land to cotton plantation; and the development of new breeds of cattle and varieties of crops which are highly resistant to blight and harmful insects.

Furthermore, the government of Jiangsu province has promoted the agricultre-related manufacturing industries, which has further facilitated overall development of agriculture. Specifically, production of agricultural machinery, chemical fertilizers, insecticides and herbicides, agricultural products processing, construction, and transportation has been actively promoted. Consequently, Jiangsu province ranks first in China in the production of hand tractors, which are also exported. The total horse power of agricultural machinery used in Jiangsu province was 22.79 million horse power in 1986, or 4.5 horse power for every hectare of cultivated land. Agricultural machines are used in 70 percent of the entire cultivated land.

Finally, the development of rural community enterprises can be pointed out as another factor for the agricultural development, but it will be discussed later.

The government of Jiangsu province plays the following roles in agricultural development: 1) formulating agricultural policies; 2) making decisions on the amount of food purchased by the government, and giving guidance to municipal and prefectural authorities about production quota; 3) carrying out production policies; 4) making coordination between agriculture and non-agricultural industries; and 5) bearing expenses for large-scale projects.

On the other hand, the following problems have been pointed out in the agricultural industry: 1) low rate of mechanization; 2) low economic efficiency and effectiveness; 3) low resistance to natural disasters; 4) scarcity of natural resources; 5) low income of some farming households (especially in Subei).

Table 5 and 6 show the statistics on production of pigs, tea, silkworms, tobacco leaves, flax, and marine products.

Pig raising has constantly remained at a high level, and it should be noted that the number of hogs sold increased rapidly especially after the economic reform. It seems that it was partly attributable to the

fact that the general increase in household income expanded demand for meat. Moreover, the production of other commercial crops and products also rapidly increased in 1985, which reflects the beginning of the free market system where people are allowed to freely sell and buy goods.

4. Implementation of the Farming Household Output Quota System

Jiangsu province started implementing the farming household output quota system in 1983. First, the three-rice-field system was introduced, which was to allocate three different kinds of fields to each farming household: output quota field allocated according to the labor force of the farming household, food supply field given according to the number of household members, and the field to grow feed. The size of the output quota field is to be adjusted every three to five years according to the change in the family's work force, but the interval between adjustments is determined by local authorities, and there is no standard period set by the province. Since 1984, the lease of land has been allowed, which involves paying and receiving rent for tenancy. Jiangsu province is currently trying to allocate more farm land to the farmers who have high productivity (20-30 mu, or 1.3-2.0 hectares).

Basically, the province's agriculture has made a transition from collective farming into private farming, and each farming household can now freely manage their farming business, while government intervention is limited to setting and controlling output quota of food supply. Yet, projects involving irrigation and termination of harmful insects are often collectively carried out by a community, while planting of rice and plowing are done both individually and collectively.

Not only the production system but also the distribution system has been reformed. Presently, what the government purchases from farmers at regulated prices is only food supply. Farmers who only grow vegetables have a production contract with the government, and sell the products to the government at prices set by the contract. These products purchased by the government are sold at stores owned and operated by the government.

The official sales price for rice is now 0.27 yuan per one kilogram for crossbred rice and 0.3 yuan per one kilogram for Japonica rice. These prices are uniformly set, regardless of grades.

As a rule, the government does not intervene in regulating prices of agricultural products other than grains. There are three types of retail stores: national, collective, and individual stores. The total sales of the retail business in Jiangsu province was 35.58 billion yuan in 1986, 46 times larger than that in 1949. In addition to the three distribution channels mentioned above, open markets in rural villages

are also important sales outlets. The total turnover in those markets reached 5.01 billion yuan in 1986 ("Jiangsu," p.7)

As for the financial system in rural villages, there is one credit union in every village, and there are some cooperative fund associations. The current annual interest on deposits is said to be 6 percent, and the interest on loan is 7.2 percent.

As outlined above, the economic system, which is being streamlined, not only promotes collective economy but also facilitates the commercialization and specialization of production. Based on the 1986 statistics, the total fixed assets owned by districts, villages, and production communities (natural villages) reached 10.4 billion yuan in 1986. Of these total assets, districts account for 47.3 percent, villages own 23.5 percent, and production communities own 29.1 percent. The total fixed property for agricultural production individually owned by farmers was worth 1.343 billion yuan. Many of the districts, villages, and production communities have emerged as a independent production unit, which forms a foundation for socialist economy in rural areas.

On the other hand, the rate of commercialization of agricultural, sub-agricultural, and manufacturing products in rural areas has reached approximately, 70 percent. The total number of specialized farming households has reached 290,000, and there are more than 70,000 collective farming organizations of various types. These farmers represent a new production force which will transform self-supporting agricultural economy into more socialized and commercialized economy.

Due to the introduction of the output quota system, farmers with more than 10,000 yuan income have emerged. These rich farmers are considered as leaders who set an example for their followers so as to make the whole rural society more affluent.

5. Rural Enterprises

Village enterprises have been playing a significant role in the recent economic development in the rural areas of Jiangsu province.

Rural enterprises in Jiangsu province have been growing since the end of 1950s. In 1960s, however, their development was slow and limited to the area of agricultural machinery. Even in 1970s, agriculture-related industries were the major area of development. Since the beginning of 1980s, however, rural enterprises were started in various industries, and those in the manufacturing sector made an especially rapid progress. The total production of rural enterprises in Jiangsu province was 45.93 billion yuan in 1986, ranked first in the nation. Of this total production, the total production of district-run enterprises

was 26.88 billion yuan while village-run enterprises accounted for 19.05 yuan. There is a total of 680,000 rural enterprises in Jiangsu province, and the total fixed property owned by these enterprises amounts to as much as 10 billion yuan. There are many different types of industries: metallurgy, coal, chemical, machinery, construction material, textile, food, clothing, and leather. Especially, the total production of the four major industries, that is, machinery, textile, construction material, and chemical, accounts for 80 percent of all manufacturing production in Jiangsu province. A rapid development of rural enterprises has been seen especially in the area along the river of Yangzi Jiang, where the railroad connecting Shanghai and Nanjing runs through. Four major cities along the river, Suzhou, Wuxi, Changzhou, and Nantong produce 64 percent of the production, and three other cities, Nanjing, Yangzhou, and Zhenjiang, produce 25 percent.

One of the significant roles of these rural enterprises is to absorb surplus work force in rural villages. The total number of workers for rural enterprises was 6.2 million in 1986, which accounted for 30 percent of the total rural work force in Jiangsu province ("Rural villages in Jiangsu province," p.10). Especially, village factories have 5.12 million workers, 20 percent of all the workers in rural villages. The total number of those who are engaged in construction, transportation, and business and those working in the manufacturing sector reached about 10 million, or 40 percent of the total rural work force in Jiangsu province.

The profit from the rural industries supplements insufficient agricultural income from small acreage, and this is another major benefit of rural industries. Between 1981 and 1985, a total of 2 billion yuan out of the profit of rural enterprises is used as an investment on agricultural production and construction projects in rural villages. Of this total investment, 80 million yuan were used for agricultural machinery and the improvement of infrastructure for farms. Moreover, the development of agriculture-related industries, such as agricultural chemical and construction material, also contributed substantially to the increase in agricultural production.

Another significant role of rural enterprises is to complement state enterprises in urban areas. Thanks to independence in decision-making, and high flexibility and adaptability, rural enterprises are able to produce and supply small but specialized products as well as precision-manufactured, high-quality products for urban enterprises. Due to the change in the administration structure, each municipal government has come to exercise administrative rights over a prefecture in a province, and now it is able to make effective and unified plans for urban and rural industries. Urban industries can provide their rural counterparts with economic information, the latest technology, and special resources, and thus, rural industries can improve quality of their products. In the meantime, urban industries can produce high-

quality products with the reliable assistance from rural industries.

Table 1 Demographic Profile of Jiangsu Province

	1982		1985	
	Male	Female	Male	Female
Average life expectancy at birth (years)	67.35	71.56	68.9	73.1
Average age for the first marriage (years)		23.11		23.19
Number of children with no siblings	2,316,000		3,790,000	
Fertility rate (per mill)	16.43		10.84	
Mortality rate (per mill)	5.75		5.87	
Natural increase rate	10.68		4.97	
Population density	593/km ²		611/km ²	

Source: 1986 Statistics Public Health Department of Jiangsu Province

Table 2 Changes in Agricultural Production in Jiangsu Province

	1949	1980	1985	1986
Total agricultural and industrial output value in rural areas (billion yuan)	42.1	257.7	616.2	743.73
Share against total output value (%)	n.a.	41.4	48.5	51
Amount of output (10 thousand tons)				
Grains (10 thousand tons)	748	2418	3126	3339
Cotton (10 thousand tons)	2.8	41.8	47.9	41.0
Crops for oil (10,000 thousand tons)	15.9	38.6	108.8	116.7
Silkworm cocoons (10 thousand tons)	0.7	3.8	7.3	8.0
Hogs (10 thousand heads)	269.4	2071	2012.6	2161
Aquatic products (10 thousand tons)	5	42.7	67.5	80.3
Average annual income per capita (yuan)	n.a.	94.6	460.3	537.6

Notes: (1) Based on the interview.

(2) "n.a." stands for "not available."

(3) In the handout "Jiangsu: Rural Area," the number is 19.25 million heads.

