THE DESIGN OF RURAL DEVELOPMENT: EXPERIENCES FROM SOUTH CHINA 1949-1976

by

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ABSTRACT

Rural Guangdong before 1949 was characterized by an exploitive system derived from the alliance of wealth and power among the landlords, clans, the rich and the gentry. This network of exploitive relations not only controlled the resources--i.e., land, credit and markets--which were most essential to the livelihood of the peasants, but also created numerous blockages in the system making it impossible to have any input injected from the outside trickle down.

Rural development in Guangdong after 1949 began with the land reform movement, but it was only when collectivization was carried out through the establishment of cooperatives and rural communes, such exploitive relations were eradicated. A rural development strategy, however, did not emerge until after the fateful years of agricultural crisis and the Soviet pull-out.

This strategy was aimed at the development of infrastructure for both agricultural and rural development through collectivization. It postulated that only when the infrastructure for agriculture was strengthened, could agricultural production be increased and funds and surplus for the development of supportive structure such as rural industries, health care and education in the rural system be generated. And only when such supportive structure was developed and consolidated could new inputs be created to increase agricultural production further
It was through such a spiral process of generating, reinvesting and retaining rural surplus that rural development was implemented and realized. And it was in such a manner that rural development fulfilled various objectives to become an integral part of a strategy for development.
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INTRODUCTION

This dissertation is a specific case study on rural development experiences in China since 1949. The objective of this study is to examine the changes in the social structure of rural regions in South China focusing on the Pearl River delta area in the province of Guangdong. These changes are interpreted as a transformation of social and production relations. The importance of such relations is first examined in the light of the rural situation in Guangdong before 1949. The transformation occurred following the establishment of the People's Republic and its significance in the process of rural development is next documented and analyzed under the framework of rural commune organization. The implications of rural development as a strategy for development will then be discussed.

The need for such a study is justifiable in terms of (a) the current debates on and criticisms of development theories in sociology, and (b) the growing interests in and need for a systematic analysis of China's development, in particular rural development, experiences.
A. Development Theories in Sociology

Development, as aspiration, ideology and field of study in sociology, drew special attention following the end of World War II. The changing international situation, particularly decolonization, the formation of newly independent nations, and the gradual emergence of a "third world," raised serious and urgent questions about development.

The search for "first causes" originated in the field of economic development. The 1951 United Nations Report prepared by a group of experts headed by Sir Arthur Lewis both signalled and stimulated much interest among economists in the problems of economic progress. Then, different models and theories of economic development were offered by Rostow, Nurske, Rosenstein-Rodan, Hirschman and others all trying to provide satisfactory answers to the problems of economic development. While the economists were debating strategies and tactics for underdeveloped countries to achieve economic growth, sociologists began to explore the obstacles to development which lay in the social, cultural and psychological dimensions of underdeveloped societies. Basically two approaches evolved to interpret the causes of underdevelopment in sociology. The first was to regard the society of underdeveloped countries as more or less homogeneous, stagnant and traditional; and the other emphasized its heterogeneous, dualistic or pluralistic nature.
In the first approach, the traditional society was depicted as relatively unsuccessful in solving the economic problems of man's quest for a superior environment. Man's failure to do so manifested itself in low labour efficiency; factor immobility; limited specialization in occupations and in trade; lack of entrepreneurship; economic ignorance; lack of individualism; rigid, stratified, or caste-like structures; and especially in the religious and moral scales of values employed by institutions or societies. These theories viewed underdevelopment as an original, given and stationary state. Instead of asking why and how underdevelopment came about, they inverted the problem to ask why development had not occurred.

In the relevant literature, therefore, different scholars set up long lists of qualities, propensities, motivations and incentives that, in contrast to advanced countries, are missing in the underdeveloped countries. These, they suggested, should be created as absolute preconditions or prerequisites for development.

Libenstein, for example, maintained that there were desirable attitudes an underdeveloped country must acquire: Western 'market' incentives, i.e., a strong profit incentive; a willingness to accept entrepreneurial risks; an eagerness to be trained for industrial and 'dirty' jobs; and an eagerness to engage in and promote scientific and technical progress to overcome its inertia for economic development activities. These factors would be directed against the maintenance of existing economic privileges, through the inhibition and curtailment
of potentially expanding economic opportunities; against the con­
servative activities of both organized and unorganized labour;
against the resistance to new knowledge and ideas; and against the
increases in essentially non-productive conspicuous public and
private consumption.

Hoselitz, in similar fashion, described advanced and backward
countries in terms of Parsons' pattern variables. He attributed
the causes for a country being underdeveloped to the prevalence of
particularism rather than universalism; the determination of recruit­
ment and reward by ascription rather than by achievement thus denying
the achievement motivation in social activities; and the characteriz­
ation of social roles by functional diffuseness rather than by
functional specificity.

While Hoselitz's arguments suggest that an end to underdevelop­
ment would require certain changes in social roles and that at least
some parts although not the whole structure of the social system must
be changed, all that follows from McClelland's arguments. is the
necessity of changing the psychological motivations of individuals.
For McClelland the prime mover of social and economic development is
entrepreneurial behaviour, the 'N-Achievement' which is the "auton­
omous forces within individuals." Rapid development in advanced
countries is this due to the development of the entrepreneurial
motivational complex in a large number of people while this has
remained in short supply among underdeveloped countries. Hagen,
following the same line, has a somewhat wider outlook however. He holds the view that backward countries have certain "unfavourable" individual motivations such as high need-conformity; high need-dependency and high need-affiliation. These should be replaced with high N-Achievement, high need-dominance and high need-autonomy.⁹

In the second approach, underdevelopment societies are described as disintegrated, dualistic societies. There is a "capitalist" and a non-capitalist sector; or an "enclave" and the "hinterland"; or a "modern" and a "traditional" sector.¹⁰ The two sectors are separate and radically different. The 'modern,' 'capitalist' sector is, according to Boeke, the product of "an imported social system of high capitalism" or "penetration of the West into the precapitalistic agrarian societies of the East."¹¹ This sector is characterized by its receptiveness to change, its market-oriented or profit-maximizing behaviour. The 'traditional' sector, on the other hand, is distinguished by a near absence of profitseeking; "limited needs"; "conscious dislike of investing capital"; lack of labour mobility; lack of organization and discipline; "fatalism and resignation" and high absenteeism among regular labourers. Unemployment, although it is usually disguised, is widespread throughout this sector. The marginal product of labour is zero, if not negative, and income is at a subsistence level. Moreover, this sector is characterized by a high rate of population growth. Under such circumstances,
these theories contend, the vicious circle of poverty can only be broken by the "infusion" of capital and technical assistance from the West. Transplanted Western capitalism, supported by further transplantations of capital and assistance, would gradually suffuse the precapitalistic, indigenous sector.  

After almost three decades of development, the weakness and shortcomings of these sociological and economic models of development have become more and more apparent. Methodologically, the theories that urge underdeveloped societies to assimilate modernizing traits until they have attained the present state of industrialized, capitalistic societies have been criticized for presenting a deterministic and unilinear view of development. Opponents charge that these theories offer an unsound causal explanation of underdevelopment without any social or historical perspective. Ideologically, they are also accused of inducing resignation to poverty among underdeveloped countries and promoting the belief that backwardness could be overcome spontaneously thus discouraging attempts to diagnose the root causes of a particular social and economic state and to formulate deliberate plans for mobilizing the people. Frank, who formulated his theory of "development of underdevelopment," was particularly critical of theories which omitted the factor of international imperialism and capitalism. In his theories, poor countries do not lack resources, technical know-how, modern institutions or cultural traits conducive to development, but they are being exploited
by a world-wide capitalist system and its particular agents, both foreign and domestic. Development can only take place when an exploited country frees itself from dependency on the international capitalist system.15

The shortcomings of these theories are more apparent in Marxian terms: they disregard production and social relations and ignore questions about modes of production. It is quite obvious now that there are no generally favourable and unfavourable behaviours, development-promoting or -hampering ideas, customs, individual qualities and motivations. Their role, impact, and value depend on whether they express a social need in a given situation. It is indeed this objective social need that gives rise or priority to the ideas and behaviours embodying it. The content of this social need is, however, constantly changing and is determined, in the last analysis, by the material living conditions of society, by social existence, with its main constituent, the social relations of production. The primacy of production and production relations over other social activities and relations follows, both logically and historically, from the primacy of the most fundamental human and social need: physical subsistence. Societies may exist without certain ideas, institutions, customs or propensities, but not without production. Ideas, customs and individual qualities of members of the societies do, however, develop and change under the impact of the social relations of production. Earlier theories failed to realize that "social roles"
do not manifest themselves in general terms but in the context of the social relations of production. Rather than being independent variables, they are determined by these relations.

Thus, instead of an investigation of sociological phenomena isolated from the relations of production or a micro-analysis of the individual psychological motivations, the social relations of production (ownership relations with respect to the means of production, distribution relations, the allocation of "roles" in the social organization of production) must be analyzed. Such an analysis would answer questions about the role of sociological and psychological factors and provide a means to access their favourable or unfavourable impact.

The inadequacies in these early theories of development are not only seen in theoretical terms. Challenges and criticisms of them are also brought about by the unhappy discovery of the fact that despite almost three decades of intensive development efforts and vast investments in many developing nations, national economic development still eludes most. In the United Nations' 'Development Decade' of the 1960s, although poor countries as a whole exceeded the growth target, they were generally written off as a failure. As Wu and Ip commented, "Poverty, especially rural poverty, have worsened in many countries and even among those nations which have made some progress. The results have not been without unforeseen consequences. Favourable aggregate national economic growth have not prevented the
issues of regional inequality, rural poverty and growing disparities between groups within the society to become more prominent. In spatial terms, the spread of modernization seemed illusory as the processes of polarization and increasing spatial inequality become the dominant features of the national spatial economy. Spatial integration, the expected hallmark of development, turns out to be an elusive goal. The gloomy conclusion on the lack of development and the ineffectiveness of the industrial and agricultural strategies pursued are acknowledged even by those who have been their most ardent promoters. In the midst of such a "crisis" in development strategies, not only a growing literature reviewing and reassessing the development strategies of the past decades are becoming more evident, an unprecedented interest in an alternative strategy for development has also been directed to study the developmental experiences of China which seemingly has avoided most of the problems by adopting an entirely different approach.

B. Studies on Chinese Development Experience

The studies of China's developmental experiences, however, were also firmly rooted in mainstream theories of development sharing the same concern; they either explained China's failure to modernize in terms of the absence of certain "modernizing traits" or placed
undue reliance on institutional forms which had existed in China's history. They sought to explain China's modernization problems rather than provide evidence of basic trends. Levy, for example, attributed China's inability to modernize to her family system. Eisenstein later agreed that it was not only familism, but also the nature of internal cohesion in the family and its link with other institutional spheres that were responsible for inhibiting China's development, and her reformative and transformative capacity.

Chin, on the other hand, suggested that the problems of China's backwardness were rooted in the absence of those qualities which Parsons described in his pattern variables. It was also popular for these theories or studies to compare China's experiences with Japan's successful modernization and industrialization to demonstrate how tradition affects a nation's ability to respond to challenge from without. In Reischauer's view, Japan's success was determined by the fact that its feudalism resembled that of Europe's. Japan enjoyed a "good" kind of feudalism--feudalism rather than a bureaucratic empire. Being decentralized, feudalism more readily allows modernizing movements to grow than countries in which power is very centralized. Jacobs attributed similar reasons for China's slow development. Lockwood, however, viewed Japan as a case of successful balance between State and individual entrepreneurial activities; while in China, he argued,
the balance was out of line and thus when development came, it would be less successful because it is less a part of the wishes of the people.25

All in all, the impact of imperialism on China's economic development was ignored in these early studies. Allen and Donnithorne's account has received wide acceptance as a general treatment, but predictably it fails to study the scale and source of profits removed from China. It also gives no convincing analysis of why the country outside of the treaty ports should have been so backward, except to cite institutional backwardness. Other factors such as forms of property ownership, relations to the means of production, and class struggle are also absent. The social and economic development in rural areas are a significant omission.26 Feuerwerker's work was close to this perspective—he suggested that local institutions held back China's development, and that there was a connection between the state of peasant agriculture and slow industrial growth. Yet he failed to see the exploitive system of tenancy as impositions on the peasantry and merely accepted these as institutionally "given."27

Parallel to these theories is the pure economic approach to China's economic development. Here, the economic system of China is often isolated or treated as an independent element completely separate from the rest of the social system, especially its political institutions. The economic system of China, its structure, policy and changes are diligently traced as an explanation for the eventual
socialist reconstruction of China. Under this approach, however, the economic system is also often viewed as an element in conflict with the political system; an underlying 'contradiction' is cited between the two subsystems--'political needs' will always disrupt the functioning of the economic system. In these theories, growth can be accelerated only when interference from the political sector is kept to a minimum. Wu's work on the economic system of China is a prime example of this approach.

Some of the recent studies of China's economic development have inherited the same shortcomings of these early theories. Elvin argued that by the beginning of the 1880s, the Chinese countryside was becoming predominantly a society of equality where there was no distinct socially dominant class. He suggested that the cause for China's underdevelopment was simply the absence of dynamic breakthrough in technology in which agricultural productivity per acre had reached its limits within the framework of traditional technology thus condemning China to its "high-level equilibrium trap" especially in view of population growth and added pressure on land and mineral resources. In similar fashion, Dernberger, after absolving foreigners of blame in China's economic development, supports the technological explanation and contends that China was in a domestic trap presumably with little or no economic surplus to apply to development and that escape could only be through a technological revolution. Nevertheless, he also points out that the Chinese
government itself was the most obvious and greatest obstacle to economic development. Expressing a similar view to Elvin's, Meyers concludes that the poor who remained poor in China had only their own laziness and "bad decisions" to blame, for the rural economy was a land of equal opportunity. Perkins' observation, however, is closer to Dernberger's. He believes that China had many (acquired) characteristics and institutions that were ideally suited to economic development, which, however, occurred only fitfully before 1949 owing to the ineptness and the lack of government willingness to improve general welfare.

Other approaches begin to emerge, however. At first glance, Balazs' theory does not seem to differ much from what we have mentioned. According to him, the failure of Chinese economic development despite highly favourable conditions was due to the stifling effect of the bureaucratic state. On closer examination, however, one detects that he is calling our attention to the primacy of internal factors inhibiting development, to perceive that these were primarily social rather than technological, and above all, the importance of class relations and class structure of traditional China in preventing economic development. Riskin in his study of surplus and stagnation in modern China suggests that the stagnation was largely due to the fact that some classes extracted large economic surpluses from others and dissipated most of them. Of course, the official bureaucracy participated in it, he observes, but his view is directed more to the class
structure of Chinese society and less to the ruling classes' political reflection, more to the dissolute ways of the ruling classes and less to the conservative responses of the government. Lippit, in a more ambitious manner, attributed the development of underdevelopment in China to the domestic class structure and relations of production and the intrusion of the West.

Meanwhile, a growing body of literature is devoted to studying the Chinese development experiences after 1949. Gray, Gurley and Robinson emphasize the "rationality" of socialist economic and political policies and the ultimate target of the socialist revolution—development for the masses and the creation of a socialist "new man."

Wheelwright and McFarlane's thesis, on the other hand, emphasizes the importance of political economy in the analysis of Chinese development; Gittings refers to his approach as the "socialist approach."

Few studies, however, have been done on China's socialist rural reconstruction. The commune system and its organization have been carefully examined by various scholars but few attempts have been made to relate rural development under the commune system to the broader issue of development. In particular, how did the commune system bring about rural development? And could rural development serve as an alternative strategy for development in the midst of a growing concern over a more practical and rational approach? A systematic analysis of these issues and other related ones have generally been
missing in most current publications on China. It is not the purpose of this dissertation to offer all the answers to the questions raised in the field of development, nor does it attempt to offer any solution to the problems of development. It is simply a detailed analysis of how one country has faced and coped with the political and social dimensions of development. And it is hoped that this study may contribute to fill some of the major gaps in the fields of development and China studies.
INTRODUCTION

NOTES


15(continued)


39 John Gittings, How to Study China's Socialist Development (Sussex: Publisher Unknown, 1975).
PART I

RURAL POVERTY IN SOUTH CHINA BEFORE LIBERATION
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RURAL POVERTY IN SOUTH CHINA BEFORE LIBERATION

CHAPTER 1

THE BASIS OF RURAL GUANGDONG BEFORE LIBERATION

A. Some Geographical Background

Guangdong Province is the southernmost province of China. Lying between longitudes 3°50' and 25°28', and latitudes 109°45' and 107°20', Guangdong embraces a total area of more than 217,000 square meters. In 1937 the National Chinese Government estimated the province had a population of 32,389,805, an average density of 148.50 persons per square mile. The heavy pressure of the man-land ratio upon the livelihood of Guangdong's people is obvious.

Guangdong Province is part of tropical China. Its long wet summer extends from mid-April to mid-October and in its hottest month, July, temperatures average 28 to 29 degrees Celsius with very high humidity. Winter is normally short with pleasant, dry, cool weather; killing frosts are uncommon, and snow is virtually unknown. Temperatures fall to 9 or 10 degrees Celsius in the coolest months of December and January.
Guangdong Province is one of the wettest in China. Precipitation is principally from the annual monsoon and occasional typhoons from South China sea to the south. The annual rainfall averages about 1,500 centimeters (or 66 inches), more than 40 percent of it concentrated during the summer months. Because of the warm, mild climate and the abundance of precipitation, Guangdong became one of the most important rice-producing regions in China. In fact, grain production takes up four-fifths of the agricultural production in the province, while fresh fruits, sugar-cane, peanuts and others are the other major food or economic crops.

Topographically, Guangdong is a mountainous province along South China's coast. About 33 percent of the province are mountains, 25 percent are hilly regions, 19 percent are plateau and 23 percent are plains. The hilly areas and mountains are found mostly in the north, or north-eastern and south-eastern as well as the western regions of the province. The plains spread from the delta areas of Pearl River, West River and East River, while some can be found scattered through the eastern region near the end of Han River.

According to the Liangguang Geological Survey in the 1930s, less than a third of the land was cultivable and less than a sixth of the area was under cultivation. That survey would set the cultivated area of the province at 17.7 percent, which is the average for China's rice-region, as against 19.6 percent for China as a whole. A report of the Ministry of Agriculture and Commerce in the 1930s, however,
put the cultivated land of this region as low as 8 percent of the total area.\(^8\)

Guangdong Province fall into five geographic regions--the Central, East, North, West districts and the Hainan island. The central district is not only the most important rice-producing region in the province, it is also the most developed region, agriculturally and economically, in Guangdong. Here an area of more than 14,000 sq. kilometers encompasses the rich delta land formed by the West, North and East Rivers.\(^9\) Flat cultivable land is more abundant in this region than anywhere else in the entire province. The delta area covers 9,400 sq. kilometers of which two-thirds are alluvial plains.\(^10\) The central district is also strewn with numerous low hills of red sandstone enveloped by podzolized red earth, a red acid soil of low native fertility with strongly expressed horizons of eluviation and illuviation of clays. Because of the hot climate and heavy rain, and because of intensive fertilization, however, the soil is made to provide a multi-crop agricultural economy, for its population. In fact, the cultivated land here is 28 percent of the total cultivated area in the province.\(^11\) Moreover, two-thirds of the province's industries, one-third of its food-crops, a half of its sugar-cane and four-fifths of the province's silk cocoon all derive from this delta region. It is also the region that produces most of Guangdong's fresh fruits.
A total of ninety-four counties comprised the province in the 1930s.\(^{12}\) Our focus will be on the delta region and on its counties of Nan-hai (南海), Pan-yu (番禺), Shun-de (順德), Zhong-shan (中山), Xin-hui (新會), Dong-guan (东莞) and Kai-ping (開平).