Table 3 Total Planted Acreage for Agricultural Products in Jiangsu Province

Total acreage for Agricultural products	12,836.8
Grains	9,648.7 (75.2%)
Commercial crops	1,954.1 (15.2%)
Other agricultural products	1,234.0 (9.6%)
Total acreage for grains	9,648.7
Rice	3,646.7
Wheat	3,255.6
Corn	689.4
Soybeans	476.9
Tubers	423.7
Commercial crops	1,954.1
Cotton	888.4
Crops for oil	886.7
Hemp crops	44.8
Sugar crops	12.8
Beet roots	6.5
Other farm products	1,234.0
Green Vegetables	414.9

Source: 1986 Statistical Yearbook of China

Table 4 Average Grain Output per Unit Area (1985)

National Average	232
Beijing	287
Tianjing	210
Hebei	202
Shanxi	180
Nei Monggol	118
Liaoning	225
Jiling	249
Heilungjiang	132
Shanghai	326
Jiangsu	324
Zhejiang	330
Anhui	245
Fujian	281
Jiangxi	280
Shangdong	262
Henan	200
Hubei	289
Hunan	325
Guangdong	259
Guangxi	216
Sichuan	272
Guizhou	179
Yunnan	188
Xizang	182
Shaanxi	160
Gansu	127
Qinghai	173
Ningzia	143
Xinjiang	179

Source: 1986 Statistical Yearbook in 1986, p. 186

Table 5 Raising of Pigs (10 thousand heads)

Year	Number of pigs raised	Number of pigs sold	End year balance
1968	2,228.49	936.81	1,295.90
1969	2,379.31	970.74	1,407.00
1970	2,575.56	1,010.04	1,565.04
1971	2,898.75	1,117.87	1,745.62
1972	3,142.51	1,289.94	1,857.09
1973	3,078.62	1,286.33	1,791.99
1974	3,057.22	1,226.75	1,830.47
1975	3,335.54	1,338.00	1,997.54
1976	3,420.47	1,367.47	2,053.10
1977	3,135.76	1,210.29	1,925.47
1978	3,487.17	1,326.12	2,161.05
1979	4,188.29	1,832.23	2,356.06
1980	4,159.87	2,071.12	2,088.75
1981	3,822.73	1,887.55	1,935.18
1982	4,007.58	2,029.54	1,978.04
1983	3,945.98	2,071.76	1,874.22
1984	3,851.28	2,038.08	1,813.20
1985	3,963.51	2,012.55	1,950.96

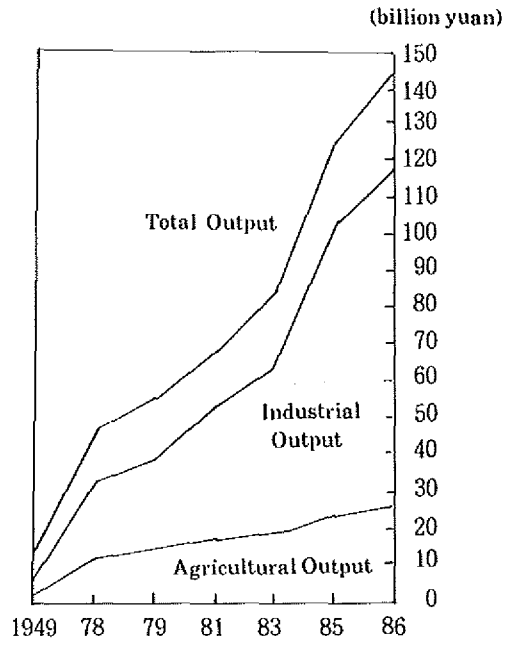
Source: 1986 Economic Yearbook of Jiangsu Province, III-23

Table 6 Major Farm and Aquatic Products (10 thousand tons)

Year	Tea	Silkworm cocoons	Tobacco	Hemp crops	Aquatic products
1949	0.03	0.69	0.39	1.60	5.04
1952	0.04	1.21	0.40	3.43	16.81
1957	0.02	1.00	0.07	3.33	28.53
1962	0.07	0.48	0.27	0.94	19.35
1965	0.12	0.99	0.57	2.95	25.11
1970	0.25	2.39	(0.60)	(2.63)	26.67
1975	0.44	2.59	(0.78)	(3.98)	36.10
1976	0.47	2.76	0.99	4.81	35.42
1977	0.51	2.78	1.40	4.64	38.90
1978	0.46	2.63	1.21	7.01	39.76
1979	0.48	3.23	0.78	5.96	38.92
1980	0.53	3.82	0.41	3.88	42.71
1981	0.63	4.03	0.86	3.84	44.12
1982	0.73	4.71	1.05	4.88	48.66
1983	0.76	4.84	0.56	3.85	49.08
1984	0.78	6.56	0.66	4.38	56.88
1985	0.92	7.32	0.93	10.16	67.54

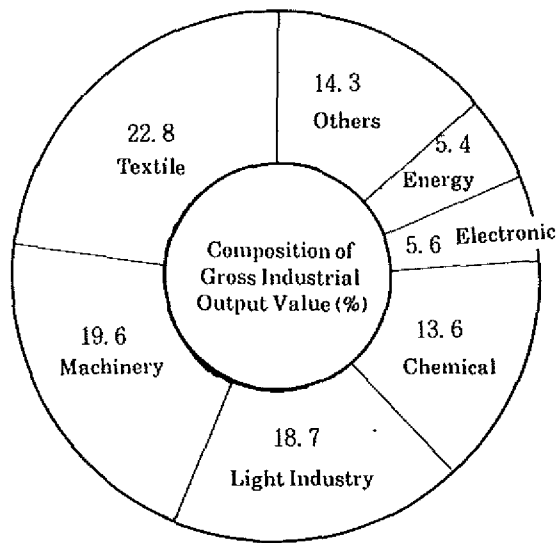
Source: 1986 Economic Yearbook of Jiangsu Province, III-22

Figure 1 Composition and Yearly Increase of Industrial and Agricultural Output Value



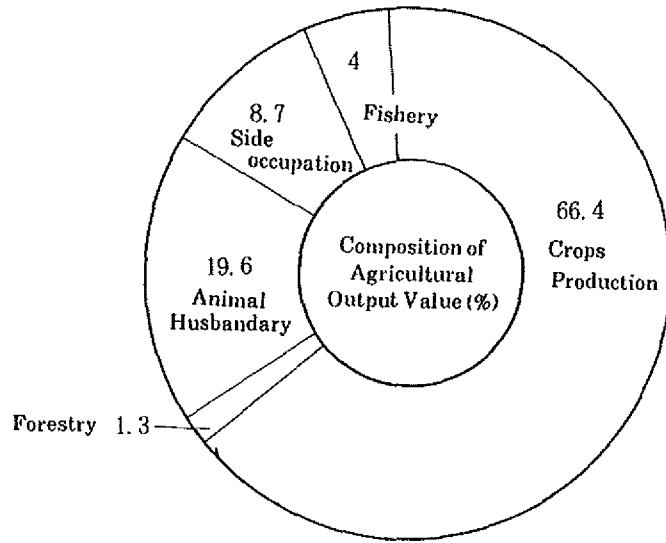
Source: "Jiangsu," p. 2

Figure 2 Composition of Gross Industrial Output Value



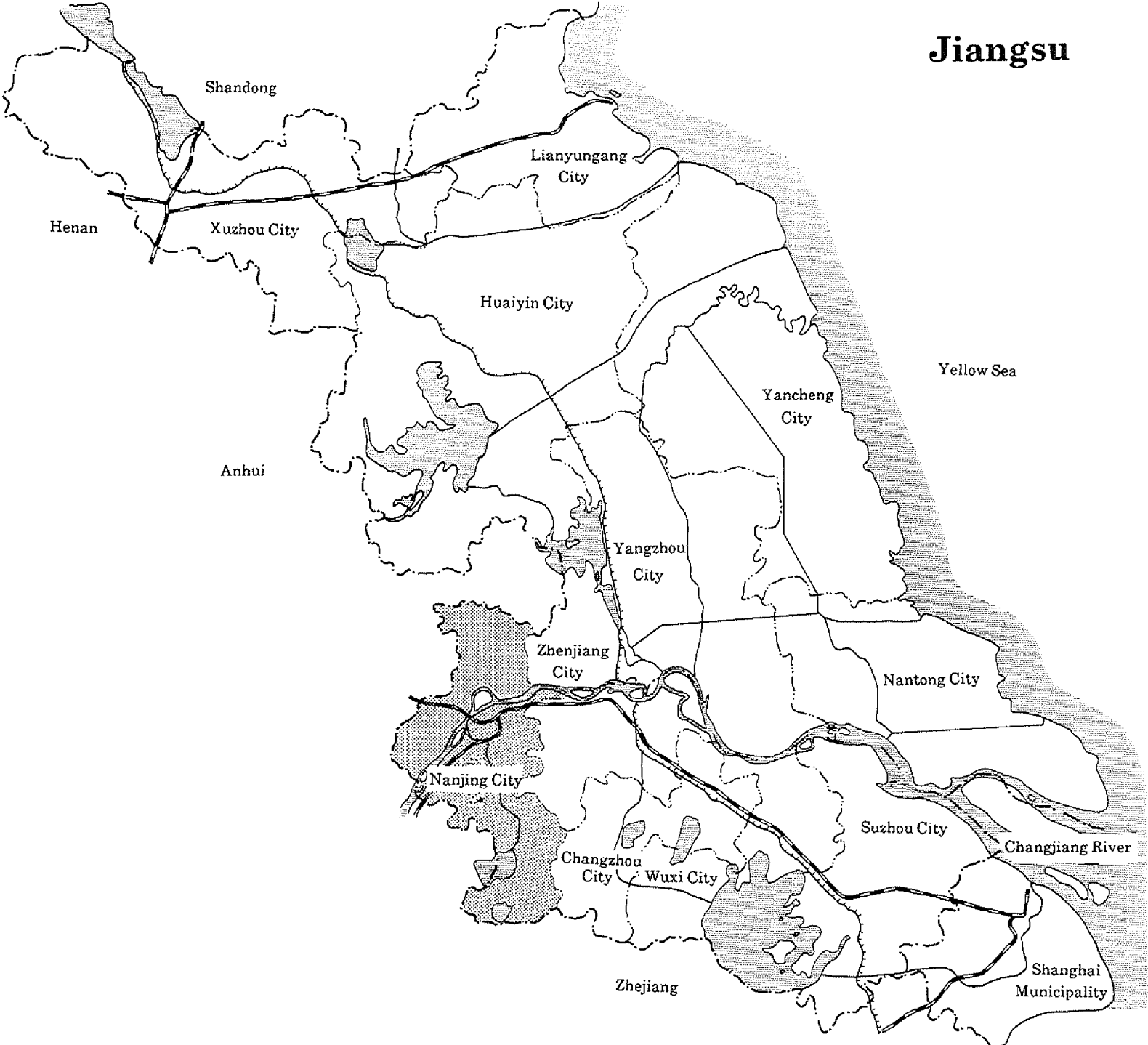
Source: "Jiangsu," p. 4

Figure 3 Composition of Gross Agricultural Output Value



Source: "Jiangsu," p. 6

Jiangsu



CHAPTER 4

PRESENT SITUATION OF AREAS OF THE SURVEY

1. Summary of General Situation (Note 1)

Areas of this survey were Jiangning County in Nanjing Province and Yuhuatai District of Nanjing City. In Jiangning County, we visited two townships, Fangshan and Moling, as well as Gaoshan administrative village. In the district of Yuhuatai, we visited Jiangdon township and Xinglong village in that township, so interviews were conducted at district, township and village level respectively.

(1) Summary of survey areas in Jiangning County

Jiangning County is located in the southern part of Nanjing City and extends to the southeastern side of the Yangtze River. The population and area are 743.2 thousand people and 1711km², respectively (as of 1985 Source: "The Economic Yearbook on Jiangning County" by Jiangning People's Publishing Enterprise). This area has abundant water resources with the Taihuai River, a branching off the Yangtze River, crossing at about the center of the area from south to north. Agriculture focuses on double crop cultivation of rice and wheat, and grain production volume per person in the agricultural labor force exceeds 5,000 chins, ranking high at sixth within Jiangning County (see Table 1). As for non-agricultural industries, the county has chemical, iron and steel, architectural, textile and leather industries.

Fangshan Township is located a few kilometers south of Dongshan Town which is the capital of Jiangning County. The township is comprised of 20,062 people, or 5,111 households. Area covers 44km², in which there are 12 administrative villages and 72 ordinary villages. Cultivated acreage amounts to 1,320 ha. and acreage of mountains and hills 260 ha. The Taihuai River flows within the township, where there are many hilly areas as well as a trapezoid shaped mountain named Fangshan, the same as the township. In the plain areas, double cropping of rice and wheat are carried out on fertile land with rich water resources. (From the materials distributed. See Table 2.)

Gaoshan administrative village is one of a dozen administrative villages in Fangshan Township, located 18 kilometers from Nanjing City. The village is elongated in an east-west direction for three kilometers, while size south to north is one kilometer. The area is hilly in the direction of Fangshan, and there is a plain. Population is 1,525 and households number 368. It has cultivated acreage of 1,674mu (111.6ha). Included is cultivated acreage of 60mu (4 ha) in a hilly area, with the remainder mainly paddy where double cropping of rice and wheat is carried out. Reportedly, six production teams once existed in the region which was later reformed to three ordinary villages, and one was designated as the administrative village.

Moling Township the second township for survey in Jiangning is

located further south than Fangshan Township, about 32km south of Nanjing City. It covers an area of 55.7km² and has a population of 31,352 comprising 7,000 households. Cultivated acreage is 2,334ha, while forestry and water areas are 266.7ha and 234ha, respectively.

(2) Areas of survey in Yuhuatai District

Yuhuatai District is one of 10 districts in Nanjing City ("National Directory of Geographical Names of Towns and Townships" edited by the Division of Administrative Blocks, Department of Civil Administration, People's Republic of China)(Note 2). It is located in the southwestern section of Nanjing City with a population of about 260,000. According to the directory, there are five towns (zhen) and nine townships (xiang) in Yuhuatai District. Yuhuatai District has abundant water resources, but major cultivation is vegetables which are supplied to Nanjing City, while Jiangning County double crops rice and wheat.

Jiangdong Township is located in the western suburbs of Nanjing City. It is said that the township functions as a node between the urban area of Nanjing and the farming regions. Acreage is 16km² with a population of 20,305 resulting in a population density of 1,283 persons/km². Cultivated acreage amounts to 13,632 mu (908.8ha) and water 3,900mu (260ha). Since the period of People's Public Corporation, the township has specialized in production of vegetables that are supplied to Nanjing City, and Jiangdong Township still provides, on contract with Nanjing City, one-fifth of all vegetables supplied to the city. (See Table 2.)

Xinglong village of Jiangdong Township is located about one kilometer east of the Yangtze River, and is a village situated by a lake hemmed in by two rivers. The population is 1.5km², while the population numbers 1,487 and households 423. Cultivated acreage is 1,171 mu (78ha) and water 450 mu (30ha). Over ten stripes of irrigation channels run through the village, and 700 mu (46.7ha) of cultivated land is equipped with an automatic irrigation system. The irrigation system was completed prior to 1977. Various production activities after the economic revolution did not shift to private sector operation but were continued by production units formed in the village to maintain and manage the system. This is a special characteristic of this village when compared to other areas of the survey.

2. Outline of Recent Economic Changes

Before discussing the agriculture in the next section, descriptions of some indexes are provided in this section. The agricultural status in the rural areas and general direction of recent economic changes can be grasped.

In Jiangning County, for example, characteristics of recent economic development can be summarized as follows.

1. Achievement of high economic growth rate.
2. Increased farmer income.
3. Realization of economic activities and selective production by farmers.
4. Change in collectivism subsequently enabling individual production activity and diversification of economic activities within the framework of collectivism.
5. Change in production procedures from single farm products to varied farm products.
6. Farmer prosperity resulting from increased commercial opportunities and realization of production activities for markets.
7. Changes in interenterprise relationships, i.e., formation of diversified networks including horizontal in lieu of vertical relationships that have been created by the Government.
8. Change from self-subsistence oriented production to large scale production, and subsequent increase of surplus rate.
9. Enhancement of transportation, science, culture, and health activities and facilities accompanied by economic development.

These characteristics were often repeated in interviews in respective areas, and it should be pointed out that they are more or less common, to the areas surveyed. For example, gross production values of agriculture, industry, commerce and supplementary business in Fangshan and Moling of Jiangning County continue to remarkably increase in the 1980s. The 1986 value for Fangshan increased 4.24 times that of 1980, while the 1986 value for Moling is more than sixfold the value before 1979. Concurrently, the average income is increasing sharply as well. (Tables 3, 4 and 6).

Industry and supplementary business growth is conspicuous in such rapid economic expansion. Agriculture, in the meantime, has not lost its absolute value of production amount or volume, yet its proportion is rapidly decreasing. In Jiangdong Township of Yuhuatai District, for example, the ratio of agriculture in the gross production amount was 10.8% as of 1986, but decreased by 10.7% when compared to 1982. On the other hand, industrial production shared about 70% of the gross production amount in 1986 but has increased its ratio by 11.8% compared to 1982 (based on material distributed during the survey). In Moling Township, agriculture that used to share 46.6% of the gross production amount prior to 1979 decreased to 17.2% in 1986, while supplementary business increased its ratio from 8.2% to 13.2%, industry from 45.2% to 58.6% and other private businesses such as transportation 11%. (Table 3)

Expansion of non-agricultural sectors is also significant in labor force structure. In Moling Township, the proportion of labor engaged in

the industry that used to share 15% of the total before 1979 exceeded 50% in 1986, and the agricultural population that accounted for 70-80% has contrarily decreased to 35%. Total labor force during this period has all but stabilized at 15,000 to 16,000 people. It was reported that there is a diversified labor system which allows four months a year for agriculture, two months for rest and six months for various remaining management activities (Table 5). In conclusion, values are listed in sequence of years for Xinglong village of Jiangdong Township as data that most clearly reflect the above economic changes (Table 6).

3. Changes in Agricultural Production and Conditions

(1) Production Increase and Diversification

Rice is being cultivated using F1 hybrid rice in areas double cropped of rice and wheat. Prior to 1979, Gaoshan Administrative Village achieved an average grain yield of 500kg/mu (7.5t/ha) attributable to an irrigation rate that has been 100% since 1949. The value is, however, for rice and wheat inclusive, and rice is unhulled. Yields further increased in 1986 to 617kg/mu (9.2t/ha) comprised of 250kg/mu (3.75t/ha) of wheat and 450kg/mu (6.75t/ha) of rice. Cited as reasons for increased yields were changes in farmers' consciousness, namely, enhanced awareness of production techniques and adoption of quality breeds, especially the introduction of the F1 hybrid rice. The hybrid rice, however, has a higher yield than the Japonica species by 50 to 100kg per mu but a little lower price. It is also said that farmers produce the hybrid rice on leased farm land, while they plant the Japonica species for their own use.

In recent years, new crops, stock farming and agriculture have been introduced to the places where double cropping of rice and wheat took place. Diversification production is in progress. Cited as examples of production diversification in Jiangning County were sugar cane, fruit production such as watermelons and grapes, stock farming of pigs, chickens and ducks, and aquaculture. Grape cultivation started on a 15mu farm in Gaoshan Administrative Village as a pilot project for the village (it was reported that the grape is the Japanese "Kyoho" variety). Five people have been assigned to production since the beginning of last year. Before the initiation of this project, they reportedly cultivated watermelons but changed to grapes in view of the better price. For information, grape prices are said to be 2 to 6 yuan per kilogram, while a watermelon sold on streets of Nanjing City is 0.4 to 0.6 yuan (at the time of the survey, it was anticipated that there would be an oversupply of watermelons as a result of a bumper crop.)