Nan-hai was a long, narrow county covering an area of 1,263.75 sq. kilometers. Relatively flat except for a hilly region and the southern part where the Xi-Cao Mountain (西樵山) lies, Nan-hai's population was 1,010,812. Grain production provide the county's agricultural enterprise, 45 to 50 percent of the land produces over 2,000,000 picul of rice annually. Twenty percent of the county's fields especially in the southern part, grew mulberry while fresh fruits such as lychees, longnan, yangtou and huangpi were grown in 4 to 5 percent of the other fields.\(^{13}\)

Pan-yu, on the other hand, was characterized by an abundance of alluvial plains. Here, 70 percent of the cultivated land were alluvial and they were found mostly in the southern part of the county referred to as Sha-tian (沙田) (sandy fields).\(^{14}\) Formed by sediments brought by the incessant river current and sea tide, these fields were sandy but exceedingly fertile; with protection and the planting of a certain kind of grass,\(^{15}\) they may be converted into cultivable fields within three years. Pan-yu had an area of 1,794.25 sq. kilometers, approximately 1 percent of the total area of Guangdong Province. Its population was 828,114 in 1930.\(^{16}\) Again, this was a major grain producing region. Eighty percent of the land were
rice fields and they had produced 5 to 6 million picul of grain each year. Other produce such as sweet potatoes, peanuts, cabbage, tea and fresh fruits, including lychees, oranges, lemons, plums, persimmons, mangoes, pomeloes, pineapples, guavas, and sugar-cane.

Shun-de county's importance lied in its silk rather than rice production. Surrounded by mountains, the county had a flat interior of alluvial plains. Its area extended some 751.75 sq. kilometers with a population numbering 841,592 during the 1930s. These plains were cultivated under local system called "sang-ji yu-tang" (mulberry banks and fish ponds). Here, the puddles in the alluvial fields were hollowed out to form ponds for fisheries while the mud from these fields were piled up to form topsoil for other fields on dryland for growing mulberries. Silk production is its major enterprise, but fisheries, mulberries, and sugar-cane retain considerable importance.

Zhong-shan, however, had remained an important rice region with the highest grain production in the province during the 1930s (6,346,581 picul annually). The county was 2,876.75 sq. kilometers in area and had a population of 1,168,120. It supplemented its rice production with potatoes, sweet potatoes, cabbage, beans, lychees, mulberries and oyster-harvesting.

Xin-hui is a county of alluvial plains, about 60 to 70 percent of its land is formed by alluvium. Its population of 881,605 peopled an area of 1,922.25 sq. kilometers in the 1930s. Grain production had
totalled 4 to 5 million picul each year in addition to crops of mulberries, oranges, mandarin oranges, bananas, sugar-cane and tobacco.\textsuperscript{19}

Dong-guan is similar. Of its 2,720.50 sq. kilometers of land, 20 percent were mountains and 20 percent were hills. The bulk of the land was alluvial plains. Dong-guan had a grain production of about 7 million picul per year during the 1930s and a sugar-refining industry capable of producing 200,000 picul of refined cane sugar annually from its own harvests. Straw for mat production was also significant in the county's agricultural economy; each year the harvest was about 400,000 picul. Fresh fruits, such as lychees, bananas, longnans, pears, and other produce, such as wheat, jute, potato, and tobacco, were grown here as well.\textsuperscript{20}

Of the counties mentioned perhaps Kai-ping had had most emigrants overseas. With a total area of 1,173.25 sq. kilometers and a population of 349,236, Kai-ping's major crop remained grain, with an annual production of 1 million picul, but its principal source of income had been overseas remittance.\textsuperscript{21}

Population was heavily concentrated in this delta region. In 1963 it was estimated that the general population density for this region was 600 persons per sq. kilometers of land.\textsuperscript{22} An earlier survey, however, pointed out that the density could be as high as 3,100 persons per square mile of crop land.\textsuperscript{23} More specifically, Shun-de had the highest density—1,120 persons per square mile while
Nan-hai followed with a density of 800 during early 1940s. Dung-guan's density was estimated at 464, Pan-yu's at 462 and Zhong-shan was at 406. At 394 persons per square mile, Xin-hui had the lowest density among the counties we discussed.\textsuperscript{24}

With such a large population and heavy density, the pressure of the man-land ratio is readily apparent. Liang estimated that in 1953, for each person engaged in agriculture there was only 2.75 mu of cultivated land, a rate which was higher than other regions in the province but in itself was still meagre.\textsuperscript{25} Earlier studies, however, showed that the number was even smaller. The *Guangdong Jing-ji Nian-jian* reported that in Pan-yu there was 1.69 mu of crop land per capita.\textsuperscript{26} In Zhong-shan, the number was 1.79; while in Shun-de, it was 1.07; Xin-hui, 1.30; Kai-ping, 0.99; Nan-hai, 1.36; and Dong-guan, 7.52.\textsuperscript{27} In their study of Long-yan-dong, Lin and Luo also showed that little land was available per capita.\textsuperscript{28} Yang's research on Nanching village in the same county (Pan-yu) indicated a similar situation. Only 1.08 mu or about one-sixth of an acre of crop land was possible for each peasant.\textsuperscript{29} All these figures were not very far from Zhang's estimate of the general man-land ratio of Guangdong--his finding was 1.35 per capita.\textsuperscript{30}

The pressure of the man-land ratio upon the lives of the rural peasants, operated through social institutions, in particular those governing the ownership and use of land.
B. Concentration of Land

One of the characteristics of rural Guangdong before 1949 was the overwhelmingly large numbers of tenant farmers. In 1925 and 1926, both Lingnan University and the Central Guangdong Farmers' Association agreed that 85 percent of the peasants in the province were tenants. The Canton Suburb Farmers' Union and the University of Guangdong estimated in their surveys that at least 70 percent of the province's peasants were tenants. In 1930, Zhong also asserted that the percentage of tenants in Guangdong was 46 percent of the total peasant population while in 1934-1935, according to the rather conservative estimate of the nationalist government, the tenant farmers in Guangdong was at least 58 percent of the peasant population.

Rural Guangdong, however, was also characterized by a considerable concentration of land in the hands of a few. Sun reported in 1933 in his study of the problems of land concentration in the province, landlords who made up 2 percent of the peasant population in Guangdong and owned 53 percent of the land in the province. Rich peasants represented 4 percent of the peasant population but had 13 percent of the land, and middle peasants, who constituted 20 percent of all peasants, held 15 percent of the land. Poor peasants made up the majority of the peasant population, that is, a total of 74 percent, yet owned only 19 percent of the land.
In the delta region, the situation of land concentration was similar. The Institute of Agricultural Sciences at Guangdong University assessed that in 1921-22 in Shun-de county, 80 percent of the peasants engaged in farming were tenants; in Dong-guan county, the figure was 60 percent. The Farmers' Association in the delta region reported later in 1925-26 that in Shun-de county, the number of tenants were 70 percent of the farmers' population. In Pan-yu district, the percentage remained as high as 70 percent while in Dong-guan, 45 percent of the farmers were tenants. In 1932, the Chinese Economic Yearbook revealed that in Pan-yu the percentage of tenants showed no sign of decreasing and was still 70 percent, while in Nan-hai the proportion was also 70 percent and in Xin-hui, 65 percent. The survey carried out by the Cultural Institute of Zhong-shan University in 1934 confirmed that the percentage of tenants in Shun-de area was staying here at 76.92 percent, while Zhong-shan district had a similar distribution of 71.97 percent. It did report, however, that Kai-ping's proportion of tenants was only 40.6 percent.

At the village level, Zhao, in his investigation of Ci-xi village in Xin-hui, found a somewhat different situation in 1927. He noted that in the village, landlords who lived exclusively on renting out their land constituted 25 percent of the village population, while 17 percent of the farmers worked on their own land without having to rent additional fields to support their living.
Only about 18 percent of the tenants owned no land at all; the rest had their own land, no matter how little, and they used some kind of tenancy for various reasons. Obviously, Zhao was employing a different approach of analysis—a tenant, owner-tenant, and owner-cultivation analysis rather than the more popular approach in terms of a rich, middle, and poor peasant.

A probably more accurate picture, however, can be obtained from Chen's survey of ten representative villages in the Pan-yu district in 1933. Here, the majority (44.7 percent) of rural peasants were poor peasants, those whose number of cultivated mu fell below that required for self-sufficiency and had to rely upon a wage income or some income of an auxiliary nature. Only 16 percent of the peasants were middle peasants. These land holdings were barely self-supporting and were neither directly exploited by, nor exploiting, others. On the other hand, 8.8 percent were rich peasants defined as those who hired agricultural laborers by the day, season or year during busy times in excess of the labour required by an average middle peasant for self-support, or those whose cultivated land surpassed the average land used by middle peasants for self-support. Landlords numbered 2.9 percent while 6.9 percent were agricultural labourers who did not cultivate any land, either own or leased, but hired themselves out or cultivated a patch of land but supported themselves chiefly by selling their labour power.
In addition, Chen also found that among peasants, excluding landlords, rich peasants, who made up 11.6 percent of the peasantry, owned 49.6 percent of the cultivated fields; middle peasants, who formed 20.9 percent of the village peasants, owned 28.3 percent of the land. The bulk of the peasant population in these villages, 58.5 percent, were poor peasants who owned a mere 22.1 percent of all land. And among these peasants, 44 percent of the rich peasants owned 5 to 20 mu, while about 50 percent of the middle peasants owned under 5 mu, and 60.4 percent of the poor peasants owned no land at all. For the rich peasants, the average number of mu owned per family was 11.33. Among middle peasants, the average was 3.57 mu, and poor peasants had the average of only 1 mu per family. Moreover, in terms of the quality or types of land owned by these different peasants, according to Chen, in the Pan-yu region, 61.3 percent of the land owned by landlords were irrigated fields highly valued because of the relatively easy availability and accessibility of water. The same was true for the rich peasants--63 percent of their land was of the same type. Fields owned by middle peasants, on the other hand, were 53.6 percent irrigated and 46.4 percent non-irrigated or dry lands. Significantly, 62.7 percent of the land owned by poor peasants fell into the category of dry lands.

More specifically, Wu and Huang, in their work on the Feng-huang Village in the Pan-yu district, pointed out that in the village, except for seven families who could be self-supporting working
on their own fields, the rest of the peasant population consisted of sixty-nine tenant families and twenty-four families who worked as agricultural labourers. \(^{15}\) In another village of the same county, Luo and Lin observed that the land ownership pattern conformed to most early studies. They found that 52 percent of the peasants in the village were tenants and agricultural labourers. \(^{16}\) Yang in his much later study of Nanching village of the same district, reported that land distribution did not change much even in 1945. He indicated that 13.3 percent of the population in the village were landlords and rich peasants, the former referring to those who possessed over 30 \(mu\) or operated a farm of over 30 \(mu\) of owned or rented land. The 30.5 percent who were middle peasants possessed 6 to 20 \(mu\) or operated a farm of similar size. The largest group was still poor peasants, 43.5 percent of the village population who owned approximately 5 \(mu\) or less or were operating a farm of similar size. \(^{17}\)

There were big individual landlords in Shun-de where fifteen landlords owned over 1,000 \(mu\) of cultivated lands each, and in Pan-yu, where at least two to three landlords each owned 5,000 to 10,000 \(mu\) of cultivated fields and another ten who each owned 1,000 to 3,000 \(mu\), \(^{18}\) plantation economy was never prevalent in rural Guangdong's delta area because large holdings were broken into small parcels to be rented out and not farmed and managed in big unity.

The statistics point out some of the basic facts about rural Guangdong: land ownership was concentrated among the upper groups
and lower groups had little or no land. These figures, however, did not tell the whole story. For one thing it is necessary to recognize two types of land ownership: private and collective. And collective holdings of land did play an important part in rural life in Guangdong.

1. Clan Land and the Power of Clans

Those chief corporations holding lands were, in general, temples, hui 集 (associations, the government and clans. Land which belonged to temples was referred to as Si-miao-tian 寺廟田 (temple land). Land owned by associations and organized on the basis of occupation, religion, neighbourhood and recreation were called hui-tian 會田 (association land); those possessed by the government for the purpose of subsidizing and maintaining public schools were guan-di 政 (government land) or xue-tian 學 (education land).

Land owned by these public bodies and charity organizations composed an insignificant proportion of Guangdong. According to the National Land Commission of 1937, education land in Zhong-shan county was only 0.1 percent of the total crop land. Chen, in his research on problems of agrarian Guangdong also revealed that temple land in Zhong-shan 县 constituted only 0.003 percent of the total cultivated lands. Land owned by associations could more often be found in the southwestern district of the province. It was virtually absent from the delta area.
The single dominating form of collective ownership of land in Guangdong, then, was clan land. Clan land was often referred to as Zheng-chang-tian 像墓田, zu-chang-tian祖墓田 or most popularly, tai-gong-tian 太公田 (ancestor's land). In its initial stage, these lands were only small portions of properties owned by rich clans set aside for the purpose of generating income for sacrificial ceremonies to the ancestors, upkeep of ancestral halls, and other activities connected with ancestor worship. When the properties were divided among clan members later, these lands were entrusted to certain members to manage as collective property for the purpose of generating profits. Through such profits, more land was accumulated and this became the most important form of collective ownership of land in the province. The Guangdong Nian-jian 慶重年鑑 pointed out that roughly about one-third of the cultivated land in the province was owned by clans. Amano gave a similar account of the distribution of clan lands in Guangdong. He stated that about 30 percent of the counties he surveyed had 40 percent of their land owned by clans.

In the delta region, according to the Guangdong Province Peasants' Association Survey in 1925, 60 percent of the land in Nan-hai were clan land; and in Pan-yu, 50 percent were clan-owned while in Shun-de, the proportion was 35 percent. Dong-guan had a smaller percentage, 20 percent and Zhong-shan had 21 percent, but in Xin-hui 57 percent of the land were owned by clans. This finding was reconfirmed by Chen's later research. Chen asserted that on the
average, in Pan-yu, one-half of the cultivated land belonged to clans. In the villages of Nan-pu 南浦, the percentage of clan land was 70 percent; in Mei-tian 梅田, it was as high as 75 percent.²⁴ Luo and Lin obtained a similar picture in the village of Long-yan-dong of Pan-yu. They reported that out of the 2,113.2 mu of cultivated land in the village, except for the 770.6 mu which were owned privately, the rest of the 1,342.6 mu were all clan lands.²⁵

While there were differences in the nature of collective and private ownership of land, there was little difference in the system of tenancy or renting the land except that some clans would make land available to tenants exclusively from within the clan—either by rotation (lun-zhong 隆中) or by apportionment (fen-geng 分耕)—while the clan would set as a kind of joint landlord. Apportionment was the method employed in Po-.tsun village. Yang found that in this village about 50 percent of the land were clan land. For each descendant of the clan, one was entitled to rent 1.5 mu of land from the clan at an annual nominal fee of about 7 percent of the average yield, or 40 catties of unhusked rice per mu. Yang, however, remarked that this was an unusual case; other villages envied this village as "an example of good fortune bestowed by the departed ancestors, while lamenting the poverty of their own clan from a lack of low rent clan land."²⁶

When a clan had comparatively little land, the families in the clan would organize themselves into small groups to apply for
the lease of clan land, and the land was normally leased to the member groups in rotation. In some cases under this system, the tenant member whose turn normally ran for about a year, had to pay neither rent nor deposit for the clan land. Instead, he would be responsible for the expenses of ancestor worship and the provision of foodstuffs such as chicken, rice, pork and duck for these ceremonies. In either case, be it by apportionment or by rotation, when the tenant did not fulfill his obligations or pay his rent, rights to cultivate clan land would be withheld. This was referred to as ge-geng (expelled from cultivation).

Clan land could also, however, be leased to people outside the clan through bidding (tou-keng 投耕). Here, notice of lease-bidding was usually announced either twice a year (in the first or eleventh month of the lunar calendar, or the second or eighth month) or once a year in autumn. Under this system, advance rent was required to pay either in full or by two installments. In addition, a usual 20 percent of the rent was required for as a deposit.

When clan or private land was leased out en bloc by bidding, the system of bau-zhu (land contracting) or bau-dian (tenant contracting) developed into a complicated system of exploitation. This system was especially popular in the Sha-gui area of the delta, where fields of alluvium were most fertile, and where fields were most easily claimed by influential, rich clans through force or power.
Because land here, sometimes as much as several thousands or tens of thousands of mu, was leased en bloc and, as a rule, advance rent was required to be paid in full, it was evident that only rich merchants and powerful gentry could afford to bid and were capable of leasing the land directly. It was commonly known that in Dong-guan, land owned by the clan organization Ming-lun Tang 明倫堂 was leased to a single powerful gentry, Zhou Tien-bang 周欽邦 who also was a comprador, and had set up a bank and other business enterprises. And in Zhong-shan, land owned by the Xin-yi 信義 Temple, another clan organization despite its name, was leased to companies set up by the gentry and rich merchants to monopolize the leasing of clan land. The Xing-ye 兴業 Company had capital assets of 160,000 yuan, while the Qing-fen 清芬 Company was equally powerful.

When leases had been secured by merchants or gentry, or their companies, land would first be enclosed against tide or bandits, then rather be cultivated or managed by the owners themselves, would be sub-leased in separate holdings—sometimes directly to the cultivators, but more frequently to a series of tertiary landlords who were referred to as fen-yi-nong 分業農 (profit-sharing peasant) and da-keng-zai 大耕仔 (first-farming person). On the other hand, they could also employ labourers, usually the dan-min 搬民 (emigrants who were of non-Han ancestry and lived on boats. Normally, they were willing to work for very low wages), to grow sugar-cane or rice under a form of contract which in some respects resembled a lease. In this system
of *bau-qing* (harvest contract) the labourer worked from the first month till the middle of the ninth month of the lunar calendar and were responsible for all work in the fields except harvesting. They would be paid 8 *yuan* per *mu* or 24 yuan for each quarter year when fields were ready to be harvested.31

In this process of sub-leasing a series of exploitations occurred. When land was leased to the first landlord, the tenure usually extended over a period of ten years, and sometimes even for twenty to thirty years. When the sub-leasing took place, however, tenures would often be shortened to five years or less, even to a single year in some cases. Needless to say, a higher rent was charged at almost every stage of sub-leasing, and with virtually every renewal of tenure, rent increased. Chen estimated that in the district of Zhong-shan, there were about 1,500,000 *mu* in the Sha-gu area and at least 95 percent of them were under a stage of sublease. At each stage of sub-leasing, an additional rent of 2 *yuan* per *mu* was common. It was no surprise in the end to see that the amount collected from the final tenant was double what the original landlord received.32

When common land was rented in rotation, therefore, the right of weak families in a clan appeared to be relatively secure, but when it was managed centrally and exploited on a business basis, abuses arose to derogate from the rights of men remote from the locus of lineage power. Clan heads, chiefs and trustees, although they
were selected on the basis of age and generation status, were merely honorary positions. Real power was exercised by managers (li-shi 理事), treasurers and accountants (li-shu 理数). They were elected to their offices sometimes by the various sub-clans, and, more often, by clan members at large on the occasion of their common ancestoral worship. They were always from the so-called strong branches of the clan, that is, those composed of the largest number of families and individuals. The officers themselves were supposed to be "rich and reliable" and "learned and rational." Thus, positions often went to those who had passed the civil examination in their early years, and those who had graduated from a certain provincial school, retired bureaucrats, and, of course, the rich. Tenure of office was normally one year but an officer could be reappointed year after year—even appointed for life or as a hereditary position in some places.

The total income of the lineage, consisting largely of rents from fish ponds, houses and lands, and from interest on loans, was controlled by the lineage treasurer or accountant who held whatever remained after the payment of taxes, religious and secular expenses like repairing temples and clan properties, and various subsidies for local education and schools. Most clan treasurers never published a detailed account. While the great majority of peasants were ignorant of what was going on, the more prosperous peasant families were often indignant, because those who controlled the clan fund also controlled the means of legal redress.
Here, an interesting question emerges: how did the clans arrive at their powerful positions in rural China? To answer this question, a brief examination of the power structure of the village communities in rural Guangdong is necessary.

Traditionally, China's bureaucracy sent its officers no lower than the county seat. The county magistrate was the immediate point of contact between the rural population and the scholarly administrative system. In Republic China, the formal political structure consisted of the central government, the county government, and the sub-district (Qu) offices which were the operational agencies of the county government.

The village stood as a highly autonomous, self-governing unit. Political order within the county functioned chiefly through informal local community leadership, with the county government as the supervising agent. Theoretically one could see why this was so structured. Given the strong clan organizations and dialect differences, self-governing was encouraged to prevent conflicts as well as to promote bureaucratic impartiality of the county government. In 1932, the Nationalist government revived the collective responsibility system of bao-jia in the name of preparing for "democratic constitutional rule" while actually using the system in an effect to combat the spread of communism.