Aquaculture is growing as a secondary business in Moling Township. It is carried on in waters newly expanded by 600mu (40 ha) and aside from crab culturing in a pond of 120 mu. Eel culturing is also under

experimentation in a 10mu pond.

On the other hand, Jiangdong Township of Yuhuatai District supplies vegetables to Nanjing City based on a contract with the city. Total vegetable production in Jiangdong Township in 1982 was 35,959 tons, and increased to 36,472 tons in 1986, 31,500 and 32,500 of which were contracted volumes in 1982 and 1986, respectively. Reportedly produce includes turnips, lettuce, green vegetables and small green vegetables in the spring; eggplants, tomatoes, cucumbers and gourd in the summer; potatoes, autumnal cucumbers and green vegetables for pickling in autumn; and turnips, green vegetables and cabbage in the winter. They are hopeful that the future will bring about quality improvements as well as more timely delivery by forced culturing which in turn will enable to increase contracted purchase prices. In Jiangdong Township, supplies of stock farming products, other than vegetables, and fish also increased between 1982 and 1986. Pigs increased from 11,620 (1982) to 17,420 (1986), while fish increased from 216 tons in 1982 to 514 tons in 1986. Egg production as well reached 157.2 tons in 1986. (Based on reference materials distributed on the survey day.) Groups engaged in secondary activities have operated in Xinglong Village since 1977. They are engaged in various production activities such as:

- 1) Hog raising - pigpens accommodating 209 have been installed, and earn a profit of 200,000 yuan from the sale of 2,000 hogs and 1,000 piglets a year.
 - 2) Dairy cattle - dairy cattle produce 120t of milk a year. Raw milk is delivered to a dairy plant in Nanjing City three times daily.
 - 3) Flowers - there are 100 greenhouses. Total sales amount to 20,000 to 30,000 yuan yearly, including cypress trees for bonsai.
 - 4) Aquaculture - fish and waternuts are cultured in a 450 mu pond earning yearly profits of 200,000 yuan. Fish production volume per mu is said to be 1,432 chin (approx. 700-plus kg) per year on average.
- (2) Systems - Introduction of Responsibility System for Agricultural Production

Responsibility system enabled expansion and diversification of production to coincide with the transition from a collective to an individual farm household production system. During interviews, on the other hand, it was stressed that it remains important to maintain a framework of collective production, even though roles played by individuals or specialized households are positive contributions.

In Fangshan Township, for example, shifting to a production responsibility system first started as an experimental project to implement Government guidance in two administrative villages at the end of 1981. The following year it was broadened to township level and, at present, the system is fully implemented with all farm households

participating. The system is reputedly a combined system which maintains the group's framework but is based on individual farm household operation and management. A collective undertaking is still considered more advantageous for mechanical plowing, screening of seeds and execution of construction projects. In Gaoshan Administrative Village, an agricultural service team is responsible for irrigation, plowing and products.

Another example is a comment from an interview in Jiang-Ning County, that the framework of collectivism remains unchanged in spite of more efficient private production, and that collectivism possession is a key to developing efficient agricultural production. Although there are 1,600 private projects (managed by single households) as well as 300 associated projects managed jointed by three to five households, the group's fixed capital share was 96.4% of the total at the time of survey.

In Jiangdong Township of Yuhuatai District, collectivism production was the main system before 1982, but current production procedures are carried forward on four wheels, namely the township, administrative villages, ordinary villages and individuals. A breakdown of the total production amount of the township in 1986 into the four levels would result in a composition ratio of 32% township, 43% administrative villages, 14% ordinary villages and 11% individuals. A policy has been employed to focus on production especially by the township and administrative villages. They are 13 township operated enterprises, 10 township operated stores, 51 village operated factories and 113 village operated stores (distributed reference material), in addition to the various agriculture-related services rendered by administrative villages that will be discussed later.

In the meantime specialized, key and individual households are in the process of development deriving income from secondary activities and other channels as a main source of revenue. In Fangshan Township, there are 50 so-called "ten thousand yuan households" which earn income exceeding 10,000 yuan (approximately 1% of all households). They are specialized households engaged in transportation activities, fish or stock farming. Prior to 1982, these so-called "ten thousand yuan households" did not exist in the township. In Moling Township, there are 1,472 key and specialized households who derive more than 60% of their income from forestry production, such as orchards. This number corresponds to about 20% of the total households of the township, but their gross income amounts to 35% of the gross income of the entire township. Furthermore, in Jiangdong Township it is also felt that significant roles are played by specialized and individual households in the production mechanism. Of the average annual income of 990 yuan per person, 289, which corresponds to 30%, is income from independently operated sources. (distributed reference materials.)

The above covers a production responsibility system implemented at the individual farm household level. In Xinglong Village of Jiangdong Township, however, land is not distributed to each household, but rather they have a production system in which the village appoints respective farmers as members of production activity units. There are, for example, nine production units in the field of agriculture, with seven of them established in each of the seven villages within an administrative village. In these ordinary villages, 20 people form a unit to engage exclusively in production. Of the remaining two units, one functions as an agricultural service center to carry out seed screening and other activities. The remaining unit acts as a service team to provide transportation for marketing vegetables by means of 16 tractors (two large ones) and two trucks. The team is also in charge of irrigation. Toted there are 45 units also engaged in operation and management of 209 pigpens, 70 dairy cattle, 100 greenhouses for flowers, a fish farming pond of 450mu and transportation by 25 ton trucks. This year they also initiated operation of a grocery, small department store, processing plant for pickled duck and cafeteria, aside from their operation of three village-ran factories. Surpluses are calculated based on a preset sum and the profit is redistributed within the village.

The nations purchase system for agricultural products has been all but abolished, and farmers deliver their products to market taking prices into account. It was reported that farmers sometimes take products directly to free markets while at other times they use distribution systems of municipal governments. The aforementioned Kyoho grapes of Fangshan Township are delivered through a cooperative, and a sales organization is set up in a town. News on market conditions is disseminated through fruit traders in Shanghai or other sources.

Jiangdong Township was producing vegetables under contract with Nanjing City. Assuming that the difference between the cited total vegetable production and contracted volumes is the proportion to be delivered to a free market, vegetables delivered to a free market amount to about 10% of the total production volume. Prices of vegetables contracted by Nanjing City are set by the Government, and may average 9.2 yuan per 100kg. Assuming the figures are correct the Government's contracted price is considerably low when compared to examples observed during the market survey where the highest price determined by the city was 0.35 yuan per 500 grams of the most expensive soy beans and 0.10 yuan per 500 grams for the cheapest white gourd melon.

(3) Improvements Production Base

Six roles were cited by Chiang-Ning County as those of the county government in the field of agriculture:

1. Planning - production allocations are established and disseminated to the township and village levels.
2. Supply of information - provides market information on demand and supply of products other than the staple food.
3. Supplies materials such as chemical fertilizers, diesel oil, pesticides and insecticide, etc.
4. Undertakes large projects such as improvement of irrigation.
5. Supplies scientific services.
6. General public relations on Government policies.

In addition to the above, it was reported that nine out of 11 administrative villages in Jiangdong Township of Yuhuatai District are rendering so-called "one dragon service" (which means a full line of service (meaning from the head to the tail)) which consists of eight areas.

1. Irrigation including drought and flood relief
2. Management such as plowing of paddies and farmlands
3. Transportation services for vegetables and fertilizers.
4. Supply and distribution of production materials
5. Supply of rice seed.
6. Supply of quality seed.
7. Insect and pest control.
8. Technical services.

As shown above, governments at respective levels play various roles in agricultural production by improvement of infrastructure such as roads or irrigation systems, supplying production materials like fertilizers, seed or machinery and supplying services and information relevant to marketing after production. Among the above, irrigation systems were improved before 1979 owing to the fact that areas of the survey have improved over time as a result of natural circumstances. A concrete example of the current maintenance and management system can be cited from an instance in Gaoshan Administrative Village of Fangshan Township, where an agricultural service team has been formed by the village do not only manage the irrigation system but also carry out plowing and tending products. An administrative village of Moling Township (about 800 households), on the other hand, assigns one person to irrigation control in each of the eight ordinary villages under the administrative village.

Information services on technical aspects, including introduction of new crops and varieties, are also undertaken by local administrations. Each township has an agricultural science center, while agricultural service teams are organized in respective administrative villages and an ordinary village has an extension worker. In the case of Fangshan Township, the agricultural science center has six people who provide guidance on screening of seed for quality and culturing, as well as to supply chemical fertilizers and diesel oil. In

addition, there is an agricultural service team in a village whose members' specialized skills are employed by the village.

Similarly, a staff member of the agricultural service center in Moling Township assigned to quality screen seed was considering introduction of watermelon in view of the fact that watermelon can be planted not only between other growing crops but also turns into fertilizer. He mentioned that introduction of a fast ripening variety could cope with possibilities of oversupplies. Agricultural service centers are also organized in Yuhuatai District. The number of personnel in these centers is 60 for a district center, 40 for a township center and 10 for an administrative center. These agricultural centers were established in 1980. It was reported that Yuhuatai District, being a vegetable oriented production area, has reached the point where they are selectively classifying varieties and quality crops since the economic revolution. But, quality improvement and control of delivery season (by forced or delayed culturing) are still major areas for technical development. As for agriculture mechanization, Gaoshan administrative village officials have concluded that they are "basically fully mechanized." (Machinery owned is listed in Table 7.) In Moling, however, while irrigation and threshing have been mechanized, plowing is still at the midway point. It was also reported that the use of spray insecticide is becoming popular.

4. Changes in Non-agricultural Sectors - Development of Enterprises Operated by Township and Village

Policies at the national and province levels emphasize the importance of development of the township and village operated enterprises in order to absorb excess labor force in rural villages and to make the best use of profits for further development of agriculture. The enterprises operated by townships and villages in the surveyed area are well established in general.

Table 8 shows the number of enterprises run by townships and villages in the surveyed area, while Table 9 lists those enterprises in villages. The latter table differentiates between enterprises established during the period of the People's Public Corporation and those created as a result of recent economic changes.

When viewed in changes and production amount as an index reflecting development of township and village operated enterprises, production has grown from a little under six million yuan in 1980 to approximately 33 million in 1986.

The change is not limited to quantitative expansion. Formation of new interenterprise networks was cited as a recent characteristic in Jiangning county. (cf. section 2)

The number of enterprises having horizontal relationships with enterprises in urban areas exceeds 200 in Jiang-Ning County. It was pointed out that contracts between urban enterprises which used to be ad hoc and short-term relationships are becoming long-term relationships. A comment was made that these relationships between enterprises run by townships and villages and urban enterprises have merit in that in the urban areas the land and labor are difficult to obtain while in rural areas it is not so. A rural area has resources. Engineers and technicians of a large enterprise are available for training in rural labor. On the other hand, problems relevant to the above are cited as: (1) quality of management and engineers as well as necessity to re-educate. (2) insufficient energy resources (especially, electric power), and (3) finance.

Summarized below is an introduction of four enterprises operated by a township and village actually visited.

Enterprises A: The enterprise owned by the township was organized as a manufacturing plant of sewing machines in 1976. Total production at the time of establishment was three million yuan. The enterprise currently produces mainframes for nine types of electric fans that are also exported to Southeast Asia. The 1987 production and amount targets of 160,000 units and 37 million yuan, were reached in August. It was explained that the latter part of the year would be spent training employees, maintaining machine components and parts, developing new products and enhancing technology due to seasonal nature of electric fan production. The manufacturing cost of an electric fan which sells for 231 yuan is about 150 yuan, thus a profit of approximately 80 yuan per unit. Twelve percent of the profit is used for employees' salaries, while part is turned over to the county.

Enterprise B: It has been manufacturing valves since its establishment in 1980. The capital needed for establishment of the enterprise was expended by the township. The plant is the only one in China which manufactures these products. The initial number of 70 employees has expanded to 140. Products are distributed to all parts of the country except Yunnan, Tibet and Xinjiang. It was said that quality is subject to improvement.

Enterprise C: The enterprise was established in 1976 as a plant to manufacture pressurizing machines. Investment was made by the People's Public Corporation and banks. The enterprise, however, presently manufactures four types of burners. Capital resources are comprised of 20% by the township, 50% by banks and 30% by advance payments of purchasers. Ninety-five percent of the 496 employees are natives of Jiangdong Township. Production amount increased from 13.31 million yuan (1985) to 18 million yuan (1986), subsequently increasing profits from 1.8 million yuan (1985) to 2 million yuan (1986). Fifty-five percent of the profit is transferred to the Government and the remaining 45%

reinvested. Two hundred thousand yuan of the 45% is shared by the township and invested in road and irrigation improvements. A bonus is paid when the production target is achieved or exceeded. Products are distributed to the entire country excluding Tibet and Taiwan. Plant officials stated they would overcome competition by quality and design improvements in spite of the intense competition among the 220 factories in China which manufacture similar products. The high number of plants is due to their creation to satisfy demand.

Enterprise D: There was no elevator manufacturing plant in the Nanjing area, although there are 20 plants in Jiang-Su Province. Therefore, organization of this plant was planned in May 1985 and established in September 1985 after a three-month trial production period. The enterprise manufactures elevators for passengers and cargo and for hospitals and related use. In the first year of production, they produced 12 units amounting to 360,000 yuan, generating a profit of 50,000 yuan. However, they achieved a production level of 1.5 million yuan in August 1987, already exceeding their production goal. The plant maintains relationships with other enterprises on designing and new product development data. The enterprise is presently developing a new product which is reportedly fully automated and faster.

5. Living Environment

(1) Enhancement of Living Environment

It has been stated that the average annual income per person is remarkably increasing in the surveyed areas, and some households have an annual income exceeding 10,000 yuan. It is reported that in Fangshan Township there are 50 households known as "ten-thousand yuan households," 206 whose annual income is over 5,000 yuan and 2,147 over 1,000 yuan (figures as of 1986). Moling Township also has 60 to 70 households whose rough income per year exceeds more than 10,000 yuan, again sharing about 1% of the total. Paralleling this increased income, is a so-called enhancement of living environment such as new construction or remodeling of house and diffusion of durable consumer goods or educational, medical and cultural services. In Fangshan Township, farming households having residential floor space of more than 100m² share 2-3% of the total households, while the diffusion rate of television sets is 70% and other electric appliances 60-80%. In Moling Township, on the other hand, 2512 households, or 33% of the total, have newly built or remodeled houses and 518, equivalent to 7% of the total, are two-storied. It is reported that the average floor space per person is 20m². The diffusion rate of televisions is 60% and washing machines 20-30%. In Xinglong village of Jiangdong Township, 20% of the houses are two-storied buildings, and families having one electrical appliance, such as a washing machine, color television or refrigerator would amount to 60-70% of the population.

(2) From Individual Interviews

A. A seven-member farming household in Moling Township of Chiang-Ning Country

Family members including the interviewed woman, her grandfather, father, mother, husband, a brother and a seven-month old daughter, represent four generations living together. Three people of the family are employed. Namely, the father and brother work for enterprises run by township and her husband is a driver. The grandfather helps with domestic work while the mother farms. The household's annual income is about 10,000 yuan of which one-third is expended mainly for food. They built the house in 1981 spending over 10,000 yuan. Funds needed for construction were their own. The concrete two-story house has six rooms with total floor space of 150m². They have two color televisions, a washing machine, electric fan, five bicycles and two tape recorders aside from two wells.

They manage farm land of 6.1 mu (approximately 0.4 ha) on which they cultivate rice, wheat and rapeseed. They neither lease nor rent land, nor do they employ labor. The farm land is divided into two sections, one of which is used to harvest rice in October then to cultivate rapeseed as a second crop, while they cultivate wheat in another section after harvesting rice during the latter part of October to November. They plant hybrid and japonica varieties of rice. Seeds are either collected or obtained from an agricultural service center. Their earnings amounts to 2,000 yuan a year.

B. Xinglong Village, Jiangdong Township of Yuhuatai District

The family has four members. Namely parents, a daughter and son. Parents are 45 and 43 years old and both work in a burner factory of the village, while the daughter and son work as apprentices in factories in Nanjing City. They grow vegetables on their own farm land of 0.4mu for their own consumption. Although they raise pigs, the number is limited to 10 due to manpower shortage. Feed for pigs is purchased. The pigs are delivered to the township and also to a free market. Their house, newly built in 1984, cost them 15,000 yuan. It is a concrete two-story building of 150m² having four rooms and kitchen. Funds for construction were their own, saved over five years. They have a television, washing machine, tape recorder, etc.

C. Xianglong Village, Jiangdong Village of Yuhuatai District

A six-member, three-generation family comprised of the woman interviewed, her husband, their first son and his wife, their second son and her father. The husband works for a manpower supply enterprise of the village, while the first son is a driver and the second son works in an electric equipment factory. The first son's wife also works for a

burner factory. They grow vegetables for their own consumption on a little farm land, but no one in the family is exclusively engaged in agriculture. They currently keep 17 pigs which they deliver to market twice a year gaining 5,000 yuan annually. The net annual earnings of the family are said to be 8,000 yuan. They have savings of about 10,000 yuan in a bank to cover marriage and other expenses. Their concrete, two-story house was built in 1983 costing approximately 15,000 yuan, paid with their own funds.

Notes:

- (1) Figures described in this chapter are based on interviews during the survey unless otherwise noted. It should be noted that these figures are introduced only as a clue to grasp the general tendency.
- (2) Representatives in 14 districts replied to the interview.

Table 1 Fundamental Indicators by Country and District

	Nanjing City District	Jiangning Country
1. Total Population (end of year) (Ten thousand people)	224.98	74.32
2. Area (km ²)	867	1,711
3. Population Density (persons/km ²)	2,594.92	434.36
4. National Income (Ten thousand yuan)	531,422	52,484
5. Per-capita National Income (yuan)	2,362.1	706.2
6. Gross Industrial Production Amount (ten thousand yuan)	1,070,590	70,631
7. Gross Agricultural Production Amount (ten thousand yuan) (Breakdown)	14,377	29,893
Agriculture (crop cultivation)	6,865	20,186
Forestry	806	300
Stock farming	4,269	7,654
Supplementary business	1,633	1,092
Fishery	804	661
8. Per Capita Agricultural Force Indexes		
Agricultural Net Production Amount (yuan)	1,284.97	1,226.10
Per-capita Grain Production Volume (chin)	2,228.26	5,061.07
9. Index for Average Savings by Rural Inhabitants (yuan)	200.42	88.33

Source: Economic Yearbook of Jiangsu Province, 1986
(Jiangsu People's Publication Corporation) Principal
Statistical Indexes of National Economics for Cities and
Counties, 1985.