Under this system, ten families formed a bao; and ten bao formed a jia. Several jia would then form a xiang or an
administrative village sometimes composed of several villages. The xiang was subordinated to the subdistrict office of either the county or municipal government. To select its leadership, each family sent a representative to elect the head of a bao—the bao-zhang —and the heads of jia and xiang—the jia-zhang and xiang-zhang . (See Figure 1)

The bao-zhang was in theory to report regularly to his superiors all cases of "robbery, religious heresy, gambling, runaways, kidnapping, counterfeiting, sale and transportation of contraband goods, swindling, organization of secret societies, unknown and suspicious characters." Collecting census data and checking transient residents were his responsibilities also. He was expected to help, as well, in the collection of various taxes. In sum, he stood between the government agents and the people; his duties were semi-official and his position the cornerstone of local government in China.33

In reality, however, village life operated largely through its own local power structure and was but weakly integrated into the system of authority. First of all, the bao-zhang and jia-zhang were generally untrained in government affairs, and they received no renumeration for their services. In fact, when 50.2 percent of the males in south China had no schooling and 49.1 percent of them had attended school only long enough to learn to read a common letter (an average of four years),34 most of these heads of the bao and jia
Province  Xian  Qu  Xiang  Jia  Bao  Hu
several  10-15  100-1000  10  10

Source: Kato Yuzo 加藤祐三, Chugoku-no Tochi Kaikaku-to Noson Shakai 中国的土地 改革と農村社会 (Land Reform in China and Agrarian Society), p. 70.

Notes:  Xian 順 : county  Chu 署 : bureau
Qu 区 : district  Gong-suo 公所 : office
Xiang 乡 : administrative zhang 長 : head
Jia 甲 : village  Bao 保 : household
Hu 戶 : household

Figure 1  Bao-jia System in Traditional Rural China
were presumably illiterate peasants incapable of reading any elaborate
government documents. Obviously they received little respect from
the community, especially from the gentry and the rich. Men of power
and wealth in the community shunned posts at such a low level. At
the same time, too, the bao-zhang's role as tax collectors often made
them hated figures in the village. As servants of the bureaucracy,
they were liable to incur the displeasure of both the ruler and the
ruled; consequently, their legitimacy was very precarious and many
of them could not or did not carry out their duties.

It was under such circumstances that the clan developed its
strategic importance in the village community. Not only was the
fundamental clan power derived from an institutionalized acceptance of
the clan's authority by the kinsmen, but also many of the kinsmen had
to depend on the clan for numerous social and economic needs. They
had, then, the legitimacy to maintain peace and order in the village
and served almost as a judicial organization. Clan organizations
were responsible for defence, setting up their own militia unit, the
min-tuan in which the "soldiers" were equipped with arms and were
recruited on a mercenary basis. They also maintained communications,
carried out public projects such as the construction of roads, dikes,
water channels and controlled common properties.

The legitimacy of the clan was further reinforced by the
government when the bao-jia system did not work effectively. Clan
officers were then appointed to handle the tax on clan land as well
as to collect the tax for the provincial government from the private families in their clan. Xue and Chen both pointed out that in many cases when the provincial government was concerned solely with the revenues from taxation, it accepted bids from either tax collecting merchants or clans for a monopoly on the collection of taxes. Companies were then organized for this monopoly. Receipts of payment of taxes prepared by the xian offices were first given to the clan company or the merchant to distribute to the peasants when taxes were collected. Very often, however, these receipts were never distributed and the actual sums collected by these agents were several times, sometimes as much as ten times, what the government received. These tax collecting companies or clan organizations thus became part of the administrative apparatus and formed the basis for an alliance of power among the rich merchants, the clans, and the government authority. Independent ordinances issued by these companies or clan organizations to assess and collect taxes were not uncommon, nor were the institution of their own systems of inspection and enforcement of their actions by units of their own militia.  

Furthermore, while the heads of sub-districts and administrative villages as well as their subordinates were for the most part recommended by the authorities of the powerful clans, many of the clan officers themselves did become such heads concurrently. The Ming-lun-tang in Dong-guan which we mentioned earlier was a good
example of an organization looked upon as a "semi-official" government by the peasants, since the clan officers always had some positions with the government. As Kulp writes in his study of the Phoenix Village in the province, "speaking the official language and able to move among the officials," the scholars and gentry who usually came from the powerful clans formed "a working nexus between the village and the outside world which the ordinary villager seldom comes into contact." 

Undoubtedly, there were other forms of local organizations in the villages. The headsmen and councils, as described by Wakeman and others, however, had fallen into disarray because of its increasing inability to attract support from the central authorities as well as from the clan authority. Local militia below the county level, being poorly armed and loosely organized, were also left largely in the hands of the local village rule. Secret societies and banditry were in existence, but they were more concerned with extracting profits from protection rackets rather than involving themselves in any political interest. The only other local organization which had made a political impact in rural Guangdong was the peasant association, nong-hui. But how effective was the peasant association in dealing with the promise and the complexity of the Guangdong rural scene? Hofheinz pointed out that in certain parts of Guangdong, particularly in the West River section and on the Eastern seacoast, the peasant associations successfully incorporated about half of the rural population into its organization, raised
sizable local forces, and for a brief period controlled local government. In other parts, most notably in the populous districts around the provincial capital and the delta region, the associations never captured more than 5 percent of the peasantry and remained constant threat from internal and external opponents.  

It was under such situations the concentration of land and the alliance of power and wealth among the clans, the rich and the gentry, provided a basis on which an exploitive system or exploitive relations network were built and developed.
A. Some Geographical Backgrounds

1 The figure was quoted from China Yearbook 1938 cited in Kanton Nippon Shokokai-isho, Kanton no Genjo (The Present Condition of Guangdong) (Canton: 廣東日本工商議會, 1944), p. 19. Other sources, however, indicate that there was actually no common agreement on the exact area of Guangdong province:

<table>
<thead>
<tr>
<th>Year</th>
<th>Source</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1932</td>
<td>Guangdong Jing-ji Nian-Jian (Guangdong Economic Yearbook)</td>
<td>214,038 sq. kilometers</td>
</tr>
<tr>
<td>1933</td>
<td>p. B-4-6</td>
<td>221,307 sq. kilometers</td>
</tr>
<tr>
<td>1940</td>
<td>Guangdong Nian-Jian (Guangdong Yearbook), p. 82</td>
<td>218,600 sq. kilometers</td>
</tr>
<tr>
<td>1942</td>
<td>Guangdong Jing-ji Nian-Jian</td>
<td>218,615 sq. kilometers</td>
</tr>
<tr>
<td>1956</td>
<td>Liang Ren-cai, Guangdong Jing-ji Di-li (Economic Geography of Guangdong), p. 1.</td>
<td>230,000+ sq.kilometers</td>
</tr>
<tr>
<td>1973</td>
<td>Wu Yu-wen, Guangdong Di-li Gai-feng (General Geography of Guangdong), p. 1.</td>
<td>220,000+ sq.kilometers</td>
</tr>
</tbody>
</table>

2 The population of Guangdong is again a matter of opinion. The figure cited was from Ibid., p. 35. Other figures given by other sources are summarized in the following table:

<table>
<thead>
<tr>
<th>Year</th>
<th>Source</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1934</td>
<td>Guangdong Government</td>
<td>33,179,078</td>
</tr>
<tr>
<td>1934</td>
<td>The National Government Internal Affairs</td>
<td>32,427,626</td>
</tr>
</tbody>
</table>
2 (continued)

<table>
<thead>
<tr>
<th>Year</th>
<th>Source</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951</td>
<td>C.K. Yang, <em>A Chinese Village in Transition</em>, p. 4</td>
<td>26,000,000</td>
</tr>
</tbody>
</table>


10. *Ibid.*, p. 2. However, there are other different figures concerning the area of the delta region:

<table>
<thead>
<tr>
<th>Year</th>
<th>Source</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1942</td>
<td><em>Guangdong Jing-ji Nian-jian</em>, p. A-10</td>
<td>3,600 sq. kilometers</td>
</tr>
<tr>
<td>1959</td>
<td>Yang, <em>op. cit.</em>, p. 4</td>
<td>2,890 sq. kilometers</td>
</tr>
<tr>
<td>1973</td>
<td>Wu, <em>op. cit.</em>, p. 9</td>
<td>9,400 sq. kilometers</td>
</tr>
</tbody>
</table>
11 Kanto no genjo, p. 28.

12 Guangdong Jing-ji Nian-Jian, 1941, p. A-22. According to Kanto no Genjo, however, there were only ninety-four counties in Guangdong. See pp. 28-9.


22 Liang, op. cit., pp. 14 and 54.

23 Cited in Yang, op. cit., p. 4.


25 Liang, op. cit., p. 23.


27 Ibid.

29 Yang, op. cit., pp. 15-16.

B. Concentration of Land


2. Ibid.

3. Zhong Xin-yi, Tong-ji Yue-bao (Statistical Monthly), 29(6), 1930. See also Shen-bao Nian-jian (Shen-bao Yearbook), 1934, pp. K-34.


5. Sun Xiao-cun, "Xian-dai Zhong-guo Tu-di Wen-ti" ("Land Problems of Modern China"), in Jiao-yu Lu Min-zhong (Education and the Public), 8(3), November 1936. The source has 12 percent, but this must be an error.


7. Ibid., p. 27.


11 Chen Han-seng, Agrarian Problems in Southernmost China (Shanghai: Kelly & Walsh, 1936), pp. 7-8, also p. 131. The book was also published as Landlord and Peasant in China (N.Y.: International Publishers, 1936). It is also reprinted in 1973 by Hyperion Press, Westport, Connecticut.

12 Ibid., p. 126, Table 9.

13 Ibid., p. 127, Table 11. 0.87 mu is the exact average number of land owned by tenants per family.

14 Ibid., p. 131, Table 21.


17 Yang, op. cit., p. 41.


19 Ibid., p. 92.

20 Chen, op. cit., p. 25.

21 Guangdong Nian-jian 1940, p. 55.


24 Chen, op. cit., p. 32.


30 Feng He-fa, *op. cit.*, p. 928. See also Amano, *op. cit.*, pp. 539-541.

31 Amano, *op. cit.*, p. 538.

32 Chen, *op. cit.*, pp. 48-49.


38 Frederick Wakeman, Jr. and Carolyn Grant (eds.), *Conflict and Control in Imperial China* (Berkeley: University of California Press, 1975).


CHAPTER 2

THE RURAL EXPLOITIVE SYSTEM

A. Land

1. The Changing Tenancy System

As pointed out by Huang, Chang et al.\(^1\) and Feuerwerker,\(^2\) as part of the process of modernization of property concepts in rural China, the system of permanent tenancy (yong-tian-ji \(\begin{array}{c} \text{永田地} \\ \end{array}\)), or fen-zhi-ji \(\begin{array}{c} \text{分租制} \\ \end{array}\) as it was better known in Guangdong, was beginning to break down. Under this system, the landlord had no right to use or abuse the land, his only right was the collection of deposits or rent. Nor could he increase the rent or terminate the tenure of the tenant unless the tenant failed to pay the rent. The tenant, therefore, had the freedom to sublease his rented land and renew his lease indefinitely so long as he paid his rent dutifully.

A similar system of tenancy known as the kou-tou-ji \(\begin{array}{c} \text{口头地} \\ \end{array}\), oral agreement system, was also fading in Guangdong. Here, the prospective tenant, in order to obtain land to farm, had to visit the landlord to discuss the terms of his tenure personally. When they came to an agreement on rent and other details, the land would be leased to the tenant on the basis of this oral agreement. Usually,
the term of tenure was left open which meant that the tenant could work on the leased fields indefinitely so long as he paid the rent. It also meant, however, that if the tenant owed any rent, the tenure would be terminated immediately. Moreover, the landlord reserved the right to withdraw his lease and it was thus not uncommon to find that tenants under this system reluctant to apply any type of fertilizer to their fields because they feared the landlord would withdraw the land, if he knew the fields were fertilized.

Replacing these systems was a less permanent system of written contracts, qi-yue-jiqi-yue-ji).4 Here, not only the term of the lease was specified, but other arrangements were also made explicit: rent must be paid on time; if rent were paid in the form of grain, the grain had to be of good grade and had to be delivered to the home of the landlord; field maintenance remained the responsibility of the tenant; when the tenant failed to pay his rent, the fields could be taken back and the lease terminated immediately. Other obligations were also added: gifts for the landlord families were stipulated in the form of chicken, duck or grain and were expected annually. The written contract was safely in the possession of the landlord; no copy or receipt was issued to the tenant. The arbitrariness of these contracts prompted tenants to fertilize their fields only the first two years. They feared the landlord would no longer recognize the written contract and would either try to increase the rent or to terminate the contract, if their grain production increased.
Under this system, although it was common for landlords to lease their land to tenants for a period of four to five years, very often this meant annual or biennial contracts. The National Land Commission Survey of 1935 pointed out that in Guangdong, the duration of tenure was not fixed in 80.66 percent of the leases usually signifying annual or biennial contracts. Only 8.56 percent fell into the category of a fixed tenure of five to ten years, and the "permanent tenancy" dropped to a low of 1.68 percent.

Although in 1930 the Land Law contained a provision that the tenant had the right to extend his lease indefinitely unless the landlord took the land back at the expiration of the contract and farmed it himself, no effort was made to enforce the law. Hence, insecurity of tenure undoubtedly continued to be a problem. The insecurity of annual or biennial contracts, moreover, put the peasants at a considerable disadvantage and allowed the landlord to impose additional burdens in the form of land deposits (allegedly against rent defaults) and higher rents. Chen found that 34.2 percent of the peasantry in Guangdong were required to pay a deposit, but the 1934 Chinese Economic Yearbook reported that the number might be higher because out of the ten xian they surveyed, seven of them required various forms of deposits from tenants. In West Guangdong, the deposit ranged from 10 to 15 yuan per mu plus gifts in the form of poultry, beef, pork and wine, all of which were to be delivered when the lease was drawn. In North Guangdong, the rates ranged from
15 to 30 yuan per mu. But in terms of the total harvest value, Amano suggested that in the Pearl River delta region, for example, 70 percent were demanded in Tai-shan 山.\textsuperscript{8} According to the \textit{Guangdong Jing-ji Nien-jian} (Guangdong Economic Yearbook) 1942, in Pan-yu, deposits were sometimes paid in the form of a "banquet fee," jiu-xi-jin 酒席金, to the landlord, virtually a gift. This "fee" sometimes amounted to 90 percent of the total rent.\textsuperscript{9}

In addition to deposits, there was also a system of advance rent, yu-su 預租 or shang-qi-su 上期租, which required tenants to pay their rent in advance, either before harvest or when the lease was drawn. This system was most popular in the delta region, especially in Dong-guan, Zhong-shan and Nan-hai. The rent, amounting to 20 to 30 yuan per mu, was expected at a specified time before harvest. If the tenant failed to do so when the crops were ready to be harvested, the landlord had the right to send his own labourers to harvest and keep the total yield.\textsuperscript{10}

Although the rent deposit system exacted a heavy toll, the tenants' real burden derived from the rent system and its structure.

2. Rent

Rents were paid generally in three forms under the tenancy system—cash, crop and share rent. With the exception of non-irrigated lands for which a cash rent was demanded in most cases, rent payment in grain was the prevalent practice in Guangdong. An estimated 58.4
percent of the peasants in the province paid their rent in grain, while only 23.9 percent paid in cash, and only 17.7 percent, under the system of share rent. Cash rent, however, was dominant where crops other than rice were planted. Even in those regions, when rice was planted, the form of payment was always in grain. In the delta region, therefore, cash rent was most widespread in Shun-de where the major crops were mulberries and silk cocoons; it was also popular in a major part of Zhong-shan, half of Xin-hui and Nan-hai, while in Pan-yu and Kai-ping, payment in crops or grain was always preferred.

Rent payment was not a simple matter. For one thing, a combination of cash and grain rent for the same land under the same lease was practically unknown in Guangdong province. It was quite common, however, that the landlord was paid in cash but the amount of rent was fixed in terms of grain, i.e., the actual money payment was equivalent to the value of a fixed amount of grain, estimated at the price prevailing at the time of highest quotation, in the spring. Moreover, although the second or third landlord might pay a cash rent, the final tenant or cultivator always paid his rent in grain.

It is easy to understand why landlords preferred rent in grain. They were, in most cases, speculators in grain themselves. The middle- or rich peasants who had sufficient means and who could handle a commercialized crop preferred to pay their rent with a definite amount of cash. Poor peasants paid their rent in grain because they seldom could raise enough cash and had to pay whatever they harvested.
Cash rent was usually fixed rent. In terms of cash per mu, according to the statistics of Nong-qing Bao-gao 农情报告, 25 percent of the tenants in Guangdong were paying five to ten yuan per mu in 1935, and another 25 percent were paying the highest amount the report recorded—over ten yuan (See Table 1). The highest rent in the province averaged to be 18.8 yuan per mu annually, while the average rent for one mu of an ordinary field was about 6.7 yuan, the latter figure being the highest in the nation at that time. In fact, in most counties in the delta area, the rent for each mu or good irrigated field was always in the range of 17 to 20 yuan (See Table 2). For the fertile irrigated fields in the Sha-gu regions, rents were even higher, ranging from 20 to 30 yuan per mu.

| TABLE 1 |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Distribution of Cash Rent in Guangdong Province | Ranges of Rent | |
| Rent per mu | 0.1-1 | 1.1-2 | 2.1-3 | 3.1-4 | 4.1-5 | 5.1-6 yuan |
| % of Tenants | 6.8 | 11.4 | 6.8 | 6.8 | 11.4 | 6.8 |
| Rent per mu | 6.1-7 | 7.1-8 | 8.1-9 | 9.1-10 | over 10 | yuan |
| % of tenants | 2.3 | 13.6 | 2.3 | 6.8 | 25.0 |

**TABLE 2**
Cash Rent in the Delta Region for Irrigated Fields

<table>
<thead>
<tr>
<th>County</th>
<th>Zhong-shan</th>
<th>Dong-guan</th>
<th>Nan-hai</th>
<th>Shun-de</th>
<th>Xin-hui</th>
<th>Kai-ping</th>
<th>Pan-yu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent per mu:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade A</td>
<td>20</td>
<td>20</td>
<td>10-20</td>
<td>20</td>
<td>20-40</td>
<td>17-22</td>
<td>18 yuan</td>
</tr>
<tr>
<td>Grade B</td>
<td>10-15</td>
<td>6</td>
<td>5-12</td>
<td>10+</td>
<td>-</td>
<td>15-16</td>
<td>- yuan</td>
</tr>
</tbody>
</table>

**Sources:**


b Chen Gan-ji 陳幹吉 & Huang Xi-chou 黄錦洲, "Dong-guan Xian Nong-ye Diaocha Bao-gao" 東莞縣農業調查報告 in Ibid., p. 151.


Rent in grain, on the other hand, may or may not be of a fixed amount. When it is not a fixed total, the landlord and the tenant would divide the harvest according to some definite proportion under the share rent system, fen-\textit{zu} '\textit{fa}'. Over the province as a whole this system was not commonplace, especially in the delta region. Zhang and Wang reported that about 73.7 percent of the landlords in the province took 40 to 50 percent of the tenants' harvest under the system of share rent,\textsuperscript{14} although Chen found that in some other, specific cases, the landlord took as much as 60 percent.\textsuperscript{15}

When the tenants paid their rents in fixed terms in grain, however, rents were not much lower. In his research Amano found that in 1930 the peasants in Guangdong who paid their rents in grain under the fixed system were actually paying about 59.4 percent of their harvest for a piece of first grade irrigated field. For a second grade of irrigated field, the amount was just as high--59.2 percent of the annual harvest; for the lowest grade of irrigated fields, it was still 50.7 percent.\textsuperscript{16} In the delta area, Chen observed that in Pan-yu county tenants ordinarily paid about 55 percent of their harvest for rent but rarely exceeded 60 percent. In Tai-shan, the percentage was around fifty.\textsuperscript{17} In Pan-yu, specifically in the Long-yan-dong village, the rate was 50 percent of the total annual yield regardless of the grade of the field.\textsuperscript{18}

Converting these percentages to monetary terms, Zhang and Wang found that in 1934 the majority of tenants in Guangdong paid
5 to 10 yuan of rent for one mu (See Table 3). They also noted that the highest rate of rent tenants were paying was 15 yuan, while the average was 7.5 yuan. When compared to the national average rent of 4.2 yuan per mu, rents in Guangdong were clearly the most expensive in China.\(^{19}\) This coincides with Amano's observation that peasants in Guangdong paid the highest average rent in 1934, only Yun-nan Province averaged the same.\(^{20}\)

### TABLE 3

Distribution of Rent in Grain in Monetary Terms in Guangdong

<table>
<thead>
<tr>
<th>Range of Rent</th>
<th>% of Tenants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent in Cash</td>
<td></td>
</tr>
<tr>
<td>0.1-1</td>
<td>-</td>
</tr>
<tr>
<td>1.1-2</td>
<td>2.5</td>
</tr>
<tr>
<td>2.1-3</td>
<td>10.0</td>
</tr>
<tr>
<td>2.1-4</td>
<td>5.0</td>
</tr>
<tr>
<td>4.1-5</td>
<td>2.5</td>
</tr>
<tr>
<td>5.1-6</td>
<td>15.0</td>
</tr>
<tr>
<td>Rent in Cash</td>
<td></td>
</tr>
<tr>
<td>6.1-7</td>
<td>12.5</td>
</tr>
<tr>
<td>7.1-8</td>
<td>10.0</td>
</tr>
<tr>
<td>8.1-9</td>
<td>17.5</td>
</tr>
<tr>
<td>9.1-10</td>
<td>15.0</td>
</tr>
<tr>
<td>Over 10</td>
<td>10.0</td>
</tr>
</tbody>
</table>


3. The Burden of Rent

Not surprisingly rents in Guangdong amounted to more than one-half of the total cost of production. Tawney commented that rents were said to absorb approximately 55 to 60 percent of the produce on small
farms in Guangdong. And according to the report submitted by the Institute of Agriculture of the National University of Guangdong in 1925, the cost of production per mu of sugar cane in the Sha-gu area of Pan-yu was as follows:

For the first year:

- Rent 71.0 yuan
- Hired Labour 6.0
- Seedlings, 1,400 pieces 5.6
- Peanut-cake fertilizer, 150 catties 8.25

For the second year:

- Rent 17.0 yuan
- Hired Labour 5.0
- Peanut-cake fertilizer, 120 catties 6.6

The Chinese National Evangelical Christian Association estimated in 1927 that in a typical poor-peasant family budget, rent was not only the biggest expense item in terms of cost of production, it was also estimated to be more than family expenses:

Rent (8 yuan per mu, 10 mu being the minimum of land a family needed for subsistence) 80 yuan
Fertilizer 20
Seedlings 6
Maintenance of Farm Tools 5
Family Expenses 60
Total 171 yuan
For 10 mu of medium-low grade land, annual grain production would not be more than 27 picul, while the market price for each picul of grain was only 6 yuan. The annual income of the poor peasant family was thus only 162 yuan. In other words, the family was 9 yuan short of subsistence. 23

For a poor peasant family who could not afford to rent as much as 10 mu of fields of average grade, subsistence became more difficult. An article in Zhong-guo Nong-min 中国农民 (Chinese Peasants) suggested that a typical poor peasant family could be at least 72 yuan short of subsistence annually because of the high rent which accounted for 50 percent of his income from the grain production: 24

### Expenses:

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent</td>
<td>45 yuan</td>
</tr>
<tr>
<td>Seedlings</td>
<td>6</td>
</tr>
<tr>
<td>Fertilizers</td>
<td>30</td>
</tr>
<tr>
<td>Farm Tools Maintenance</td>
<td>2</td>
</tr>
<tr>
<td>Feeding for Draft Animals</td>
<td>3</td>
</tr>
<tr>
<td>Family Expenses</td>
<td>80</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>166</strong> yuan</td>
</tr>
</tbody>
</table>

### Income:

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 picul of grain at 6 yuan each</td>
<td>90 yuan</td>
</tr>
<tr>
<td>Supplementary income from grass-cutting</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>94</strong> yuan</td>
</tr>
</tbody>
</table>
Statistics from the nationalist government in 1932 also indicated that it was common that the poor peasant were unable to make ends meet. In a survey of expenses of rural peasants in Guangdong province, it showed that for tenants who had less than 5 公顷 of fields to work on were 42 元 short of subsistence annually,\(^{25}\) while tenants who could afford to have 5 to 10 公顷 to farm could make a small margin of surplus.

Luo and Lin, in their study of the Long-yan-dong in Pan-yu, drew a similar picture. They found that of the peasants' cost of production about 57.3 percent went for rent, while labour represented only 17.3 percent and fertilizer took up only 18.5 percent.\(^{26}\) In the Old Phoenix Village of the same district, Wu and Hunag noted that while rent payment did not go up to half of the cost of production, it nevertheless absorbed the largest share of the cost--31.7 percent.\(^{27}\)

If the estimates mentioned above all seem a bit too simplistic, Yang gave the most detailed approximation of production, consumption and income of different peasant classes in his investigation of Nanching village in Pan-yu.\(^{28}\) He first established the different expenses involved in the production of grain:

<table>
<thead>
<tr>
<th>Taxes:</th>
<th>main tax</th>
<th>50 catties (unhusked rice)</th>
<th>=</th>
<th>7.1% of yield</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>local government</td>
<td>35</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>'crop protection' fee</td>
<td>5</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Rent:</td>
<td>1 公顷 of medium grade</td>
<td>300</td>
<td>43.0</td>
<td></td>
</tr>
</tbody>
</table>
Fertilizer:

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Price (40/5.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 catties of human excreta or 50 catties of soya cakes</td>
<td>10</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Adding up all these items, the cost of production for one mu of rice land owned and farmed by the peasant himself was about 20 percent of the yield; but for one mu of rice land rented from others but farmed by the peasant himself, the cost was 51 percent. And this excluded expenses involved in hiring labourers, maintenance, and replacement of farm tools and other miscellaneous items.

Yang further postulated that averaging heavy consumption during busy and slack periods, the food needs for an adult male were about 365 catties (485 pounds) of rice a year. When averaging the differences between sex and age, each person was estimated to be equal to 0.75 of an adult male in his prime. Thus, the food consumption of an average family of 4.8 persons would be that of 3.6 persons; and the minimum need for an average peasant family yearly would be about 1,314 catties of husked rice for food. Adding 30 percent of this amount for other necessities, the total minimum need would than be 2,141 catties of husked rice.

Assuming that a poor peasant family normally cultivated about 6 mu of land of which he owned 20 percent and rented the rest, he would have about 2,318 catties of unhusked rice or 1,507 catties
of husked rice (100 catties of unhusked rice was estimated to equal about 65 catties of husked rice), 672 catties from his own land and 1,646 catties of unhusked rice from his rented land. Against the minimum need, his total yield was about 30 percent short of subsistence, even before he set aside any reinvestment capital for the crops of the following year.

In the case of a middle peasant, according to Yang, his position was also rather precarious. He noted that the middle peasant operated a farm of 10 mu in which 30 percent was his own land and the remaining rented from others, his total net yield would be 1,608 catties from his own land and 2,400 catties from the rented land after deducting rent and production cost. His total gross yield of 4,080 catties of unhusked rice, or 2,652 catties of husked rice, when compared to the 2,141 catties minimum consumption for a family, seemed on the surface to give the middle peasant a margin of savings to spare. However, since the middle peasant usually employed some hired hands and a part of the net income had to be put aside for reinvestment in the next year's crops, his margin of safety even for normal living was precarious.

In monetary terms, Luo and Lin pointed out that in the Long-yan-dong Village of the same county, life was not easy for the lower strata of the peasantry. They found that 71.1 percent of the peasants in the village had an average annual income of less than 150 yuan.
According to Feng's calculation the basic requirement for a peasant family's subsistence was 150 yuan, and thus an overwhelming majority of the village was beneath poverty line.

**TABLE 4**

Average Annual Income Groups in Long-yan-dong Village

<table>
<thead>
<tr>
<th>Income Range Over One Year</th>
<th>Under 100</th>
<th>100-200</th>
<th>200-300</th>
<th>300-400</th>
<th>400-500</th>
<th>500-1,000</th>
<th>Over 1,000</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Yuan</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent</td>
<td>24.4</td>
<td>27.5</td>
<td>19.2</td>
<td>12.6</td>
<td>6.3</td>
<td>8.4</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Average Family-Income</td>
<td>31.9</td>
<td>90.3</td>
<td>119.9</td>
<td>168.1</td>
<td>231.8</td>
<td>369.3</td>
<td>667.6</td>
<td>132.6</td>
</tr>
<tr>
<td>Average Individual Income</td>
<td>9.9</td>
<td>22.6</td>
<td>29.0</td>
<td>31.1</td>
<td>35.3</td>
<td>52.8</td>
<td>80.9</td>
<td>29.2</td>
</tr>
</tbody>
</table>

Source: Luo and Lin, op. cit., p. 245, Table 14.

Although the situation in the Old Phoenix Village, which Wu and Huang surveyed, was not as grim as the case we just discussed, Wu and Huang nevertheless found that 34 percent of the families they interviewed was 14.73 yuan short of making ends meet, while 38 percent had a 74.33 yuan margin of surplus. Although the latter had a surplus, their position was precarious if there should be expenditures
for an annual occasion like illness, marriage, or death, if there were too many mouths to feed in the family; or if there were a partial crop loss from damage by storm or ill-timed rains.  

B. Credit

1. Rural Poverty

When a considerable section of the peasantry had to live on minimum subsistence with a precarious margin of safety, and the majority could not make enough income from the farm alone to provide even bare subsistence for the family because of the heavy burden of high rent, rural poverty was, not surprisingly, the major characteristic of Guangdong villages. In fact, according to the Land Commission in 1937, about 40 percent of the peasant families in Guangdong, their annual income was under 200 yuan (see Table 5); and it was not unreasonable to accept 200 yuan as the cutting line for minimum subsistence.¹ In an earlier survey by the Land Commission also found that 52.08 percent of the peasant families in the province were unable to make ends meet (Table 6). According to Buck's estimate, 52 percent of the peasant families in South China were in debt, and the average amount of debt was about 82.66 yuan.² The Zhong-yang Non-ye Shi-yan-Suo's estimates of peasant family indebtedness ran to 60 percent.³
<table>
<thead>
<tr>
<th>Income</th>
<th>0-25</th>
<th>25.49.9</th>
<th>50-74.9</th>
<th>75-99.9</th>
<th>100-149.9</th>
<th>150-199.9</th>
<th>200-249.9</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Families</td>
<td>0.06</td>
<td>0.70</td>
<td>2.48</td>
<td>4.98</td>
<td>12.56</td>
<td>16.60</td>
<td>16.61</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Income</th>
<th>350.299.9</th>
<th>300-349.9</th>
<th>350-399.9</th>
<th>400-499.9</th>
<th>500+</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Families</td>
<td>13.56</td>
<td>9.82</td>
<td>6.47</td>
<td>7.96</td>
<td>8.17</td>
<td></td>
</tr>
</tbody>
</table>

TABLE 6
Distribution of Indebtedness of Peasant Families in Guangdong

<table>
<thead>
<tr>
<th>Surplus</th>
<th>Balanced</th>
<th>In Debt</th>
<th>No Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>34.57</td>
<td>13.32</td>
<td>52.08</td>
<td>0.03 percent</td>
</tr>
</tbody>
</table>

Source: Amano, *op. cit.*, Vol. 2, p. 207

The crushing burden of indebtedness and its pervasiveness in the province could be further illustrated by a survey carried out by the Zhong-shan Cultural and Education Institute and Lingnan University in 1933. Of the 1,209 families interviewed, not only were 58.9 percent of the poor peasant families in Pan-yu district in debt, but among the middle peasants 52.8 percent were incapable of making ends meet without borrowing from different sources. Chen also found that in his investigation of sixty-seven villages in Pan-yu county, 50 of them had seventy or more percent of their peasant families in debt. Specifically, he pointed out that eighteen of them had 90 percent of the peasant families in debt, while, sixteen of them had 80 percent, nine had 70 percent, and five had 60 percent. In Shun-de county, the picture was similar—about 70 percent of the peasant households had to live on borrowed means; it was typical as well as all the districts in the Pearl River delta. Chen's statistics, however, often where lower
than what they really should be because of particular difficulties involved in investigating indebtedness.

2. **Credit Society**

With such widespread poverty, it was not uncommon to see that most poor peasants had to resort to loans to subsist. While Buck noted that in Guangdong, 63.66 percent of the peasants' loans had been incurred to meet household consumption rather than production usages, Yang was more specific in pointing out that in his study, the poor peasants in Nanching Village generally borrowed to meet immediate, pressing needs—such as paying rent, buying food, seeds or fertilizer to keep the family or the farm going—while the middle peasants commonly borrowed to meet critical situations of family life such as marriage, funeral, birthday and celebration of the birth of child.

There were different channels for borrowing—depending on the size of the loan as well as the credit standing of the debtor. For smaller sums and for persons who had good credit standing among friends and relatives, the most popular method was to organize a credit society commonly called *qi-hui* 起會 or *zuo-hui* 做會. The emergence of this type of credit society dates back to the Tang dynasty. Its persistence and its popularity were a reflection of the severe shortage of capital as well as the peasants' desperate need.
In this, groups of people paid sums of money at regular intervals, the collection being placed at the disposal of individual members in turn. There were many variations of this type of credit society in Guangdong and in other parts of China as well—the yao-hui 44 for example, substituted grain for money. In any case, the operating principle was essentially similar. Fei gave the best summary of how it operated: 10

This society is a sort of saving system, into which each member pays a certain amount at certain intervals and from which he is paid a certain sum on a specified date. The size of the payment to be made by each participant and the time at which he will be paid are prearranged. Anyone in need of money may organize a society by enlisting ten other members. Each will pay a predetermined sum of the one hundred dollars which the organizer receives. . . . Thereafter, the society meets every six months, usually in March and September, at which time one member receives one hundred dollars and the rest make their payments. Members other than the organizer pay sums directly proportionate to the order in which they are paid, so that, in effect, the first five are paying interest for loans they have received, while the last five are receiving interest for money they have deposited. The organizer, on the other hand, repays just one hundred dollars during the five-year life of the society and has thus secured a loan without interest. But he is obliged to offer a feast at each meeting and has the responsibility of collecting the money. Furthermore, in case of default by any of the subscribers, he is held accountable. The functions of this system depends on the invariable discharge of their obligations by the subscribers, and this is secured only by existing ties of friendship and kinship.

To illustrate how this worked out, we can take a look at the following table:
<table>
<thead>
<tr>
<th>Time of Meeting</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
<th>9th</th>
<th>10th</th>
<th>11th</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizer</td>
<td>0</td>
<td>18</td>
<td>16</td>
<td>14</td>
<td>12</td>
<td>10</td>
<td>10</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>Member 1</td>
<td>18</td>
<td>0</td>
<td>18</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>180</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
<td>16</td>
<td>0</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>16</td>
<td>160</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>0</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>14</td>
<td>140</td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>0</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>120</td>
</tr>
<tr>
<td>5</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>0</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>80</td>
</tr>
<tr>
<td>8</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
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<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>60</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>20</td>
</tr>
</tbody>
</table>

Receive 100 100 100 100 100 100 100 100 100 100 100

In this case, member one who received his hundred dollars at the meeting followed immediately after the initial one was actually paying 180 dollars while member ten who eventually would receive his share of money was paying only twenty dollars total, the eighty dollars net profit he would receive at the end would be his share of interest for the money he paid out.

A qi-hui rarely exceeded a 100 yuan amount and the term of the society normally ran for under five years (Table 7). Theoretically, a person of good credit standing could organize or belong to several societies and obtain a sizable loan by combining the proceeds from the
different societies, but when there was a general shortage of capital, one could not easily find many members to organize or join a society. When this failed, one had to go to other sources for loans.

3. Loans and Interest Rates

Buck pointed out that in general most peasants in Guangdong went to their friends and relatives when they were in need of a loan (Table 8). Presumably by using a different set of categories and different criteria for defining categories, the statistics of Nong-qing Bao-gao indicated that peasants in the province, assumed to be other...
than friends and relatives, obtained their loans mostly from landlords, pawnshops, and merchants (Table 9). According to the *Shen-bao Nian-jian*, however, it was the rich peasants who provided most of the loans to needy peasants (Table 10). These reports seem to be confusing, but we can infer that a peasant in need of a loan went first to his friends and relatives; but since there was a general shortage of capital, he would often have to seek help through other credit channels.

### TABLE 8
Peasants' Sources of Loans in Guangdong

<table>
<thead>
<tr>
<th>Channels of Credit</th>
<th>Tung-xiang a</th>
<th>Friend Relative</th>
<th>Merchant</th>
<th>Pawnshop</th>
<th>Store</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>3.33</td>
<td>54.00</td>
<td>4.50</td>
<td>0.33</td>
<td>14.67</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Channels of Credit</th>
<th>Landlord</th>
<th>Neighbour</th>
<th>Nearby Village</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>4.00</td>
<td>4.17</td>
<td>5.00</td>
<td>3.67</td>
</tr>
</tbody>
</table>

a*Tung-xiang* refers to persons from the same village.

TABLE 9
Distribution of Sources of Loans in Guangdong

<table>
<thead>
<tr>
<th>Channels of Credit</th>
<th>Local Bank</th>
<th>Co-op</th>
<th>Pawn Shop</th>
<th>Bank</th>
<th>Store Landlord</th>
<th>Rich Peasant</th>
<th>Merchant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>5.5</td>
<td>0.3</td>
<td>18.4</td>
<td>3.2</td>
<td>13.2</td>
<td>26.9</td>
<td>12.4</td>
</tr>
</tbody>
</table>


When loans were extended from sources other than friends and relatives, interest rates were generally usurious. This certainly was a reflection of the high risk of default and the absence of alternative lending facilities. According to the statistics of Nong-qing Bao-gao

TABLE 10
Distribution of Sources of Loans in Guangdong

<table>
<thead>
<tr>
<th>Channels of Credit</th>
<th>Friend/Relative</th>
<th>Landlord</th>
<th>Rich Peasant</th>
<th>Merchant</th>
<th>Local Bank</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>0.6</td>
<td>10.2</td>
<td>5.8</td>
<td>52.9</td>
<td>16.6</td>
<td>5.7</td>
</tr>
</tbody>
</table>

of 1934, the bulk of the peasants' loans in Guangdong province, 48.2 percent, had an annual interest rate of 20 to 30 percent imposed on them while another 30.4 percent had a higher interest rate of 30 to 40 percent annually. In the Pearl River delta region, Luo and Lin's study of Long-yan-dong village indicated that the normal interest rate for loans was 20 percent per month, but it was not uncommon to find numerous cases where peasants were paying 40 to 50 percent. Yang revealed that even in 1948 the interest rate for loans in Nanching village was normally 20 percent for six months and 40 percent per annum.

Moreover, most of the loans obtained from these sources would require some kind of security, mortgage, or at least a guarantor; even though most of these loans were short-term loans of six to twelve months. The Nong-qing Bao-Gao pointed out that 51.1 percent of the loans in Kuangtung province was mortgage credit; 21.6 percent was guarantor credit, while personal credit accounted for only 27.3 percent. The Land Commission in 1937 indicated a similar statistical picture: 47 percent of the loans contracted in the province required a mortgage of land, 22.7 percent required a mortgage of property like houses, and 11.3 percent required some kind of personal items such as jewellery, etc. for security while personal credit only accounted for 19 percent. The terms of these loans were normally short: 53 percent of the loans in the province was extended for six to twelve months, and 15.7 percent was under six months.
Loans, however, were not only limited to cash. Loan on crops were also common. The statistics of a survey of 49 xian in Kuangtung province reported that 52 percent of the peasant families was in debt under crop-loans, and more than 50 percent of these loans were obtained from rich peasants. (Table 11)

TABLE 11
Distribution of Sources of Crop-loans in Guangdong

<table>
<thead>
<tr>
<th>Channel of Credit</th>
<th>Friend/Relative</th>
<th>Landlord</th>
<th>Rich Peasant</th>
<th>Merchants</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>15.4</td>
<td>11.1</td>
<td>50.4</td>
<td>1.54</td>
<td>7.7</td>
</tr>
</tbody>
</table>


The usual interest charged on a loan in grain was 30 percent for six months, according to Chen's estimation. However, in many cases a much higher rate would result because of the lender's manipulation of price and weight.