Table 2 Basic Data on Townships Surveyed

	Jiangning County		Yuhuatai District, Nanjing City
	Fangshan Township	Moling Township	Jiangdong Township
Area (km ²)	44	55.7	16
Population (person)	20,026	31,352	20,305
Population Density (person/km ²)	455	559	1,283
Land use (ha)			
Cultivated area	1,320	2,334	908.8
Hills and woods	266	266.7	n.a
Water	n.a	234	260
Administrative divisions			
Administrative village	1 12	1 16	n.a 11
Natural village	72	91	77

Data on Fangshan and Jiangdong Townships refer to material distributed on the day of survey, while data on Moling Township are based on interview. n.a. = Not available

Table 3 Gross Production Amount of Respective Townships

	Jiangning County		Yuhuatai District
	Fangshang Township*	Moling Township**	Jiangdong Township*
	(%)	(%)	(%)
Gross Production Amount (million yuan)	50.0 (100)	69.3(100)	80.7(100)
Agriculture	6.7 (13.4)	11.9(17.2)	8.7(10.8)
Supplementary Business	10.48(21.0)	9.2(13.2)	(3) 11.5(14.3)
Industry	32.68(65.4)	40.6(58.6)	56.5(70.0)
Others		(4) 7.6(11.0)	(5) 4.0(4.9)

(1) Based on distributed reference material and interviews

(2) Interviews

(3) Sideline business

(4) Private business such as transportation and others

(5) Commerce

Table 4 Average Income in Areas Surveyed

	Fangshan Township	Moling Township	Jiangdong Township
1986 (Yuan)	700	624	990
Before or at the beginning of the revolution	(1) (125)	(2) (145)	(3) (233)

- (1) Before 1979, distributed reference material
 (2) 1979, Interviews
 (3) 1980
 (4) Data at village level indicate 740 yuan (1986) for
 Gaoshan Administrative Village.

Table 5 Composition Ratio of Labor Force by Sector in Areas Survey
 (1986)(4)

	Jiangning County		Yuhuatai District	
	Fangshan	Moling	Jiangdong	Xinglong Village
Agriculture	42	35	50	20
Subsidiary Business	8	15	-	25
Industry	41	50	45	50
	(1)		(2)	(3)
Other	9	-	5	5

- (1) Includes 1% for business
 (2) Includes 1% for construction, 0.1% for transportation and 2% for
 commerce
 (3) Includes 2% for business
 (4) All by interview

Table 6 Economic Changes in Xinglong Village, Jiangdong Township, Yuhuatai District

	1978	1982	1986
Gross Production Amount (yuan)	660,000	3,083,000	7,080,000
Number of Households (household)	318	384	423
Population (persons)	1,409	1,442	1,483
Labor population (persons)	747	832	830
Gross Income by Sector (Gross production amount) (yuan)			
Agriculture	287,000(43%)	421,000(14%)	425,000 (6%)
Supplementary Business	167,000(25%)	496,300(16%)	1,060,000(15%)
Business			243,000(3.4%)
Industry	214,000(32%)	2,140,000(70%)	5,350,000(75.6%)
Average Annual Income Per Household (yuan)	n.a	1,800 - 2,000	3,160
Per Capita Average Annual Income per person	n.a	600	900

Source: Village Interviews.

n.a. means "not available". Sums of gross production by sector do not agree with gross Production Amount.

Table 7 List of Agricultural Machinery in Gaoshan Administrative Village

	Quantity
Working tractors	27
Big tractors	3
Water pumps	35
Threshing machines	70
Carts	3
Transplanting machine	2
Plows	10

Table 8 Number of Enterprises Operated by Townships and Villages
(August 1986)

	Jiangning County		Yuhuatai District
	Fangshan Township	Moling Township	Jiangdong Township
Total	76	71	69
(Breakdown)			
Township Enterprises	17	23	18
Villages Enterprises	59	48	51

Table 9 List of Enterprises Operated by Townships and Villages in the
Surveyed Areas

	Gaoshan Administrative Village		Xinglong Administrative Village	
	Type of Enterprises	Established	Type of Enterprise	Established
1	Electrical Appliances	1970s	Oxidization equipment for burners	1971
2	Spare parts	1985	Controls for electrical appliances	1987
3	Construction material (Tile)	1984	Metal parts	1987
4	textile (cotton, underwear)	1986		
Total Employees		264		50
Gross products		n.a.		6 million yuan

Table 10 Enterprises Visited Which are Operated by Township and Village

	A	B	C	D
Location	Jiangning County	Jiangning County (Fangshan Township)	Yuhuatai District (Jiangdong Township)	Yuhuatai District (Jiangdong Township)
Product Description	Electric fans	Analysis and measurement machines	Burners	Elevators
Year of Establishment	1976	1980	1976	1985
Site size	86,000m ²	5,103m ²	45,411m ²	n.a.
Building size	4,200m ²	2,502m ²	13,864m ²	n.a.
Employees	1,400	140	496	100 ⁽³⁾
Engineers and Technicians	56		76 ⁽²⁾	9
Total Production in 1986 (Yuan)	48,000,000 ⁽¹⁾	n.a.	18,000,000	970,000
Profit	n.a.	1,100,000	2,000,000	100,000
Production Amount	160,000	185		

(1) January - August of 1986

(2) Breakdown: 28 engineers, 6 quality control inspection specialists, 42 skilled welders

(3) 20 employees were special recruitments (including nine engineers)

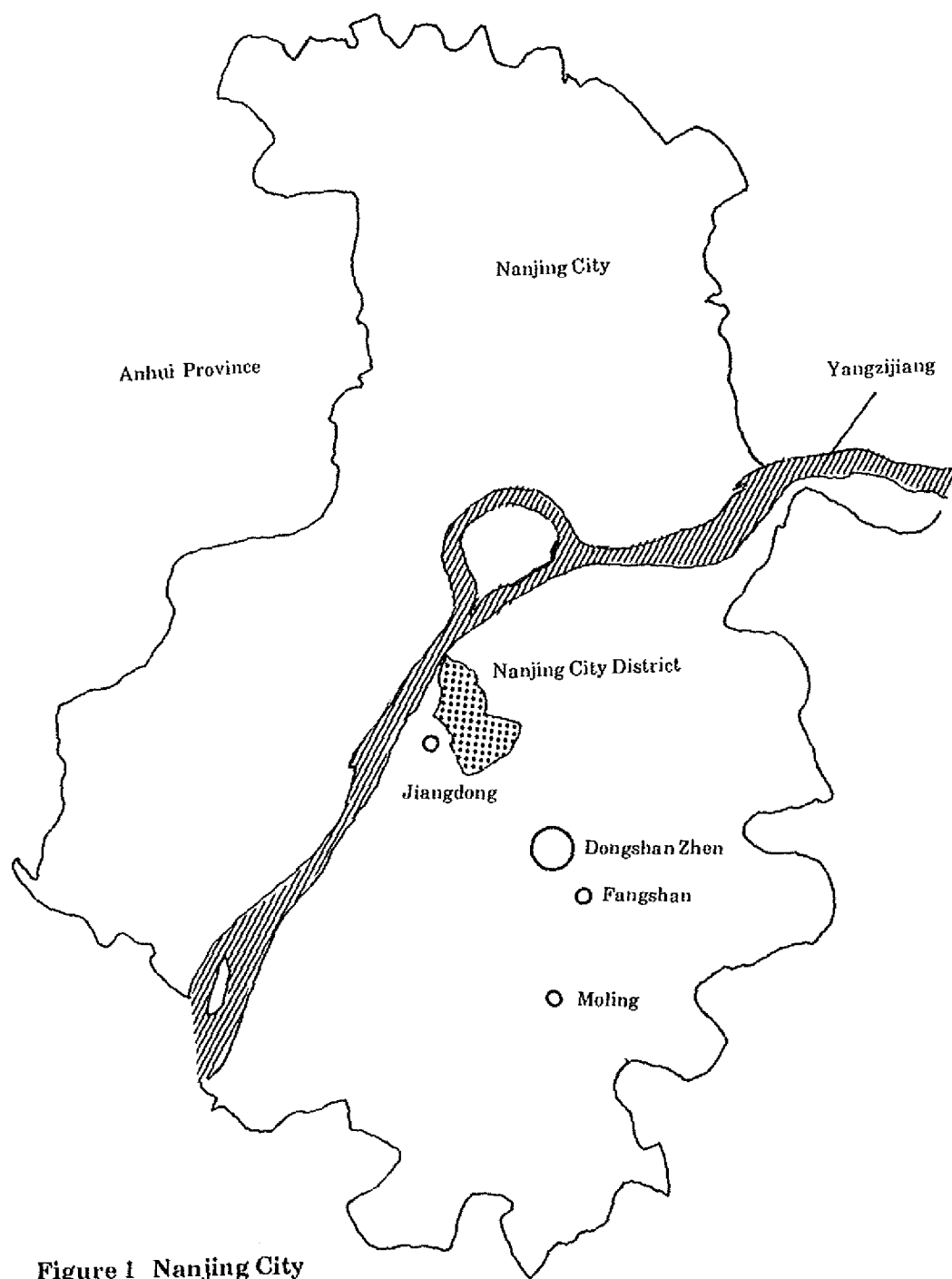


Figure 1 Nanjing City

CHAPTER 5

PROBLEMS IN INTERNATIONAL COOPERATION

1. Perspectives on International Cooperation

As I mentioned in the previous chapter, Japanese cooperation with China in agriculture, forestry and fisheries extends to a large number of fields. Our survey was limited to a very small area, the city of Nanjing and its surrounding region, of the vast Chinese land. Also, our questions dealt with general items rather than with specific concrete projects. Inevitably, since it is based upon general impressions and hearings which covered only a short period of time, our proposal is, in character, generalized and abstract.