4. Pawn Shops

For the poor peasants without a good credit standing, the most common channels of credit were the pawn shop and a temporary transference of their own land, if they had any. There were three types
of pawnshops, the dang 鐘, an 銼 and ya 神, offering different
time periods or limits for redeeming the pawns. The dang usually
was set up with a large capital and therefore set up a longer time
period of three years since they could afford to sustain a longer
rhythm of capital circulation. However, they usually engaged in
pawns of high value and quality, items which were located mostly in the
cities. The an and ya fixed terms at two years and one year respec-
tively, but there was also a type of ya known as xiao-ya 小押 which
set its redemption period at only three months.

All of these pawn shops conducted business by greatly under-
assessing the value of the pawns. At the same time they also charged
exhorbitant interest rates. Yang observed that in 1948-1949, in a
nearby village of Nanching, a rate of 20 percent for every three
months, or 80 percent per annum, was charged. And this, when
compared to those in other regions, was relatively low. Chen suggested
that the institution of ya was spreading over the entire province. Most
of the customers of ya were the least well-to-do peasants. The majority
of articles pawned proved to be living necessities such as clothing,
cotton quilts, and agricultural implements such as hoes, rakes,
harrows and ploughs. This was indicative of the meagre resources
the peasant families had.

When a peasant temporarily transferred his land in order to
obtain a loan, it was called dian-tian 田典. Here the creditor could
farm the land himself or could rent it out instead of charging interest, but the deed remained in the hands of the debtor and the debtor kept the legal ownership. Many families, according to Yang, in the village of Nanching had, mortgaged their land this way and Chen found that in the ten representative villages he surveyed in the district of Pan-yu, the peasants had mortgaged and sold 5 percent of their land area within five years. 21

5. **Money Lenders**

Still more complicated were the usury practices of the professional money lenders. There were many variations of cash usury in Guangdong. "Jiu-chu Shi-san Gui" refers to the practice where the borrower, if he asked for a loan of one yuan, would expect to receive only 90 percent of the loan but, after one month, would have to pay back the sum total of 1.13 yuan. "Tang-fang-li" on the other hand, demanded a monthly interest of 25 percent which was compounded every six months. "Tou-qian" meant the imposition of an annual interest of 9 to 11 yuan for a 10 yuan loan. In the Pearl River delta the most widely practiced high-interest loan, gao-li-dai, was "Bu-qiao-li". Here, if one borrowed one yuan, he would be expected to pay a daily interest rate of 10 percent and had up to five days to pay back his loan with interest. 22
6. **Credit Cooperatives**

It was, therefore, not easy for poor peasants with unfavourable credit standings to improve their situation by borrowing. This difficulty was augmented by the lack of alternative credit channels that could offer loans with relatively low interest. Tables 10 and 11 show that only a very small portion (0.3 and 0.6 percent respectively) of cash loans in rural Guangdong was obtained from cooperatives, while the need for low interest loans was obviously much greater. Even when there were credit cooperatives, needy peasants did not have easy access to them due to the often long and complicated procedures of applying for and obtaining a loan.

In order to apply for a loan from the credit cooperatives set up by the government for the purpose of revitalizing the village economy, the applicant would first have to fill in an elaborate petition form which had to be processed through the bureaucracy hierarchy before an actual grant was made. The officials of the local cooperative, acting upon the petitions of their members, had to fill out another set of forms to hand to the cooperative's director, who in turn would have to submit it to the director of the district. After deliberation, the latter signed a further petition which would be placed before the Committee of Cooperatives of the Provincial Government. This committee collected all petitions and negotiated with the Provincial Agricultural Banks for loans. These
banks had been established by the provincial government with funds from the Provincial Treasury, funds which had been derived from surtaxes on land and other forms of similar assessments. From the Provincial Agricultural Banks, special investigators were sent to ascertain the loan situation and only after the bank had satisfied itself as to the soundness of the security, was the loan granted through the same channels as the applicant was made. The whole process from the initial petition to the final grant would take at least three months and very often half a year.

Furthermore, there were regulations which limited a cooperative member to a loan of not more than 15 yuan at a time. This was obviously too small to allow for any improvement in farm methods. Moreover, in order to lower the risks of defaults, the cooperatives introduced a system of collective responsibility for loans. Failure to meet a payment meant a burden on all other members. Even when loans were granted, they were supposed to be restricted to expenditures on agricultural production such as seeds, fertilizer, and other agricultural implements, thus they were of little value to most poor peasant who mostly needed loans for daily necessities. With all these restrictions, the advantages cooperatives might have to offer could easily be offset. A concrete advantage was only to be found in the comparatively lower interest rate offered to members: a little less than 20 percent per annum while the prevailing rural interest rate was over 30 to 40 percent.
This advantage, however, was not necessarily shared by the poor and needy peasants. In the first place, these cooperatives were primarily the work of the village gentry. With a system of collective responsibility for defaults, the management of the cooperative very often rejected memberships from poor peasants who had few possessions and a poor credit standing. Consequently, it was not unusual to find that members were middle peasants or small landlords who had the basic resources of production and that the membership of cooperative was generally small in number.\(^2\) And needless to say, when the majority of the peasant population as illiterate,\(^3\) not only was it easy for the gentry to control the cooperatives for their own purposes but this also developed another alliance of power, wealth, and prestige among the gentry, landlords, and rich peasants. With easy access to these channels of credit, they could both secure loans to avoid payment of business taxes and sub-loan to the poor in order to extort usurious interest.\(^4\)

C. Markets

1. Localized Markets and Crop Prices

In order to meet cash obligations such as rent, taxes, and many basic necessities, peasants depended a great deal upon the sale of his crops. A general practice had been to sell quality produce while the inferior was mostly consumed at home.\(^1\) The prosperity of
the peasants depended upon the margin between costs and price, and, more important, the character of the marketing system.

The marketing situation did not relieve any of the burdens of the poor peasants. In most cases the peasant had no choice but to sell in the local market. Other than in a few limited areas, the peasant was kept from more distant markets not only by inadequate and thus costly transportation, but also by an information barrier. The usual means of transportation were carts, wheelbarrows of a size which almost made them carts pulled by men, and the shoulders of human beings. Buck investigated thirteen localities in the Guangdong and Fujian areas and found that peasants in these districts sold 62 percent of their produce at the local market towns, 24 percent at xian towns and 4 percent in the same village in which they were grown. Only 10 percent were sold in distant markets. Buck also observed that 75 percent of the peasants were using their own energy rather than animals to carry their produce to the markets; water transport via man-operated junks was also popular.

Consequently, a multitude of little, localized markets existed in which prices fluctuated violently with every change in local supply. The UN Relief and Rehabilitation Administration noted in their weekly report on Guangdong in 1946 that "it is interesting to observe the wide spread of rice prices throughout the province. . . . One important factor is of course the deplorable lack of transport
and communications which tends to divide the country into semi-water-tight separate economic units. This and the relation of supply to demand are of course chief influences. In the Pearl River delta region, one would find in Nanhai, the price per picul in 1946 was CN$ 51,200 (Chinese national currency), while in Pan-yu, the price was CN$ 41,000.

Rather than carry his produce to the local market, the peasant could sell it to the middlemen who often came to the village. Buck noted that in Guangdong and Fujian, 94 percent of the produce not sold at the local markets was purchased by middlemen, whereas, 2 percent was purchased by local consumers and 4 percent by local peasants. The peasant was, however, in a weak position to drive a bargain. Lacking reserves of grain and money and having to meet debt payments, he would often have to sell his produce immediately after harvest when the market price was falling. Or because the peasant had borrowed money before the harvest by pledging his prospective crop or sold it outright at a great discount before it was cut, he could not even get a fair price for his crop. He was also ignorant of the prices ruling in other districts. Obliged to sell to buyers in his immediate neighbourhood, he was thus easy prey for local guilds, which had fixed prices and forbidden over-bidding among themselves to ensure maximized profits.

Storage of produce was an additional expense; losses could occur through insects, rodents, dampness, fire and theft. This helped
to account for higher grain prices several months after harvest, a time when peasants' grain resources were at their lowest. The small peasants of Guangdong, subject to slow turnover, high rent, and lack of resources, were often not able to survive the interval between sowing and harvesting without borrowing grain at a much higher price than they had been paid for it. While these peasants already had to pay high interest rates for their loans in grain, they were faced with still higher increases in the interest rate from a general 28 percent monthly in 1938 to 39 percent per month in 1946 for a three month loan. For a six month loan, the rate rose even higher, increasing from 42 percent to 63 percent monthly during the years between 1939-1946 (Table 12).

### TABLE 12
Interest Rates for Loans in Grain, 1939-1946

<table>
<thead>
<tr>
<th>Year</th>
<th>3 Month Loan</th>
<th>6 Month Loan</th>
<th>Year</th>
<th>3 Month Loan</th>
<th>6 Month Loan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1938</td>
<td>28</td>
<td>42</td>
<td>1942</td>
<td>26</td>
<td>41</td>
</tr>
<tr>
<td>1939</td>
<td>27</td>
<td>42</td>
<td>1943</td>
<td>31</td>
<td>51</td>
</tr>
<tr>
<td>1940</td>
<td>26</td>
<td>41</td>
<td>1944</td>
<td>38</td>
<td>63</td>
</tr>
<tr>
<td>1941</td>
<td>25</td>
<td>41</td>
<td>1945</td>
<td>35</td>
<td>59</td>
</tr>
<tr>
<td>1942</td>
<td>26</td>
<td>41</td>
<td>1946</td>
<td>39</td>
<td>63</td>
</tr>
</tbody>
</table>

CHAPTER 2
NOTES

A. Land: The Changing Tenancy System


4. Ibid. See also Feng, op. cit., p. 932.

5. Amano, op. cit., p. 345; see also pp. 478-520.


10. Chen Han-seng, op. cit., p. 132.

11. Amano, op. cit., p. 356; also p. 357: according to the National Land Commission Report, in Guangdong province, 15.34 percent of peasants paid cash rent, 84.60 percent paid rent in grain and only 0.03 percent was under share rent system. Buck, in his Land Utilization in China, suggested that the distribution in South China was: Cash rent, 39.14 percent; in grain, 60.43 percent and share rent, 0.43 percent. Cited in Amano, Ibid., p. 359.


15 Chen Han-seng, *op. cit.*, pp. 56-58.


17 Chen Han-seng, *op. cit.*, pp. 60-61.


22 Chen Han-seng, *op. cit.*, p. 63.

23 Feng, *op. cit.*, p. 943. See also Guangdong Nong-min Yun-dong, p. 70.

24 Zhong-guo Nong-min (Chinese Peasants), 1926.

25 Feng, *op. cit.*, p. 235. For tenants who had more than 10 *mu* of land to farm, the balance was:

<table>
<thead>
<tr>
<th>Income</th>
<th>Production Cost</th>
<th>Other Expenses</th>
<th>Rent</th>
<th>Surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td>1782</td>
<td>368</td>
<td>561</td>
<td>632</td>
<td>241 yuan</td>
</tr>
</tbody>
</table>

For tenants who had 5-10 *mu*:

<table>
<thead>
<tr>
<th>Income</th>
<th>Production Cost</th>
<th>Other Expenses</th>
<th>Rent</th>
<th>Surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td>945</td>
<td>174</td>
<td>333</td>
<td>352</td>
<td>86 yuan</td>
</tr>
</tbody>
</table>
However, by close examination, we feel that the surpluses might be a result of over-estimating the actual income received by the peasants. If we accept the estimate that for 10 mu of medium-low grade land, the annual grain production would be no more than 27 picul and that the average price for grain per picul at the market was 6 yuan, the surpluses are obviously grossly exaggerated, even if we have doubled the income assuming that they could afford to rent high-grade land for their farming.

27 Wu and Hunag, op. cit., pp. 261-262.
28 Yang, op. cit., pp. 54-58.
29 The source has 2,141 catties but this must be incorrect. Thirty percent added to 1,314 catties should be 1,708.2 catties.
30 Again, the percentage should be 11.77 percent.
31 The correct figure should be about 55.2 percent. However, we could also assume that the higher income peasant families had a larger size of 5.2 persons rather than 4.8 based on Wu and Huang's observation in the Old Phoenix Village in the same county. See Wu and Huang, op. cit., p. 262.
33 Wu and Huang, op. cit., p. 267.
B. Credit

The Zhong-guo Nong-min article and the Chinese National Evangelical Christian Association's estimate both were about 170 yuan in 1926-1927. (See earlier discussion on rural poverty.) Accounting for inflation and price increases, thus, it would be reasonable to accept 200 yuan as the amount necessary to maintain subsistence in 1937.


Ibid.

See Chen Han-seng, op. cit., p. 133.

Ibid., p. 88.

Ibid., p. 89.


Yang, op. cit., p. 68.


Fei Hsiao-tung, Earthbound China (Chicago: University of Chicago Press, 1945), pp. 120-121.


Luo and Lin, op. cit., p. 245.

Yang, op. cit., p. 70.

15 Ibid., p. 247.

16 Ibid., p. 263.

17 Chen, op. cit., p. 89.

18 Yang, op. cit., p. 70.

19 See Chen, op. cit., p. 90. Table of interest rates on loans in grain.

20 Ibid., p. 93.

21 Yang, op. cit., pp. 70-71.


24 See Buck, op. cit., p. 373. Also Wu and Hunang, op. cit., p. 278 pointed out that in the village of Old Phoenix, only 11 to 12 percent of the population were literate.

C. Markets

1 Tawney, op. cit., p. 54.

2 Buck, op. cit., p. 354.

3 Ibid., p. 353.


5 Buck, op. cit., pp. 348-349.
A. Poverty and Peasant Expediency

Faced with problems of land, credit, marketing and many others, the margin of survival for most poor peasants in Guangdong was in any event quite narrow; and obviously they had to, to the best of their ability, manipulate the social and economic environment to cope with the pervading poverty. Different expedient measures were adopted by the needy peasants. The credit societies organized by the peasants among their peers and relatives, although they could not solve the core of their problems of credit, was one of such measures. The emergence of the peasant associations in districts outside of the delta area, although it could not alter the exploitive relations between the peasants and the clan/landlords, was another reflection of their expediency.

The most common activities most poor peasants engaged in to cope with the problem of subsistence were, however, subsidiary activities, both agricultural and non-agricultural, in which supplementary income could be derived. According to the statistics of *Nong-qing Bao-gao*, 4 percent of the peasants in Guangdong engaged in silk cocoon raising; 11.4 percent in fish farming; 3.5 percent in bee-
keeping; 9.3 percent in spinning and weaving cloth; 5.2 percent in brick-making (with mud); 9.1 percent in basketry, hat-weaving and sandal-making (with straws); 16.7 percent hired themselves out as casual laborers; 41.9 percent cut grass from hillsides to sell for fuel; 13.6 percent peddled part-time; and 4.9 percent did part-time carpenter work, while 3.6 percent sewed.¹

Nong-qing Bao-gao noted, however, that most of these activities were waning, especially spinning and weaving, cocoon raising, fish-farming, brick-making and hiring out.² The only exception to this were grass-cutting and peddling, both of which required very little capital or skill. Even these activities did not generate large incomes: the peddling business was often not very good, and cutting grass was limited by geographic boundaries (one could not cut grass that was within the boundaries of neighbouring villages), the availability of hilly land, and the amount of grass that could be cut.

At the same time that farming alone would not provide a livelihood and other occupations were not available or could not provide adequate supplementary income, credit facilities generally discriminated against the neediest of the peasant. Thus the position of these poor peasants offered little hope for improvement, they could seldom rise above these economic restrictions. The number of tenants had been increasing steadily since 1911, an indication of their deteriorating position. In 1911, 52 percent of the peasants in Guangdong province were tenants, but by 1921 the percentage had
reached 57 percent and it was 58 percent in 1933. Chen observed that in the delta region among the ten representative villages he had investigated from 1928 to 1933, the number of poor peasant families rose from 286 households to 326 households; landless labourer families increased from 83 to 100 households. In 1928, 58 percent of the poor peasant families owned no land; by 1933 the percentage of landless poor peasant families was 60.4 percent. In other words, they were losing an average of 4.4 percent of their land each year. Even for those who could keep their economic positions, it was difficult to climb higher on the "agricultural ladder." Hunag estimated that in 1937 the average surplus for each mu of field in Guangdong was about 6.53 yuan while the average land price was 72 yuan per mu. In other words, it would take an average of 11.03 "purchase year" for a peasant to acquire a mu of land.

It was a common phenomenon then to see peasants whose life was bleak resort to emigration from their villages for both seasonal and long-term periods. The statistics of Nong-qing Bao-gao revealed that in 1934, 71.7 percent of the counties in Guangdong had peasants leaving their villages. Among these, 83,830 peasant families (about 3.4 percent of the total peasant population in the counties with leaving peasants) left their villages as a family while 261,252 peasant families (about 10.5 percent of the peasant population in counties with leaving peasants) had their children leaving their villages. Of all the peasants who left their villages, 45.6 percent
were tenants and 22.1 percent were labourers. Looking more closely, 67.6 percent of the peasants who left their villages had less than 5 mu of land, and 26.8 percent who had less than 10 mu (but more than 5 mu).^7 Thirty-six point nine percent of them came from family size of five to six persons while 35.5 percent of them were from families with three to four people.^8

For those who left their villages as a family, 50.9 percent went to the city to find jobs.^9 A nearly equal amount (52.4 percent) of the youngsters who left their families in the villages also went to the city for other job opportunities.^[ Among the various reasons given for leaving their villages, 23.7 percent claimed that they left because of poverty; it was impossible for them to make a living in their villages (See Table 13). In a more detailed geographical breakdown, Chen suggested that in the Eastern part of Guangdong--in Mei-xian and Jiao-ling--the annual emigration rate, excluding those who went overseas, had increased by 35 percent in 1933; in the Southwestern part--such as Mao-ming and Xin-yi--the rate was increased by about 30 percent; while in the middle delta region covering Shun-de, Pan-yu, Zhong-shan and Tai-shan, the rate increased by 20 percent. And in these cases, most peasants left to become coolies, peddlers or soldiers.^[1]
TABLE 13
Reasons for Peasants Leaving Villages in Guangdong

<table>
<thead>
<tr>
<th>Bankruptcy of Village Economy</th>
<th>Insufficient Cultivated Fields</th>
<th>Too Densely Populated</th>
<th>Difficulty in Rural Credit</th>
<th>Floods</th>
<th>Droughts</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.3</td>
<td>2.1</td>
<td>4.9</td>
<td>4.2</td>
<td>4.9</td>
<td>4.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bandits</th>
<th>Other Natural Disasters</th>
<th>Poverty</th>
<th>Heavy Taxes and Tolls</th>
<th>High Rents</th>
<th>Bad Harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1</td>
<td>2.8</td>
<td>23.7</td>
<td>8.4</td>
<td>1.4</td>
<td>5.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Low Prices for Produce</th>
<th>Waning Auxiliary Occupations</th>
<th>To Attend School</th>
<th>Business or Other Occupations</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5</td>
<td>4.9</td>
<td>0.7</td>
<td>2.1</td>
<td>11.2</td>
</tr>
</tbody>
</table>


B. Rural Underdevelopment

The rural situation in Guangdong described in the foregoing sections, to some scholars, was nothing but temporary rural depression. In their view, the pre-liberation rural economy was an intensely competitive economy of individual freeholders; there was constant mobility, both upward and downward. The relations between clan/landlords and peasant tenants were of a patron-client bond,
providing the peasants the right to subsistence and a "fundamental social morality" of traditional Chinese peasant society. In this view, the primary loyalties of peasants were to the family because family endeavours provided the principal means for subsistence and, where possible, self-sufficiency. Nonetheless, the meagre resources of the conjugal kinship group usually limited the range of family social services to the individual peasant household itself. Beyond such family-oriented social services, peasants sought social security in their interpersonal relations with other villagers, particularly the companions whom they respected as defenders of communal solidarity.

The patron-client mode also suggests that beyond the immediate family, the common cause of a family and neighbourhood welfare often encouraged marginal but meaningful mutual assistance and protection to tenants of common blood and residential ties. Thus, peasants traditionally looked to respected and reliable leaders among their own ties to protect them from bandits or injustices; to carry on redistributive processes such as the rotation of rented land among kinsmen; and to maintain a variety of social services on a community-wide basis. In other words, the clan/landlord was expected to provide a measure of subsistence crisis insurance for the peasants in exchange for their work; and as a self-perceived local patron, the clan/landlord was also assumed to perform a host of brokerage services for their tenants vis-a-vis the outside world.
To view the rural situation in pre-liberated Guangdong in these terms is basically to view the society in an integrationist approach. Both rural poverty and the landlord-peasant relation existed only as given social realities. The tenants or peasants were assumed to accept the exchange of services with landlords as benefits bestowed by the patrons, although their relationship is simply deemed an unequal one. The conflicts over such exchanges were never recognized as forces which can produce changing social realities; nor the exploitive nature of such exchanges was considered an important element in the social processes.

Here, this class model\(^3\) and analysis not only suggest that the peasantry was a victim of oppression and exploitation, but also that under this network of exploitive relations a set of obstacles had evolved in the changing social realities to become stumbling blocks to rural development.

Our explanation is that under such system of rural exploitation, with a class structure which allowed such exploitation being protected by the government, not only a substantial amount of surpluses was extracted by the landlords, the rich, the gentry, money lenders and others from the peasants, more important is that by this continuing exploitation, the peasants were left drained and destitute, without the means to untrack themselves from poverty and were ground down to impotency. All elements of this social formation--its values, social
relations and institutions—discouraged rural development.

In terms of land, the smallness and fragmentation of individual farms under such exploitive system posed serious problems for rural development. Zheng estimated that in Guangdong, 34.6 percent of the peasant families were working on farms under 5 mu, while 27.5 percent worked on farms of 5 to 10 mu. The Land Commission's survey indicated that the situation was more serious: 51.23 percent of the peasant households in the province operated farms of under 5 mu, 36.19 percent had farms of 5 to 10 mu. Buck's estimate that 17.42 mu constituted the normal size of a farm in Guangdong was obviously exaggerated.

The size of the holdings, however, did not tell the whole story. We also have to note that most of these minute holdings were often not grouped or linked together. Rather, they were scattered and divided. The Land Commission revealed that in their investigation of 14,513 households, irrigated land was divided into an average piece (qiu 块) of 1.353 mu while the non-irrigated fields were divided into pieces of 1.489 mu. Buck also found that in the farms he investigated in Guangdong, 70 percent of them were divided into one to five pieces, while 22 percent were divided into six to ten pieces. Moreover, he observed that the average distance between the fields and the peasants' homes was 0.77 kilometer, while the farthest distance was 1.5 kilometer.
The prevalence of minute land holdings had necessitated special methods of cultivation in order to make them yield a livelihood. These methods involved much detailed vigilance and heavy physical labour; they were habits formed and experience accumulated over long centuries and ingenuity which had been rarely surpassed in wringing produce from the meager land. They also could be seen as a venerable tradition raised to the dignity of art, a triumph of individual skill unaided by organized knowledge, yet it was also an agriculture which could be aptly described as a kind of gardening. Their primary concern has been not progress, but stability; not to secure the maximum return for the minimum effort, but to distribute limited and unexpanding resources among the largest possible number of human beings.

In economic terms, with such fragmentation of land, "surplus" labour was created in the sense that the majority of the peasant population were limited to tiny holdings in agriculture and to the informal urban sector, low output and inefficiency resulted.\(^{10}\)

At the same time, intense inequality of wealth and resources created and perpetuated by exploitive relations discouraged the saving potential of the society: the poor were too poor to save and the rich lacked the incentives to do so. Moreover, the limited saving of the rich was largely offset by lack of saving among the poor: the rich bought the land of the poor and made loans to them, enabling the poor temporarily to spend more than their current income. As long as the
rich, attracted by high interest and the income, status, and security of owning land, used their surplus income to make transfer payments of this kind, national saving would be discouraged, for, with few exceptions, only those who needed funds for emergency consumption would borrow or give up their land. The tendency toward increased tenancy was also institutionally inimical to increased saving and investment, because the tenant was responsible for most of the investment and had little incentive, or simply could not afford, to permanently improve land that was not his and that was under constant insecurity deriving from the short-term land tenure.

In development terms, such exploitive network can be described as an interacting series of control mechanisms maintaining the privilege of a minority set of elites and perpetuating the mass misery within national boundary, i.e., some form of "internal colonialization." Numerous blockages thus were built in the economic system not only to prevent the benefits of economic surpluses generated by the peasants' to spread widely among themselves, the extractive nature of such exploitive system in the rural sector also made the goals of development--quantitative ones such as income, productivity, output, literacy rates, occupational structure, and so on, and qualitative ones such as life-sustenance, security, freedom from servitude, etc.--impossible. No matter how much input was pumped into the rural sector, once it reached and filtered through the exploitive networks, there was little left to trickle down. Although the peasants initiated self-reliant
subsistence efforts independent of and even in spite of, the agrarian elite, and they tried to avoid permanent dependency, peasant welfare was contingent upon their capacity to acquire land, tools and the skills needed to procure an alternative means of sustenance.

The heart of the explanation of rural underdevelopment, thus, would lie in the exploitive class structure of rural society and the means for its continual reproduction. Elimination of the exploitive relations in the rural system, therefore, seems to be the most appropriate starting point for a strategy of rural development in Guangdong.
CHAPTER 3
NOTES

A. Poverty and Peasant Expediency

1See Shina Nogyo Kiso Tokei Shiryo: Ni, p. 158.

2Ibid., pp. 159-160. See also Amano, op. cit., pp. 728-729. We also have to note that fish farming was not an opportunity for the poor because fish ponds were mostly owned by clans, and they were usually rented out to the highest bidder, bidding being held once a year. Because of the investment involved in rent, in the fish 'seedlings' and in the labour of collecting good grass and cutting it up for feeding, only the rich peasants could engage in this business. Similar situation applied to the silk cocoon business because land was required to grow mulberries and labourers were required to pick the leaves for feeding, the burden was too heavy for ordinary peasants especially when prices of silk and cocoons dropped drastically after the introduction and importation of artificial silk materials from Japan. Even the opportunity for farm labour was limited because only rich peasants and a portion of middle peasant could afford to hire any sizable amount of help. In addition, there was the competition from the migratory boat people who worked for lower wages than native labourers. See Yang, op. cit., pp. 63-68.


4Chen, op. cit., p. 95. Also Amano, op. cit., p. 260.

5See Amano, op. cit., p. 455. Yang also commented, "at the time of our investigation, one mu of medium-grade irrigated land in Nan-ching was worth about 4,000 catties of unhusked rice, or the equivalent of about six years of average production of the land. This was about 20 percent higher than the national average of land price estimated by the Chinese Land Administration Investigation Survey. It is difficult to imagine how a poor peasant who could hardly escape sinking into debt from year to year could accumulate 16,000 to 20,000 catties of unhusked rice to buy four or five mow of land fertile.
enough to maintain subsistence for an average family. At the wage level of 1948, it would have taken a landless farm labourer four years' pay to buy one mow of land, or sixteen to twenty years to buy himself a small farm of four to five mow of medium-grade irrigated land if he did not spend any part of his pay during all that period of time--hardly possible considering his personal needs and family obligations. Conditions here certainly bore out Fei's assertion that it took more than one generation of industry, frugality, and luck for a peasant to rise above poverty." See Yang, op. cit., p. 125.


7 Ibid., pp. 174-175.

8 Ibid., p. 173.

9 Ibid., p. 176.

10 Ibid., p. 177.

11 Chen, op. cit., p. 111.
B. Rural Underdevelopment

1 For example, see Meyers, op. cit.


4 Zheng, op. cit. Also cited in Amano, op. cit., p. 194.

5 Ibid., p. 196.

6 Buck, op. cit., cited in Amano, Ibid., p. 189.

7 Ibid., pp. 210-211.

8 Ibid.

9 Ibid.


PART II

RURAL DEVELOPMENT IN THE MAKING
A. Land Reform

Mao advanced his thesis of "New Democracy" as early as 1940. China's backwardness was attributable as a 'semi-feudal' and 'semi-colonial' past marked by internal oppression and foreign exploitation. Shortly after the People's Republic officially came into being in 1949, it was therefore, only natural for the government to proclaim the basic tenets of this "New Democracy." These included opposition to foreign domination, but the emphasis was on doing away with internal "feudal forces" by implementing the Land Reform Law (LRL) in 1950 to abolish the feudal exploitation system of land ownership by the landlord class, and introducing a system of peasant ownership in order to "set free the rural production forces, develop agricultural production, and pave a new path for New China's industrialization."¹

The contents of the LRL were primarily concerned with the ways and means of transferring land ownership from landlords to poor
peasants. Committed to expropriation from the *rentier* landlord class it nonetheless sought only to confiscate their *surplus* land, draft animals, farm implements, grain and houses in the villages (not in town)—only those items directly relevant to agricultural production. Other property, such as money and jewelry, would remain intact. All land and other means of production which had been thus confiscated were to be taken over by the *xiang* (administrative village) Peasants' Association for "unified, equitable, and rational distribution" (*tung-yi gong-ping he-li fen-pei* 萬一公平合理分配) to peasants under the principle of "allotting the land to its present tiller."²

The LRL of 1950, however, was different from the Land Reform Outline (Outline Land Law-OLL) published by the Party in 1947.³ Rather than forcibly taking all land, draft animals, and farm implements in a village and divide it up among all peasants *equally*, LRL was designed to keep the process of land transfer to the minimum disturbance of existing farm units and to preserve a rich peasant economy. The land transfer or redistributive mechanism of LRL was designed for "flattening the top and narrowing the base" so that the middle rank of the rural class would expand, thus providing incentive for all peasants to work hard and carry out cooperation toward the development of rural production. Although rich peasants were subject to ideological pressures and their surplus land was to be "requisitioned" in part or in whole, their landholdings were, with the exception of large amounts of land rented out by rich peasants, generally left intact (See Article 6 of LRL). Here, the prohibition on renting
out land received in re-distribution was also removed.

In redistributing land, the LRL also made the following provisions:

(a) the holdings of middle peasants, which were generally a little above average, were to remain intact;

(b) the poor peasant receiving a portion of redistributed land added to his original holdings would then have a holding totaling "slightly and suitably" more than that allotted to the landless agricultural labourers;

(c) under certain conditions, a poor family of one or two able-bodied members might be given an above-average share;

(d) rural artisans whose main occupations were not sufficient for a full maintenance of life were given a below-average share;

(e) the small lessors were permitted to hold more land in order to enable them to rent it out.

Because the LRL, despite its radical appearance, aimed only at establishing the principle of peasant ownership of land and not at equalizing the distribution of land ownership, numerous rural problems persisted.
The immediate effect of liberalizing the land reform policy by tolerating rich peasants and rejecting egalitarian redistribution was the narrowing of the scope of redistribution through restricted expropriation. Sparing rich peasants from expropriation would reduce what Mao termed the "scope of attack" from the original 8 to 10 percent to about 4 percent of the population in rural villages. Thus the land redistribution program of 1950-1952 on the average involved only 43 percent of the total cultivated land. And according to Wong's calculation, the recipients in Guangdong province were each entitled to only 1.4 mu of land from the average distributable land pool derived from the confiscated and requisitioned lands of landlords and rich peasants. In a report on three villages in Zhongshan county after land reform was introduced, the Investigation Team of the Land Reform Committee of Guangdong province found that landholdings were still fragmented and scattered. It was pointed out that at least 50 percent of the peasant families in these villages had less than 5 mu of land; and at least 37 percent of the families who had less than 5 mu were the poor peasants.

The scope of redistribution was even more limited when other means of production, such as draft animals and farm implements, are taken into account. In Guangdong province, especially in the Pearl River delta region, because landlords were normally rentiers not directly involved or engaged in farm work, draft animals were generally not kept by them, and thus not available for redistribution.
at the same time, because the LRL ruled that only excess land was to be requisitioned from rich peasants, their farm equipments and animals remained absolutely intact. New land owners thus faced a shortage of crucial capital items for their farms of which the shortage of farm equipment and draft animals was most serious. The report on the three villages in Zhong-shan revealed that at least one-third of the peasant families in the three villages suffered from insufficient means of production. Most of them could not afford to buy animals or equipment, especially when their landholdings were meager. Ninety-eight percent of the peasant families who had only two or less mu of land had no draft animals. When faced with such a shortage, the peasant families would have to either borrow such means from friends, relatives, or neighbours in exchange for manual labour, they could hire labourers and rent equipment or animals to work on their land. If they could not afford either means, they could rely only on primitive tools and their bare hands.

Borrowing tools or animals from friends and relatives seemed to be the easiest solution to the problem. Very often, however, one had to put in as much as three or four hours of manual work in return for the use of the draft animals for an hour. One also had to wait for the availability of such equipment and animals--they could only be lent out at the disposal of the owners. As for contracting labourers to cultivate the fields, one would have to pay a stiff price--it would cost 40 to 50 catties of husked rice to have a hired
hand farm one \(\text{mu}\) of land. This means that if one had only 5 \(\text{mu}\) of land, one-fifth of the yield would have to go to pay labour cost.\(^9\) On the other hand, if one decided to work on his land with his hands and hoes, it would take four times as much effort or time, not to mention the back-breaking pain, to finish whatever a draft animal could accomplish in a short time. This also entails delaying of the time for planting, a decisive factor in yielding good harvest or not. Most important, however, is that without the help of draft animals to turn over the soil during the slack season in winter the coming harvest would certainly be down at least two percent.\(^{10}\)

Manpower had also become a problem after the LRL. Because land was redistributed on a per capita basis, many families with small children received more land than they could manage, while families with older children often had more labour power than could be used effectively. And there were families of widows and widowers without sufficient labour to manage their land. Consequently, those who lacked the adequate land or labour as well as the skill and knowledge (in Zhong-shan's three villages, about 10 percent of the poor peasant families did not have the necessary skill for farming: they were either widows who did not have any experience in handling draft animal in farming or farmers whose occupations before the land reform were non-agricultural)\(^{11}\) began to rent out their land (30-40 percent of the poor peasant families in the three villages in Zhong-shan).\(^{12}\) With the rent reduced to a meager rate of 0.38 percent of
the annual yield per \textit{mu},\textsuperscript{13} it proved impossible for these peasant families to live on their land. Eventually, some of them sold their land; others borrowed money, got into debt, and hired themselves out as labourers. The Zhong-shan Report indicated that 53 percent of the poor peasant families were normally lacked the grain needed to tide them over the slack seasons in between harvests; 39.64 percent of these managed to get by hiring themselves out as labourers, planting vegetables, raising ducks, chickens or hogs, but 26.49 percent were often in difficulty because of illness and bad harvest.\textsuperscript{14}

Even those who had the labour to manage their land, it was not easy to avoid indebtedness. Because the tenancy system before liberation discouraged the tenants from applying fertilizer to the land they worked, the land being redistributed was often in bad condition. In the three villages of Zhong-shan, 30-40 percent of the fields were in need of fertilization; and among the fields owned by the poor peasants, almost 70-80 percent were in such condition.\textsuperscript{15} This became an additional burden for the newly created land owners: fertilizer is costly to apply, but if one decides to do without it, it is impossible to maintain, not to mention to raise, productivity. Productivity, of course, directly affects one's income, which also means future yeilds. The Zhong-shan report cited an example to illustrate the poor peasant families' difficulties; in Shang-shan village, the Luo family had three members in the family to manage 9 \textit{mu} of land of which part was rented from others. In 1952, their
annual yield of grain was 3,517 catties; income from supplementary sources such as growing fruits and hiring themselves out totalled 1,761 catties of grain. Their total income was 5,278 catties of grain. However, because of the expenses involved in acquiring farm equipment and draft animals (totalled to 1,420 catties), they were 700 catties short of grain for the year.\(^{16}\)

After land reform, then, peasants of rich and middle positions continued to be better off than poor peasants, and a delicate disparity also remained between poor peasants and the still poorer agricultural labourers. Many writers had pointed out even before the land reform that it could not create a complete middle peasantry from rural classes or a total equalization of incomes, any more than it could achieve an eradication of all potential sources of future exploitation. The government did, however, assume that the "spontaneous growth of capitalism," as represented by the expansion of the rich peasant after LRL could be checked by appropriate government measures such as an extension of agricultural credit, which had heretofore not been sufficient to be effective (because the First Five Year Plan allocated low priority to development in the agricultural sector as compared to heavy industry). In this, the government obviously had underestimated the disruptive impact of the free play of economic forces on the as yet unconsolidated post-reform situation. In the small peasant economy with such initial economic differentials among different classes, polarization was bound to grow under free competition.
Although the surplus land of the upper sections of the peasantry, such as the rich and middle peasants, was subject to requisition, their growth potential was fundamentally unaffected. Distinguished by their superior ability and skill, the location and fertility of their land, and their more abundant supply of capital and farm equipments as well as their knowledge and experience of how to make better use of their resources, they would always outperform the poorly endowed lower sections of the peasantry in production, expand their resources and holdings and thus defeat the intended impact of land reform.

The Investigation Group of Xin-hui County reported that "in 1953 shortly after land reform was completed, despite the fact that there were bumper harvests and increased income for the peasants, the spontaneous growth of capitalism in the villages also developed, resulting in serious polarization. In Jiu-zi-sha village (of the Sha-gu area), twenty-six families of middle and poor peasant families lost their livelihood..."17 And even Mao wrote later in 1954, "the spontaneous forces of capitalism have been growing steadily in the countryside in recent years, with new rich peasants springing up everywhere and many well-to-do middle peasants are still striving to become rich peasants. On the other hand, many poor peasants are still living in poverty for lack of sufficient means of production."18
The new rural economy emerging from the land reform was still one of private enterprise based on peasant proprietorship and much of the incentive mechanism of the family farm. Deng Zhu-hui, the high party official in charge of national rural policy, remarked, "Land reform has eliminated the contradiction between the landlord and the peasant but has not eradicated all forms of exploitation or even the system which is giving rise to exploitation." In the absence of built-in measures for ensuring the continued operation of the income equalization process, the major rural economic groups would soon be moving in from different directions under the powerful impact of economic forces—the "capitalist elements" in production that had ironically been preserved by land reform. Consequently, the relations of exploitation were quickly recreated, or at least reappeared sooner than the government had expected, and the government could only rely on further institutional transformation to combat problems threatening to undo many of the results that land reform was purported to produce.
Schurmann observed that "land reform did not lead to an economic revolution, for production patterns in the village did not change fundamentally." Moreover, by virtue of its peculiar patterns of resource allocation, it had increased the economic interdependence among peasants and had given rise to many urgent production problems for the newly created landowner. Thus the immediate aftermath of land reform in the rural area was a condition of instability, calling for continuous organizational and institutional adjustment.

The first stage of the post-land reform transformation took the simple form of Mutual Aid Team (MAT), which advocated the organization for a few households (up to ten) by pooling their resources, mainly labour, draft animals and farm implements, for joint agricultural activities during the peak seasons. The means of production within a MAT, however, remained privately owned, and each member was free to dispose of its own produce. Then, year-round or permanent MATs were set up. These were identical to their temporary counterparts, except that they were not dissolved during slack seasons. Many permanent MATs were larger and better run than the temporary ones, and some had even accumulated a collectively stock of public property in the form of tools and farm animals.