(1) The first point which affects international cooperation is the treatment of the legacies from the times of people's communes, and the tasks that confront the people in the aftermath of their dissolution. It is, in other words, a question of which measures should be given priority at the present time. After the government nationalized land during the revolution, they established people's communes ownership to function as collective production systems. The aim of the government was to end the overly imbalanced distribution of land ownership and the land rent system under private ownership, and to powerfully promote and realize collective farming, living and production. Recently, the farming household output quota system, which is based on individual management and production, was put into effect. Fortunately, the concerns that this might cause a return to the inefficient production system of before the revolution, which was symbolized by scattered small individual holding, did not materialize.

These concerns were unnecessary because for the system to continue to function, such inefficiencies could not be permitted under the output quota system. As for production of government-purchased crops such as rice and wheat, farmers would have to fulfill their quota. To put it another way, a collective production system would be more advantageous in this respect. One proof is the instances I have heard of collective production, which include communal work for land cultivation and for spreading agricultural chemicals.

After the transition to the output quota system took place, output of the so-called "commercial crops" is reported to have increased. Here, I was told that the farming land allotted to individual farming households was divided into several plots to make it easier for a farmer to keep the output at a certain universal standard on the farm for which he is responsible. In fact, I saw that various crops, including vegetables, were farmed in areas near and around cities in small plots, just as they are in Japan. Some of the commercial crops seemed to have come from ziliudi system, the land allotted for free use by commune members, as well as from other forms of land.

In any case, the farmers must offer a certain percentage of their output to the government under this system of output quota farming; this

helps to preserve the basic system of regional collective production, a legacy of the people's commune era. The system allows farmers to use the devices of external economy, such as communal irrigation, drainage equipment and road structures for transportation.

At the same time, new efforts and policies will be required in the future if the system is to continue. We are all aware that the government imposed the construction of an infrastructure during the people's commune era. However, now this sort of state power intervention has been denied; thus, the people must look either to voluntary and joint efforts by farmers engaged in production and cultivation, or to a public assistance policy.

I learned during a hearing of the Agriculture and Fisheries Department of the Beijing Central Government that food production in 1985 dropped 7% from the previous year. This decrease in production was due to natural disasters, a decrease in food prices brought about by the preceding year's bumper crop, and consequently, by the lessened willingness of the farmers to produce. This trend continued into 1986 despite the government's efforts. Therefore, Central Government decided to increase agricultural investments in FY1987 by 40% over the preceding year.

This, in fact leads to a fundamental question: how should public investment be conducted under the new system of individual management in the output quota production system? In the past, the government-led economic policies under the socialist system controlled public investments. Thus under the current system, many questions arise: how and how much should voluntary investments by producers be allowed to take place, what methods should be adopted, and with what method and to what degree should the central and regional governments participate in public investments? In establishing the basic policy, the governments need to settle the issue of taxation, and the method of organizing farmers and investing in land. The central government emphasized the role of small local enterprises in economic development and talked about a plan for diverting its profits to agricultural investment. We believe, however, that this involves much more than simply securing funds. The issue is one that concerns both the system and the strategy for promoting development, and will be the first problem to be dealt with should there be a request for cooperation in this connection.

(2) The next problem involves the organization of the administrative body in agriculture, forestry and fisheries. The administrative departments at all levels - central, province, district and village - seem to have been organized with acceptable systems for experiment, research and technological extension. In case of Fangshan village, I was told that they have a department for agricultural services extension with six staff members. One agricultural engineer I interviewed said the department serves to introduce and extend knowledge on agriculture

and the use of machinery, including water control, and the use of electricity, fertilizer and agricultural chemicals. He told us that it had been difficult to introduce the idea of seed selection during the people's commune era; this seemed to imply that seed selection can now be conducted flexibly under the new agricultural extension service system.

I understand that this system of agricultural extension service and guidance helped to abolish the rotation of two rice crops and one wheat crop, which had been adopted under the people's commune; in addition, this system helped to introduce hybrid rice, whose seeds are distributed by the agricultural service center.

According to our observations, farmers were relatively well organized and the agricultural guidance systematized after the dissolution of people's communes, which had centered around production of rice and wheat. What then is the situation for rapidly booming commercial crops, livestock and aquatic products? The answer has yet to be confirmed, but we suspect that the system not yet been well organized in which case it would constitute one of those problems which need attention.

(3) Thirdly, a transition from a forced economy to a market economy would entail an increased demand for funds. Increased funds are necessary because managing of a market economy will require expenses for price stimulation and increased costs, which previously had been carried out by force without resorting to the currency mechanism.

As a means of stimulating the production of foodstuffs, the government has lowered the price of production materials and equipment such as fertilizers, diesel oil, agricultural chemicals and machines. While efforts were being made to supply these items at a low cost, the price of produce was raised to further control the price of food distributed to consumers. During the people's commune years, these expenses would probably have been less or none, and the talk by officials of the central government of a plan to increase agricultural investment by 40% over the preceding year may be based on the same understanding. Unlike the time when the government could cut down on public investments compulsorily, financial expenses will surface and increase as compulsions are gradually lifted and, eventually, abolished. In order to secure funds, the government would have to resort to a mechanism of taxation to replace compulsory labor or look to outside financial sources if that is not enough.

Although officials declined to spell out a request for monetary cooperation, we found that the items for international cooperation, including agriculture, are as many as 112 at present. The introduction of foreign funds, primarily loans from the World Bank, totaled 1.2 billion dollars on the national level at the end of last year, and the

amount was even higher on the provincial level.

We must keep in mind, however, that demands for this type of funding, and consequently, requests for economic cooperation of this kind, will mount further as liberalization proceeds. As long as the liberalization means the reduction of burden on the part of people, we should recognize that requests to the outside for fund cooperation will certainly become more acute in order to aggressively expand the scale of investment, or at the least to maintain the current level. This is also true for Japan.

(4) The fourth point is how to evaluate the dramatic, or the explosive expansion of small local enterprises which, according to what we have heard and to our supplied materials, is now occurring. I learned that these enterprises, 15 million in all, produce one half of the national agricultural output. They have different histories and forms of management. Some appear to be no more than inheritances from the people's commune era, while others have rapidly expanded in the past few years as public corporations (managed by local community) or as private concerns (managed by a joint partnership or individually). The sales channels and markets also demonstrate much diversity; companies put their products on the local market, in city construction or in markets in other parts of the country, or even on foreign markets for export. Many reports have also shown that the number of people engaged in these concerns has more than doubled in the past few years.

We cannot hastily assert the reasons that have enabled these enterprises to flourish, but I feel that these enterprises are now established as a solid section of the national economy. They are supported, for one, by an improvement in the income level of the people and by an increase in domestic purchasing power. As mentioned earlier, this depends on making the fullest use of production potential, on stimulating the people's will to work, and in addition, on promoting the exchange of materials between different regions. All of these factors boost and demand for every product from consumer goods such as processed food and clothing, to consumer durables and production tools such as agricultural equipment.

We should note also that, currently, a labor force with limited mobility forms the foundation of these small local enterprises. People do not leave their agricultural villages, even if they give up farming. Thus, in my opinion, a regional imbalance in labor efficiency and wages will surface, which in turn will restrict competition among enterprises in different regions and hold down any improvement in efficiency. I failed to hear the government's views on the condition of "free" competition among enterprises, but I speculate that as long as the mobility of the labor is limited, competition cannot be as free as it could be. At the same time, however, this limitation could turn into a weapon for gaining a competitive edge in exports, by providing a source

of cheap labor.

I feel that the management of these small local enterprises will continue to be stable as long as this labor system is in effect, and that it will shape the direction of industrialization in China. In that case, Chinese villages will turn into mixed societies like we see now in Japanese villages, resulting in expanded and scaled-up side business activities. I wonder whether this will impose certain restrictions on the future development of China as an agricultural nation. Will China enter the world market as a major exporter of agricultural products?

(5) The majority of the people concerned held negative views on the above problem. Agricultural products for export, such as soy beans, need to be supplied through a contract between the producers and the government, which requires the payment of subsidies from government. This means that exports have to be priced lower than in the domestic market, a system many people contend cannot be maintained for long. Internationally as well as domestically, people are divided in opinion on China's ability to export agricultural products. Judging from the present conditions, I had the impression that it will be difficult for this country to export large quantities of agricultural products - particular products aside - unless it greatly expands its agricultural production capacity.

(6) The sixth point is the well-known, strict population control policy adopted by the Chinese government. When I visited villages, I had an opportunity to observe how effective these population control measures actually were. Although a central government official mentioned some families in rural villages with three children, I was not able to find any of these cases. The policy appeared to have been well practiced. The population control policy, whose long-term impact will have to be examined in a separate study, will no doubt constitute an extremely important factor in influencing the future of the Chinese economy, affecting all facets, including agriculture and farming villages.

2. Tasks in Cooperation

I have outlined in the above section the various questions that must be addressed in the course of international cooperation. In this connection, the nature of China's request for international cooperation, still vague at this moment, will be an important issue. By considering the problems faced by China today, however, we can perhaps reflect on the following points:

(1) China must increase its production of foodstuffs to feed the increasing population, expected to reach, in one estimate, 1.25 billion in the year 2,000. To this end, the government adopted its farming household output quota system after dissolving the people's communes.

Are there unresolved problems in this institutional reform? Authorities have even permitted the leasing of farming rights and are reportedly studying the possibility of approving the trading of these rights. I understand this reform to be basically political in nature, affecting not only the economy, but all spheres of the society. Whether the government will permit some form of private ownership or not will no doubt affect the conditions of credit to individual concerns and, consequently, conditions for the international loans on which it is based.