Meanwhile, the Chinese government was making separate efforts to form Agricultural Producers' Cooperatives (APCs) on the basis of MATs. Here, the APCs were formed "step by step to end
capitalistic exploitation in the countryside, to overcome the backwardness of small-scale peasant economy and develop a socialist agriculture which will meet the needs of the nation's socialist industrialization. However, there were two stages in such agricultural cooperation—the elementary and the advanced. The elementary stage referred to the establishment of the Lower APCs in which land and other major means of production were pooled for collective use. The members held their property as shares, but still owned it, and they received dividends on the basis of their shares. In other words "central management but private ownership" was the characteristic of the lower APCs. At the advanced stage, advanced APCs were organized not only to incorporate three times as many households as in an average Lower APC (about twenty households)—or ten times that of an average MAT; but to collectivize all land and other means of production needed by the cooperatives. Only the members' means of livelihood, such as small plots of household land, small holdings of trees, poultry, domestic animals, small farm tools, and tools needed for household sideline production would remain privately owned. However, when draft animals, large farm implements and tools for household sideline production which were not needed by the members but were needed by the cooperative were turned over to the collective ownership, the owners were compensated with a sum determined by standard local prices to be paid in instalments generally spread over three years and not exceeding five. Payments on land dividends were
ceased. At the same time, any form of exploitation was prohibited—farm labourers could not be hired for lengthy periods; land was not allowed to be rented out nor could money be lent for profit or commercial exploitation.³

Despite problems and debates in the transition process from MAT to Advanced APC,⁴ collectivization was accomplished quite rapidly and smoothly in less than four years after the land reform in 1952. In 1955 there were only a few hundred advanced APC's in the province of Guangdong, but by the end of 1956 there were at least 20,000 advanced APCs.⁵

The move to reduce the role of private ownership of land and mutual aid teams was understandable because cooperatives could offer some major economic advantages:

(a) In the double- and triple-crop rice regions in South China, labour was always in short supply in peak seasons—particularly in periods of harvesting and cultivating. Transplanting and irrigation also meant extra demands for labour and therefore an additional shortage. In terms of the use of labour, the cooperative could cope with demands that would have been in excess of the labour resources of individual peasant families by operating on a tighter schedule of activities and by better utilizing all the available resources, including more intensive efforts through a division of labour. At the same time, it could mobilize surplus labour power available in the slack
seasons, especially on small-scale irrigation works at the village level such as the building of ditches, ponds, canals, small dams and reservoirs.

(b) In a densely populated country peasant had to compete with animals for land use. In China the high population pressure on land, especially in the coastal agricultural regions, necessitated the maximum devotion of land to growing food rather than leaving it for pasture. Hence beasts of burden were relatively scarce on farms, despite the fact that they were central to farming activities. This scarcity was worsened by the pattern of animal distribution. Peasants with small land holdings would find it unprofitable to support draft animals because the initial cost was prohibitive and these animals might not be fully used on a small plot. In terms of use the cooperative could not only collectively share excess animal power and thus make the investment more economic but it could, more importantly, free manpower which could be better utilized on other projects rather than spent unwisely on "labour-animal exchange."

(c) In the same manner, the cooperative could overcome the problems of shortages of large farm equipment such as wooden chain pumps or fan mills which were too expensive for poor peasants to own. Suffice it to say that the cooperative could also devise fuller and more efficient utilization for such resources
rather than have them rendered "slack" by either maldistribution or their indivisibility. Bringing them into productive use represented a real economic gain since these hidden resources had little or no opportunity costs.

(d) A more rational management of agriculture could be effected under the cooperative system, especially by pooling small fragmented plots into fields of a more economically feasible size.

(e) Savings of the members could also be marshalled under the cooperative. The possibilities for productive investment provided by the cooperative were certainly greater than those of an individual and so could benefit all members. The risk of failure also could be shared; if a project fails, members would not face destitution.

(f) A better social security system could be developed under the cooperative structure. More importantly, however, chances of resources being taken over by a new class of rich peasant farmers would be diminished.

...These are the well-known advantages of larger economic and social units over small ones, and they seemed to be the answer to the problem of increased needs for agricultural surplus during the period of intensive industrialization. The statistics, too, seemed to indicate that
the collective system or collectivization had paid off: in Zhong-shan
county in 1956, the average yield of grain per mu rose 38 percent
from 1949; the average household annual income for the poor peasants
had also risen to 388 yuan, meaning that they could not only live
above subsistence, but that they could also have a surplus as
savings. In Xin-hui county, in 1954, the total cultivated area of
crops increased 3 percent from 1953, but in 1955 the area of cultivation
increased by 20 percent over the previous year's yield.

C. Emergence of A Rural Development Strategy

Fed by this seeming success the Chinese leadership during the
convulsive movement of the Great Leap Forward in 1958 took the collec-
tivization one step further by merging and reorganizing the existing
collective cooperatives into the higher form of people's communes
which claimed to embrace an average of 5,000 households per commune
and aimed at becoming self-sufficient units combining political, social,
economic and cultural functions. The commune also introduced new
methods of organizing production and distribution, and experimented
with collective living as well as "all people ownership" of the means
of production. In Guangdong province, more than 20,000 cooperatives
were merged into 1,104 communes in a single year.
For the Chinese government, the rationale behind this transformation was that since production relations had been transformed, technological revolution could not be postponed and rapid industrial growth was their primary goal. They assumed that by the rapid collectivization of agriculture one step further, central ownership, planning, marketing and distribution would be more amenable to mobilizing resources. Such a social and organizational restructuring, then, would not only expedite the transition to communism but also release productivity which had previously been shackled by traditional social relations. What they were not aware of, however, was that as the social revolution created new forms of production, new demands for capital in agriculture were also created. But at this time, little capital could be diverted to the agricultural sector. The government had adopted the "big-push" model of development exemplified by the Soviet experience. Wheelwright and McFarlane point out in the state budget of China during 1953-1957 that more than 50 percent were given to the capital goods while only 6.2 percent were invested on the agricultural sector.² Problems were appearing in the agricultural sector despite the formation of cooperatives: agriculture was not developing fast enough; neither was light industry. The encouragement of a marketable surplus in agriculture depend largely on investment in agriculture and making available supplies of light industrial goods for peasants to buy in exchange for their produce. In China productivity lagged as a result of a lack of incentives. In Guangdong,
in 1957, most peasants' income decreased by 20 to 30 percent in Zhongshan county. In Xin-hui county, economic crops production was down by 15 percent and sideline production also retreated by 10 percent. In 1956-57, the State procurement of grain and taxation in kind also fell to 25.1 percent of the value of all grain produced, compared to 29.1 percent in 1953-54. Without steadily growing surpluses in agriculture, not only were there problems in supplying food to urban areas, but the financing (derived from taxation on agriculture and State profits from resale of agriculture deliveries) for industrialization was not there.

Worse still, however, was that it aggravated the flow of the rural population to the cities: when the rural sector could not take care of itself, the peasants always moved into the nearest city to look for other opportunities to earn a livelihood. This emigration started after the land reform movement was completed. Facing with poverty and lacking the means of production, many peasants fled their villages to go to Canton. In 1953, the Central government issued a directive on the alarming rate of peasants blindly migrating into the cities; then in 1954, the Internal Affairs Department and the Labour Department jointly issued another directive aimed at persuading these peasants migrating to remain in the rural areas. In 1955, the Nan-fang Ri-bao reported that Canton city was having problems with the surplus labourers from the villages. The report revealed that in 1949, the population of Canton city was 1.172
million, but it grew to 1.717 million by 1955, a growth rate of 47 percent and the influx of rural peasants into the city accounted for 70 percent of this growth rate. By 1957, the spokesman for the Manpower Allocation Committee of Canton city admitted in Nan-fang Ri-bao that over 30,000 people had come into the city since 1956, and at this rate, the city would suffer difficulties in unemployment, social disorder, and inadequate supplies of food-stuffs.

The government had hoped to attack the problem of industrial growth by rapid collectivizing the cooperatives and setting up the communes in 1958, but the three succeeding years were extremely bad. Floods, droughts and bad weather resulted in a tremendous depression of production. Consequently, when agriculture stagnated, food imports edged out important industrial imports. It also became more difficult to divert labour to capital works, since food does not follow the flow of labour. In addition, the Soviet Union suddenly pulled out their technicians and took with them the blueprints of the industrial enterprises while terminating their "aid" in 1960. These events gave rise to some reordering of priorities, and the relative priorities to be accorded agriculture, heavy industry and light industry fluctuated in a confused manner. Eventually the policy of giving first priority to heavy industry was reversed, resources were switched back into food production, and the slogan "agriculture as the foundation of the economy and industry as the leading sector"
was adopted. In 1962, Zhou En-lai announced in his Ten-Point Program at the National People's Congress that in order to continue to improve the work of planning, one had to ensure an all-round balance between the branches of the national economy in the order of agriculture, light industry and heavy industry. The implementation of this policy can be seen not only in the State's investment of 300 million yuan in a new form of long-term, interest-free loans to rural communes between July and September in 1962 for agricultural development, but also in the eventual reorientation of the commune system. China not only began to recognize the importance of rural development, but actually decided to adopt rural development as a strategy for development.
CHAPTER 4

NOTES

A. Land Reform


2. Ibid., p. 5.


4. The Land Reform Law of the PRC, pp. 4-8.


7. Guangdong-Sheng Tu-di Gai-ge Wei-yuan-hui Diao-cha-zu 廣東省土地改

革調查組 "Tu-gai-hou Nong-cun sheng-chan-li Di Fa-zhan Ching-
huang" 土地改革後農村生产力的發展狀況 (Development of Rural Productivity after the Land Reform), Nan-fang Ri-bao 南方日報, February 20, 1953.

8. Ibid.

9. Ibid.

10. Ibid.

11-16. Ibid.

B. The Cooperative Movement


3 Ibid., pp. 2-6.

4 The most widely debated problem was how land, draft animals and farm implements should be compensated when they were turned into public use or common property. See "Ping-yi Ru-shi Sheng-chan Zi-liao Di Zheng-ce Jie-shuo" 释放入社生产资料的政策说明 (Explanatory Notes on the Policy of Evaluating Production Resources Turning into Commune Property), *Nan-fang Ri-bao*, November 2, 1955; "Nong-ye He-zuo-she Zen-yang Zhu-yong Keng-niu Di Ban-fa" 重视农业合作组用耕牛的办法 (Ways of Renting Draft Animals in Agricultural Cooperatives), *Nan-fang Ri-bao*, June 5, 1955; "Shen-zhong Chu-li Keng-niu Nong-ju Ru-shi Wen-ti" 重视处理耕牛入社问题 (Carefully Handle the Problem of Turning Draft Animals and Farm Implements into Commune Properties), *Ren-min Ri-bao*, December 6, 1955.

5 *Nan-fang Ri-bao*, October 8, 1956.


7 "Xin-hui Xian Nong-cun Jing-ji Qing-kuang Diao-cha" 新县农村经济情况调查 (An Investigation on the Agricultural Economy in Xin-hu County), *Nan-fang Ri-bao*, September 15, 1956.
C. Emergence of a Rural Development Strategy


CHAPTER 5

THE CHANGING STRUCTURE OF RURAL COMMUNES

A. Problems of Early Communes

Between the Bei-dai-he 会议 Conference of August 1958, which formally declared the onset of the People's Communes, and the Bei-dai-he Conference of August 1962 which summed up the adjustments, the rural communes went through a series of substantial changes. When the rural communes first appeared in 1958, they were characterized by large scale, public ownership ("yi-da er-kong" - "one, big and two, public"). According to this principle, each commune consisted of a number of large production brigades which in turn consisted of a number of small production brigades (later called "teams"). The communes emerged from this was an amalgamation of groups of cooperatives which numbered about 5,000 households more than twice as large as the standard market town. A larger brigade, which corresponded to the original small APCs, held 250 households, and a smaller brigade, which corresponded to the original production brigade, was consisted of forty households. Both were larger than the village neighbourhood. At the same time, to achieve the goal of ownership by all people, the commune collectivized all private holdings. Administratively, the communes not only became extensive with the xiang,
the administrative village, but merged with the xiang. Social organization in the form of the commune merged with political organization of the xiang. The xiang Party committee and the commune Party committee became identical; but the real power rested with the Party. The Party made the decisions in regard to all major activities of the xiang and the commune. (Figure 2)

Many difficulties arose with the communes in the first few years. The large size and collective ownership disrupted the peasants' natural life cycle and they complained that communization was being pushed "too early, too fast, and too rude." Early communization also created local units that were too large for the inexperienced cadres to handle and whose boundaries coincided poorly with the distribution of economic resources and the social relations with which both peasants and cadres had been familiar. Certain skills, including accounting skills, were in short supply. At the same time, many cadres were carried away by their enthusiasm and tried to institute distribution arrangements based partly on communist principle--according to need. The peasants were invariably dissatisfied and complained. In 1959, Mao himself urged local cadres to do away with their excessive "communist style" (coercing people into communization) and "communist style" (confiscating goods and services).

By centralizing all decision-making functions on the commune level, the early rural communes also had many problems. Peasants voiced opposition to having decisions made at a high level for even

Figure 2  Administrative Structure of A People's Commune (1958)
routine farming activities on the production, especially when immediate and creative decisions had to be made at the operational level to ensure the timely execution of the sequence of production at turnover periods. They were also unhappy with the unified management of all resources for production at the commune level. The use and allocation of these resources were often directed by administrative cadres who were more sensitive to political demands or effects than to economic efficiency. Labour, for example, was organized en bloc and dispatched to commit 30 to 50 percent of their efforts to extra-agricultural activities, such as steel-smelting during the Great Leap Forward Movement, without realizing that by increasing the scope of activities they were aggravating the labour shortage for direct agricultural production, especially during the peak seasons.5

In this context, the harsh weather conditions of 1960 and 1961 had an extremely severe impact: grain output fell sharply to 160 million tons in 1960 (compared to 185 million tons in 1957) and remained at about the same level in 1961.6 It was in November 1960 that the Central Committee issued its "Urgent Directive on Rural Work," commonly known as the "Twelve Articles," banning egalitarianism in distribution and sanctioning the contract between the brigade and the teams by the "four fixes and three guarantees" system.7 The latter arrangement allowed the brigade to "own" land, manpower, draft animals, and farm implements, but to "fix" them for the teams to use; the commune or the brigade could no longer withhold any of
them. Further, the brigade was to entrust output quotas, cost, and manpower to the teams. This virtually made the team the decision-making unit for determining manpower and distribution. Private plots, coupled with family sideline production/occupations, and free markets were also restored. Finally, the directive assured stability by promising that the new policy would not be changed within seven years.

In 1961, the Party formulated the "Draft Regulations Concerning the Rural Communes." This directive again banned coercive measures, discouraged industrial undertakings, allowed suspension of mass hall, stipulated that the brigade could allot private plots, and prohibited commune authorities from interfering in family sideline occupations and private properties. In 1962, at the Bei-da-he Work Conference, the Party Center summarized all these experiences and amended the 1961 Draft Regulations into a Revised Draft, commonly known as the "Sixty Articles." It was not until then that the final form of the commune system was consolidated.
B. Restructuring the Communes

1. Size and Ownership

The commune's scale, ownership, structure, and functions changed substantially after 1962. The most noticeable change was the size of the communes. By 1962, unit boundaries were redrawn to correct the difficulties both peasants and cadres had encountered during early communization—communes were smaller by almost two-thirds. Now they averaged 1,600 households, approximately the size of a marketing community or a town surrounded by about twenty villages conforming with precollectivization ecological and social areas.¹ Brigade boundaries were also redrawn so as to include natural features historically used by brigade members and to coincide with their customary trading, mutual aid, and intermarriage ties.² Team boundaries were redrawn so that member households were on good terms with each other. Crook estimated that today there are, in all, 750,000 brigades and five million teams in China while an average commune today has some 3,140 households and about 13,800 people divided into fifteen production brigades and one hundred production teams.³

A three-level owner was also established. The commune owned industrial enterprises, motor vehicles, fertilizer-mills, farm-tool repair shops, and other large-scale or more highly specialized installations that were beyond the strength of the brigades and teams. The brigade, on the other hand, owned some farm tools and facilities—
larger means of production too expensive for the average team to buy (such as tractors or larger irrigation and drainage equipment) and certain service, industrial, and specialized food production facilities. The team became the basic unit for agricultural production. It owned land, draft animals, and basic tools. Each level of the commune thus became a corporate body in itself by owning some property. Without approval of the xian, the commune or brigade could not freely appropriate properties of the team.

2. Administrative Structure

Under the Sixty Articles, the administrative structure of a commune was to consist of a management committee (which was changed to the Revolutionary Committee after the Cultural Revolution) and a supervisory committee (except at the production team level) on each level of the unit elected by each unit's representatives (Figure 2). The most important function of the revolutionary committee was to implement Party-State policies, especially to assure that food and industrial crops could be procured from the rural and industrial needs. This function was fulfilled through the formation of a national economic plan which called for the production of a certain crops. The production plan, during the days of early communization, outlined and carefully prescribed the factors of production of the unit—established from numerous earlier surveys—the recommendations on technical and
managerial procedures, and the guidelines for production to lay the annual burden of State taxations (such as public grain tax, surplus grain tax, procurement quota, required sales of non-cereal products) on the unit. When the plan was passed on to the different levels from the xian to the team, production quotas were based on the units' demonstrated productive capacity rather than, as during the Great Leap Forward, on national needs or ideal standards of local productivity. No longer was rural productivity to be enormously increased and diversified overnight; units were left to build slowly on the basis of their combined subsistence-commercial agricultural economy and the handi-craft economy. The State also guaranteed a reduction in levied taxes for any year in which natural disasters reduced yields markedly below normal (about 30 percent below) to assure a minimal level of unit income. It also promised to maintain the same absolute burden of taxation for ten years and to pass on real increases in productivity to the unit itself. This set up a framework for rural development that economically was both realistic and reasonably secure.

The commune management committee also coordinated the brigades and teams by providing and generating new inputs for agriculture. And while the commune provided instructions on more advanced agricultural techniques and other extension services and gave advice on organizing large joint projects, such as irrigation construction, the brigade developed plans for small- and medium-scale projects to build
Figure 3  Rural Commune Organization after the Cultural Revolution
Figure 3 (continued)

Notes: Rural Commune Organization After the Cultural Revolution (1968)

1. People's Commune

2. Congress of Representatives of Commune Members

3. Supervisory Committee

4. Commune Revolutionary Committee
   (a) education revolutionary committee
   (b) medical cooperative management committee
   (c) supply and marketing management committee
   (d) credit cooperative management committee
   (e) political affairs committee
   (f) soldiers committee
   (g) production committee
   (h) civic affairs committee
   (i) armed forces committee
   (j) special political affairs committee
   (k) people's militia
   (l) supply and marketing cooperative
   (m) commune-run schools (middle schools)
   (n) commune-run hospital or clinics
   (o) commune-run enterprises

5. Congress of Delegates of Production Brigade Members

6. Supervisory Committee

7. Brigade Revolutionary Committee
   (a) education revolutionary committee
   (b) medical cooperative management committee
   (c) marketing and commerce management committee
   (d) credit cooperative management committee
   (e) political affairs committee
   (f) State purchasing and supplying stations
   (g) credit cooperatives
   (h) primary schools
   (i) health stations
   (j) brigade-run factories
   (k) people's militia

8. Congress of Production Team Members

9. Supervisory Committee

10. Production Team Revolutionary Leading Group
    (a) political affairs group
    (b) State purchasing and supplying base points
    (c) health workers
    (d) accountants
    (e) people's militia
Notes

11. Members

A. Commune Communist Party Committee
B. Standing Committee
C. First Secretary and Other Secretaries
D. Party Branch
E. Secretary and Vice Secretary
F. Party Group (cell)
G. Secretary


reservoirs and canals, for example, and organized labour and materials for such projects.

Civil administration was also the responsibility of the commune. Population registration and marriage licenses were handled by the office of the commune. By keeping household registration and issuing travel permits associated with food coupons, the commune was able to control the migration of people.

The brigade then was charged with the task of supplementing the commune on the one hand, and coordinating the teams on the other. Its management committee, which was similar to but smaller than the commune's, was responsible for assuring that the teams met the State Plan. For this purpose, it carried out administrative coordination by sponsoring joint projects for irrigation, forestation, and small industry, producing both consumer goods and services such as brick-making, flour mills, tool maintenance, and food processing on a self-sufficient basis.

The brigade's cadres, in contrast to the commune cadres who were full-time state functionaries, were only part-time functionaries drawing half of their salary from administrative work and the other half from productive work, both of which were estimated in workpoints. The brigades received financial subsidies from the teams, approximately 1 percent of each team's total income.

The team, after the implementation of the Sixty Articles, became the basic unit of production. Its structure and management will
be discussed in detail in another, later section, but it was clear that each level of the commune developed, affiliated, and performed different functions. In relative terms, the commune was the political administrative unit more responsive to the State, the brigade was the coordinating unit more responsive to the commune, while the team was the production unit more responsive to the peasants.