(2) In reforming the system, the Chinese must deal with the problem of organizing farmers and putting the means of agricultural production under control. I mentioned earlier that new forms of public investment, such as the investment in water control, must necessarily take over the old system under the people's commune. This system of public investment, in my opinion, has yet to be fixed and established systematically. Will China call for international cooperation in this future task of organizing cooperatives? If so, cooperation staff members will have to grapple with the difficult task of establishing cooperative organizations in every field from credit, sales, and purchases, to use, welfare and insurance.

In order to undertake the task of organizing, personnel and staff members to manage the organizations urgently need to be secured, and the same is true for the small local enterprises. Officials in provincial governments in particular have stressed the importance of this endeavor. For now, this issue may be a source of problems in cooperation.

(3) At this time, the Chinese government places emphasis on spreading scientific know-how, which in a way is related to the above issue of organization. The government hopes to upgrade the level of technology in order to aid a tentatively organized center in spreading agricultural know-how. I was told that they need improved research facilities and a larger number of good researchers to conduct the higher level studies. They also hope to designate a special district as a model to promote and reinforce this move. All of these things require cooperation in funds, personnel, and materials to raise the level of researchers by offering education and facilities, and by conducting experiments and studies.

(4) In terms of technology, I had the impression that the Chinese were behind in fruit growing and horticulture. I was told, for instance, that fruits such as pears, grapes and watermelons which were grown in China do not taste as good as those raised in Japan. In my view, improvements in this field would be great asset since prospects for a future increase in income will allow the demand for fruits to grow by the largest margin of all of the agricultural products. I feel that this problem may be solved relatively easily. In addition, I imagine they have a similar problem with increasing the demand for livestock products such as pork and poultry, but I was unable to confirm this.

In sum, the system, scale and content of cooperation in China would have to be flexible to a large extent, since the institution itself is not yet finalized. This is true also for management and systems of small local enterprises. Given the close relationship between these enterprises and the economy of the farming villages, cooperation in agriculture will need to incorporate these diverse factors. In turn, we need a renewed determination and must adjust the system of agricultural cooperation to the present situation in China.

CHAPTER 6

SURVEY ITINERARY AND MEMBERS

1. Survey Members

(1) Japanese Committee

Dr. Shigeto Kawano (Chairman)	Professor Emeritus, The University of Tokyo
Dr. Yonosuke Hara	Associate Professor of Economic Development, Institute of Oriental Culture, The University of Tokyo
Mr. Takeshi Hamashita	Associate Professor of Economic Development, Institute of Oriental Culture, The University of Tokyo
Ms. Junko Koizumi	Doctor Course, Agricultural Economics, The University of Tokyo
Mr. Tsuguo Hirose	Secretary General, The Asian Population and Development Association (APDA)
Mr. Masaaki Endo	Senior Programme Officer, The Asian Population and Development Association (APDA)

(2) Preliminary Research Team (June 22 - June 28, 1987)

Mr. Tsuguo Hirose	Research Chief
Mr. Masaaki Endo	

(3) Field Research Team (August 6 - August 21, 1987)

Dr. Shigeto Kawano	Research Chief
Mr. Takeshi Hamashita	
Ms. Junko Koizumi	
Mr. Masaaki Endo	

2. Cooperators

(1) Embassy of Japan in China

Mr. Hiroyuki Yushita	Minister
Mr. Toichi Hayami	Councilor
Mr. Toshio Okubo	First Secretary

(2) The State Family Planning Commission

Mr. Wang Wei	Minister of the State Family Planning Commission
Mr. Zhou Boping	Vice President China Family Planning Association
Mr. Dong Yuchang	Deputy Director, Bureau of Foreign Affairs
Mr. Xu Qingmei	Deputy Director, Bureau of Foreign Affairs
Ms. Wang Xiangying	Deputy Chief of Foreign Affairs Division
Mr. Pong Zhiliang	Deputy Chief of Office of Policy Research
Ms. Song Yan	Office of Policy Research
Mr. Ding Xianming	Office of Foreign Affairs Division

(3) Ministry of Agriculture, Animal Husbandry and Fishery

Mr. Chen Xiaojun	Chief of Information Division, Dept. of Publicity
Mr. Gan Zuofu	Deputy Division Chief, Dept. of Foreign Affairs

(4) Jiangsu Provincial Family Planning Commission

Ms. Zhou Haizhen	Deputy Director
Mr. Yang Lifang	Director, Administrative Office
Mr. Lu Baoming	Deputy Section Head, Administrative Office

(5) Jiangsu Provincial Agricultural and Forestry Department

Mr. Li Qi	Division Head, Jiangsu Provincial Agricultural Development Research Center
Mr. Tang Ruifu	
Mr. Shen Fulin	Section Head of Foreign Affairs Office
Mr. Zhang Jianyong	Seed Center

(6) Jiangning Country, Jiangsu Province

Ms. Zhu Shanlin	Deputy Head
Mr. Wang Yigue	Head of Agricultural Bureau
Mr. Yi Yenzhi	Deputy Director of Family Planning Commission
Mr. Liu Shijie	Deputy Head, Township-run Enterprise Bureau
Mr. Xi Tongfu	Head, Fanshan Township
Mr. Fu Lishi	Head, Muling Township
Mr. Zhang Rongging	Head, Ganshan Village, Fanshan Township

(7) Jiangdong Township, Nanjing City

Mr. Zhou Li	Deputy Head, Yuhuatai District, Nanjing Municipality
Mr. Lu Shanwu	Head, Xinglong Village Committee, Jiangdong Township

Preliminary Survey Itinerary

June 22-28, 1987

- June 22 (Mon.) Departure from Narita on JL781 (10:00 a.m.)
Arrival in Beijing (14:15 p.m.)
- June 23 (Tue.) Courtesy visit to the Japanese Embassy (Meet with Mr. Toichi Hayami, Councilor and Seiji Ashikaga, First Secretary)
Discussion of survey outline at the State Family Planning Commission with Mr. Wang Xiangying, Deputy Chief of Foreign Affairs Division
Dinner hosted by He Liliang (Wife of Mr. Huang Hua, Vice Chairman, People's National Congress)
- June 24 (Wed.) Discussion of survey outline at the State Family Planning Commission with Mr. Dong Yuchang, Deputy Director, Bureau of Foreign Affairs and others
- June 25 (Thu.) Visit China-Japan Friendship People's Commune (Agricultural Village in the Wang Xiang North-East region)
- June 26 (Fri.) Final discussion at the State Family Planning Commission with Mr. Dong Yuchang
Departure from Beijing on CA2301 (20:40 p.m.)
Arrival in Shanghai (22:40 p.m.)
- June 27 (Sat.) Visit Hongqiao agricultural village of Shanghai Prefecture Briefing by Mr. Zhuang Junping, Shanghai Municipal People's Government Agricultural Commission on facts about agricultural villages and agricultural industry in Shanghai City.
- June 28 (Sun.) Departure from Shanghai on CA923 (9:50 a.m.)
Arrival in Narita (12:40 p.m.)

Survey Itinerary

August 6 - 21, 1987

- Aug. 6 (Thu.) Depart Narita for Beijing
Reception hosted by the Japanese Embassy
- Aug. 7 (Fri.) Courtesy visit to the Japanese Embassy (Meet with Mr. Hiroyuki Yushita, Minister, Mr. Toichi Hayami, Councillor, and Mr. Toshio Okubo, First Secretary)
Discussion of the survey outline with State Family Planning Commission
Briefing on the population and family planning in China given by the Commission
Reception hosted by Minister Wang Wei of the State Family Planning Commission
- Aug. 8 (Sat.) Briefing on Agricultural industry in China at Ministry of Agriculture, Animal Husbandry and Fishery
- Aug. 9 (Sun.) Free
- Aug. 10 (Mon.) Depart Beijing for Nanjing
- Aug. 11 (Tue.) Discussion of survey outline with the Jiangsu Provincial Family Planning Commission
Briefing on the population and family planning programs in Jiangsu Province
Reception hosted by the Jiangsu Provincial Family Planning Commission
- Aug. 12 (Wed.) Briefing on agricultural production and agricultural development in Jiangsu province
- Aug. 13 (Thu.) Briefing on agricultural production, rural population, agricultural economy of Jiangning Country
Visit Changjiang Electric Fan Factory (town enterprise)
- Aug. 14 (Fri.) Briefing on outline, agricultural production, rural population and agricultural economy of Fangshan Town, Jiangning Country
Visit an electric component manufacturer (town enterprise)
Briefing on outline and agricultural situation of Gaoshan Village, Fangshang Town
Reception hosted by APDA

- Aug. 15 (Sat.) Briefing on outline and agriculture situation of Moling Village, Jiangning Country
Visit an agricultural machinery component manufacturer and rice refinery (town enterprises)
Farm visits (2 households)
Dr. Shigeto Kawano (Research Chief) departs from Nanjing for Beijing
- Aug. 16 (Sun.) Free
Dr. Shigeto Kawano departs from Beijing for Narita
- Aug. 17 (Mon.) Briefing on outline and agricultural situation of Jiangdong Village, Yuhuatai Ward, Nanjing City
Visit a banner production factory and an elevator manufacturer (town enterprises)
- Aug. 18 (Tue.) Briefing on outline and agricultural situation of Xinglu, Jiangdong Village
Farm visits (3 households)
Mr. Takeshi Hamashita departs from Nanjing for Beijing
- Aug. 19 (Wed.) Final meeting with Jiangsu Provincial Agricultural and Forestry Department and Jiangsu Provincial Family Planning Commission
Collected data
Mr. Takeshi Hamashita departs from China
- Aug. 20 (Thu.) Depart from Nanjing for Beijing
Visit the Japanese Embassy (Report field survey results to Mr. Toichi Hayami, Councilor, and Toshio Okubo, First Secretary)
Report the results of field survey to the State Family Planning Commission
- Aug. 21 (Fri.) Depart from Beijing for Japan