3. **The Supporting Structure**

The commune's supporting units and structure were also differentiated into separate entities after the Sixty Articles. Distributing facilities were organized into a nationwide network under the All China Supply and Marketing Cooperatives in order to facilitate the State's "unified procurement" (tong-gou 一体化) system. Under this General Headquarters, various Supply and Marketing Cooperatives (SMC) were set up and extended to commune offices, while branches were also established in brigades and market places. Agents with the SMC were sent to the teams. Under this "unified procurement" system, the SMC's concluded procurement contracts with the teams, on behalf of the State. The peasants also participated in these cooperatives by buying a certain number of shares. These cooperatives were the only agencies supplying them with daily necessities, purchasing produce not banned from the free markets, and fertilizers. These cooperatives, thus, served as a central exchange for goods between
urban and rural areas by bringing goods to the villages and supplying produce to the cities.

Free markets, which were traditionally known as *chen-xu* and were held periodically as centers of rural life, were strictly prohibited during the early days of communization. Under the Sixty Articles these were also brought back and tolerated for meeting local needs and increasing opportunities for individual exchange. Free markets, which were traditionally known as *chen-xu* and were held periodically as centers of rural life, were strictly prohibited during the early days of communization. Under the Sixty Articles these were also brought back and tolerated for meeting local needs and increasing opportunities for individual exchange. Credit facilities were also extended down to the brigade level. The People's Bank and the Agricultural Bank were operating in the brigades to provide not only routine financial transfers, but also to grant long-term (extending over two years) and short-term (due within a year) loans with either no or relatively low interest. Credit cooperatives operated mostly on the brigade level. They were set up to promote mutual self-help among the peasants and there were no national agencies administrating these cooperatives. These cooperatives handled about 60 percent of the peasants' deposits and loans.

Lower-middle peasants were given greater access to education. Primary schools were taken over by brigades and run on a self-sustaining basis. Middle schools, which had been the responsibility of the county, now were entirely run by communes. The school years for primary universal education had been shortened to five years and those for middle schools, to two years. (In some cases, middle and
high schools had been combined with the four year secondary schools). The curriculum was revised to include more production knowledge so that education could serve the peasants' practical needs. Moreover, applicants from rural areas were given priority in university education although in recent times consideration was also given to the applicant's entrance examination results. But in either case, graduates from high schools as well as college were made to work in the rural areas—the former being referred to as *xia-xiang* (going down to the countryside) while the latter was a policy of *she-lai she-chu* (from the commune, back to the commune).

The cadres in the communes were the key to successful policy implementation. Their role, thus, was to implement directives from above but at the same time, to reflect local conditions from below. To ensure that they performed this role well, these cadres were required under the Sixty Articles to participate in labour: the commune cadres had to perform labour production sixty days yearly, the brigade cadres 120 days, and the team cadres were not exempted from labour at all. Higher level cadres were also sent down to the basic level (*xia-fang*) so that they could take part in labour and investigate the local situation. They were also required to "squat at selected points" (*dun-dian*) for extended periods of time so that they could understand the local condition thoroughly.
4. Changes in Production Team Management

On the team level, changes were also introduced. Unlike the 1958 commune which purported to manage production through mass mobilization, the post-Sixty-Articles teams enjoyed autonomy in production management. The team had its management committee consisted of a chief, one or more deputy(ies), a work-point recorder, an accountant, a cashier, a warehouse custodian, and cadres responsible for sideline production, women, and production—all of these were elected by the team congress and were not exempt from labour work. The committee, by consulting the peasants, had the autonomy to make decisions on their production plan to meet the production target determined by the county government—what crops to grow, what special techniques and imported producer goods were to be used, what work-point system was to be paid for each piece of labour, and the like. They could also coordinate their plans with brigades and commune plans for joint projects, investments, and endeavours as long as the team met State targets, produced feasible projects, and did not damage natural resources.

The labour force of the team organized themselves. All peasants, including women and youngsters, became team members. Work was allocated to the team members within a framework of collective planning and supervision; self-responsibility replaced the previous collective responsibility method. The labour force of the team was divided into work groups of about eight to ten households. These
groups could be formed on the basis of personal ties, residential continuity, or even kinship relations. They were given responsibility for certain fields which they could expect to continue farming for at least an entire season. These work groups were responsible for all work on the fields except during the busy seasons of transplanting and harvest, and they were subject to frequent inspection by the team leader. This system gave each member-household a considerable stake in good performance, since its effectiveness could be judged not only simply by the hours put in or by such conditional criteria as the amount of land plowed, but also by the success of the crops in the household's control, a criterion of accomplishment that would affect the value of the work-points assigned as well as reassignment to better or worse fields in the future. This system of fixing a strip of land either to small groups or to individuals so that they could be held responsible for the work entrusted to them was known commonly as "bao-gong" (fixing work) which had its origin from the "three-guarantee and one reward" system experimented with during the early days of communes.

There was yet another way of assigning work, pai-gong. The team generally followed the rules of assigning larger tasks such as grain production to work groups on a rotation basis, and of fixing small tasks to a small group of three or four men often with a permanent responsibility. In making work assignments, the team leader often consulted experienced peasants, and then divided team members
into several groups with specific tasks, trying to assign the most qualified person to the most suitable job. This was necessary not only because labour productivity was at stake but because the members themselves were so concerned about the amount of "workpoints" they would obtain from their assignment.

The collective income, however, was distributed in a thoroughly collective manner. First of all, labour was evaluated by the workpoint system. There were various workpoint systems. Before 1962, most communes had used the time-rate system in that workpoints were awarded to the members of the teams and brigades for their number of days worked in a month. Usually a day's work would equal ten points, and there was a "basic work-days" per month. If an individual exceeded them, he received additional workpoints, and if he failed to reach them, he lost some. However, the weakness of this system was that it failed to take into account the individual's productivity.

Another method was adopted later--the labour "base-point" in which the team members were classified into three labour grades: first, second, and third. For a day's labour ten points would be allocated to the first grade, eight points to the second, and seven to the third. This was basically a time-rate system intended to take into account different degrees of labour productivity, but it was difficult to classify each peasant into one of the three grades since each member's performance varied with specific conditions and types of jobs he performed.
The "labour-norm" system was practised. This system rated every possible piece of work in light of its nature, skill required, and hardship involved. It required ingenuity and experience for the team to rationally evaluate each task. The system accounted for each peasant's performance, thereby providing work incentives for one's efforts and talents. It was still difficult, however, to assess the quality of the completed work and to set rational norms for so many pieces of work.

The Da-zhai Brigade later devised a unique system combining model workpoint and self-report and public evaluation. Here, the brigade's workpoint recorder registered each member's performance and the number of days he worked every month. At the end of the month, the brigade selected a model peasant who had shown not only the best work performance but also the best political attitude, and decided upon how many workpoints he deserved for a day. Using this model peasant, each member discussed each member's claim and finally decided allocations case by case.

Whatever system the team adopted, the team recorder would note each member's workpoints in his books and made them public each month. The points were also recorded in the "workpoint handbook" which belonged to the members. Because the final compilation of distributable income was done at the end of the year, the team made advance distribution of food grain and cash twice a year, usually
after the summer and autumn harvests. All of the advance payments were recorded as advanced debits by the accountant. After computing the gross team product, the team would first set aside grain for agricultural tax (which was about 5 percent of the gross value of agricultural output), the quantity required for sale to the State. Then the team had to take care of collective interests which included production expenses (25 to 30 percent of its gross income), reserve grain, public accumulation fund (8 to 10 percent), and welfare fund (2 to 3 percent).  

The first one was for buying seeds, fertilizers or for renting tractors, farm implements and draft animals. Reserve grain assisted needy households, the disabled, old widows or widowers, orphans, and the childless. The public accumulation fund paid for terracing, reclamation, basic construction, and subsidizing workpoints for the cadres in the team or the brigade. Finally the welfare fund provided "the five guarantees" in the case of emergencies: food, clothes, shelter, necessities, and funerals.

It was after setting aside all these that the team distributed the remaining grain and cash to its members. The income of each member was determined by the total sum of workpoints earned by working members, and the value of each workpoint in turn was determined by dividing the team's entire distributable income by the sum of workpoints. In other words, each peasant's annual income could be figured out by the following formula:
Annual income = \( \frac{\text{Total distributable income of the unit}}{\text{Total workpoints gained by members}} \times \frac{\text{individual workpoints}}{} \).

The most important reorientation of the commune system after 1962 was the permitting of plots; peasants could hence derive income from the private family sector by their involvement in some "sideline" occupation. This new direction interpreted a basic difference between ownership of means of production and items of consumption. Private ownership of means of production refers to the owning of factories or large amounts of land by individuals, and generally was strictly prohibited. The private ownership of items such as household goods, bicycles, radio, or even a house and a small private plot for vegetables for home consumption or household animals was appropriate. The rationale behind this was that China needed a long historical period of progress from socialism, in which people are compensated along the socialist principle "from each according to his ability, to each according to his work," to communism in which people are compensated according to their needs.

Under the Sixty Articles the production team was to allot 5 to 7 percent of the total cultivated area to families for private gardens, a process referred to as zì-liú-dì (private plots). It was generally allocated to a family on a fixed per capita basis which would not be affected by the subsequent changes in family size through birth, death or marriage. Only if the work would not disrupt
the daily collective routine work hours was the family free to grow whatever they wanted on their plots. They could also pool their resources and operate collectively. The produce they derive from these plots was either sold to the State purchasing agency or at the free market.

Under this system, not only were the peasant families provided with legitimate outlets for their private interests, satisfying the peasants' demand for diverse goods and cash, but the system also supplemented deficiencies in the collective and shifted the burden of certain crucial production tasks, especially the raising of noncereal subsistence foods for the rural population and the supply of animal products which the collective could not yet handle effectively.
CHAPTER 5
NOTES

A. Problem of Early Communes


2. Ren-min Ri-bao, August 29, 1959.

3. Many peasants were dissatisfied with the arrangements and threatened to withdraw from the communes. It was reported in Xin-hui county, Li-lo village, the team fixed output quotas to the households or divided land among them, which in euphemism was called "going it alone" (dan-gan 单甘). In 1956, there were sixty-one such households, but it was increased to 188 households a year later. See Nan-fang Ri-bao, August 20, 1957.

4. This is also known as the "Wuhan Solution." It can be located in Communist China, 1955-1959, pp. 494-495. Also Chinese Law and Government, No. 4 (Winter), 1968/69, p. 49; and Current Background, No. 891, pp. 34-35.


B. Restructuring the Communes

However, some very large communes were retained in flat areas with dense populations, while communes in mountainous areas tended to be divided. See Benedict Stavis, *People's Communes and Rural Development in China* (Ithaca, N.Y.: Cornell University Center for International Studies Rural Development Committee, 1974), pp. 39-42. Also William L. Parish Jr., *The Commune as a Social System: Kwangtung Province 1970-1974* (Paper presented at the Association for Asian Studies Annual Meetings at San Francisco, March 1975), pp. 20-22.


Li-cha , Zhong-kong Shui-shou ji-du 中共税收制度 (Taxation System of Communist China) (Hong Kong: Union Research Institute, 1975), p. 117.

The State regulated rural trade through its "unified procurement" system. The State classified all commodities into three categories. The first categories included twenty-eight items of vital goods such as grain, edible oil, and cotton. The State procured these items on the basis of a fixed price and banned them from the free market. Production teams had to meet delivery quotas (or required sales) on these items. If a team wished to sell some goods above the required quota, it still had to sell them at the same fixed price since the State monopolized first category items and rationed them. The second category included 260 items, mostly economic crops such as tobacco,
peanut and jute. The State procured them at a fixed price, also, and the teams were required to meet their quotas. The difference between the first and the second categories was that the team could sell the second category goods on the free market after meeting State targets. The third category included all the goods which teams did not have to deliver to the State and could freely sell on the free market. See *Far Eastern Economic Review*, May 11, 1967, pp. 30-32. (Also, February 19, 1973, p. 20).

7 De-ming Xu (Tak-ming Hsu) 文革的內外經濟影響 (Hong Kong: Union Research Institute, 1974), pp. 792-93.


9 Ben Stavis pointed out that from September 1964 to May 1965, the number of schools in the countryside of Guangdong increased from 16,000 to 36,000, the increase reflecting the establishment of this kind of shortened education and farm-study schools, which raised the percentage of school age population in school from 69 to 80 percent. See Stavis, *Making Green Revolution* (Ithaca, N.Y.: Cornell University Special Monograph on Rural Development, 1974), p. 211. Also see discussions on education in later sections in this paper.


11 Johnson stated that in 1972, in Shun-de county, for example, over 11,000 young people, evenly distributed in terms of men/women ratio, were sent down to the rural areas. Most of them were from Canton and the two townships with the county. They quickly could bring their special talents into play--about one-third of them in Shun-de became school teachers, while others assumed posts as accountants, workpoint recorders, and barefoot doctors, with some of them helping to develop various experimental plots and doing research on

As for the policy of "from the commune, back to the commune," see *Guang-ming Ri-bao* 光明的日報, December 7, 1974.


13 Except for the "five-bad-elements"—landlords, rich peasants, counter-revolutionaries, rightists and other bad elements. They were considered as "probationary members." They had to participate in collective work and received income, but were not allowed to participate in the collective decision-making process. See A. Doak Barnett, *Uncertain Passage: China's Transition to the Post-Mao Era* (Washington, D.C.: Brookings, 1974), p. 49.


15 Detailed descriptions of the various workpoint systems were offered in *Ibid.*, pp. 436-439.


17 See Note 9, Chapter 5A.
PART III

RURAL DEVELOPMENT IN SOUTH CHINA
PART III

RURAL DEVELOPMENT IN SOUTH CHINA

CHAPTER 6

RURAL COMMUNES AND AGRICULTURAL DEVELOPMENT IN GUANGDONG

A. Grain Production

How was agricultural development brought about and what has been achieved under the collective system of production and the changing pattern of production relations? To answer these questions, we first look at one of the most important indicators of agricultural development—the changes in grain production.

Scholars have estimated prior to 1949 grain production in Guangdong for different periods. Perkins suggested that grain yields (all grain) in Guangdong in 1851 approximated 278 to 334 shi jin (catties) per shi mu. In his estimate of China's farm and crops, Zhang estimated that the average rice yield in Guangdong province in 1932 was 286 catties per mu. Buck had a similar observation, indicating that between 1929 and 1933 the average rice yield in Guangdong was 274 catties per mu. The NARB (National Agricultural
Research Bureau), however, had a substantially higher figure of 341 catties per \( mu \)\(^3\) for the years of 1931-1937. Liu and Yeh's solution to this discrepancy was to average the NARB and Buck estimates and settled on 308 catties per \( mu \).\(^4\)

Despite the different estimates, there is at least one thing the different scholars found in common: compared to Japan,\(^5\) rice production in Guangdong prior to liberation was characterized by low productivity. In fact, Guangdong province had been one of the major importers of grain, importing from both other provinces and from foreign countries (Table 14).

Not until 1952 was Guangdong able to feed its population without having to import rice.\(^6\) The average yield of food grains in that year was 213 catties per \( mu \) and the total output of food grain was 189 million catties,\(^7\) not a dramatic agricultural performance but nevertheless representing a gradual recovery to the pre-war peak levels from the drastic reduction of crop yields after the Second World Wars.\(^8\) Grain production in Guangdong in the following years also showed a fairly rapid rise in yields. The annual output increased accordingly (Tables 15, 16, 17, and 18).
TABLE 14
Rice Import in Guangdong Province 1918-1927

<table>
<thead>
<tr>
<th>Year</th>
<th>1918</th>
<th>1919</th>
<th>1920</th>
<th>1921</th>
<th>1922</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount</td>
<td>685,090</td>
<td>425,830</td>
<td>1,086,850</td>
<td>472,093</td>
<td>1,931,566</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>1923</th>
<th>1924</th>
<th>1925</th>
<th>1926</th>
<th>1927</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount</td>
<td>1,069,018</td>
<td>549,161</td>
<td>2,145,902</td>
<td>3,395,930</td>
<td>410,325</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>1918</th>
<th>1919</th>
<th>1920</th>
<th>1921</th>
<th>1922</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount</td>
<td>685,090</td>
<td>3,095,194</td>
<td>3,294,318</td>
<td>8,210,955</td>
<td>10,266,055</td>
</tr>
</tbody>
</table>

Source: Wu Lian-yan 伍连炎, "Guangdong Tu-di Li-yong Ji Qi Gai-ge: Land Utilization and Its Improvement in Guangdong), Guangdong-sheng Yin-hang Ji-kan 廣東省銀行季刊 (Quarterly of Guangdong Province Banking), 1(4), December 1941, pp. 243-244.
### TABLE 15

Food Grain Yields in Guangdong Province *(jin/mu)*

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Grains Yields</td>
<td>191</td>
<td>165</td>
<td>176</td>
<td>213</td>
<td>216</td>
<td>242</td>
<td>232</td>
<td>245</td>
<td>243</td>
</tr>
<tr>
<td>Annual Output, Million</td>
<td>160</td>
<td>140</td>
<td>150</td>
<td>189</td>
<td>194</td>
<td>220</td>
<td>218</td>
<td>240</td>
<td>244</td>
</tr>
</tbody>
</table>


### TABLE 16

Food Grains Output in Guangdong Province

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Thousand Metric Tons</td>
<td>8,014</td>
<td>16,509</td>
<td>15,000</td>
<td>16,028</td>
<td>17,631</td>
<td>16,309</td>
</tr>
</tbody>
</table>

TABLE 17
Rice Yields in Guangdong Province

<table>
<thead>
<tr>
<th>Year</th>
<th>1957&lt;sup&gt;a&lt;/sup&gt;</th>
<th>1967</th>
<th>1968</th>
<th>1969</th>
<th>1970</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catties/ Mu</td>
<td>274</td>
<td>630</td>
<td>676</td>
<td>696</td>
<td>818</td>
</tr>
</tbody>
</table>


<sup>b</sup>De-ming Xu, *op. cit.*, pp. 68, 368, 687-688. Also Ben Stavis' estimate in *Making Green Revolution*, p. 28.

TABLE 18
Rice Output in Guangdong Province

<table>
<thead>
<tr>
<th>Year</th>
<th>1953</th>
<th>1954</th>
<th>1955</th>
<th>1956</th>
<th>1957&lt;sup&gt;a&lt;/sup&gt;</th>
<th>1958</th>
</tr>
</thead>
<tbody>
<tr>
<td>Million Chin</td>
<td>157</td>
<td>183</td>
<td>180</td>
<td>191</td>
<td>198</td>
<td>252</td>
</tr>
</tbody>
</table>


<sup>a</sup>Perkins' report was 19,922 catties (million) or 12,200 metric tons (thousand). See Perkins, *Agricultural Development in China 1368-1968*, pp. 276 and 302.
Data from various individual commune sources revealed the same trend. While some communes had more dramatic increases than others in their grain production (Table 19), all of them had achieved or were very close to achieving the target set by the NPAD (National Program for Agricultural Development) of raising the yield per unit of land from the 1955 figure of 400 jin per mu to 800 jin per mu by 1968 (from 1.55 to 3.73 metric tons per hectare) in the areas of Guangdong.\(^9\)

In 1973, in response to the movement of "in agriculture, learn from Dazhai," Jia-ding county of Jiangsu province stipulated a Seven-Year Plan to turn the county into a new socialist system of the Dazhai type. The plan later received national attention and was reprinted in the Red Flag journal to serve as the national model for agricultural development. According to this plan, "till 1975, the average annual per mu yield of grain should reach 1,800 catties..." and till 1980, the yield should reach 2,000 catties per mu.\(^\text{10}\) If this is the model plan for various communes in Guangdong, despite the gradual rise in grain productivity in the early years of the 1970s, the performance obviously was far short of the expected 1,800 by 1975. In fact, many scholars agreed that China's grain performance has reached some sort of a stagnation.\(^\text{11}\) China's success in raising her grain yields and her recent modest performance in increasing grain yields, however, did reflect that only under the collective
### TABLE 19
Rice Yields of Communes in Guangdong Province (jin/mu)

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Xin-hui county</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a Huan-chen commune</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1200</td>
</tr>
<tr>
<td>Nan-hai county</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a Da-li commune</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1400</td>
</tr>
<tr>
<td>b yan-bu commune</td>
<td></td>
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**Sources:**

a Author's interview, July 1977.

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c"Nong-ye Yao Da-shang, Yi-ding Yao Da-gan" (Must Keep Up Greatly with Agriculture, Must Work Diligently) in Guangdong-sheng Nong-ye Xue Dazhai Jing-yan Xuan-pian 广东省农业大寨经验选编 (A Compilation of Experiences on Learning from Dazhai in Guangdong Province), Vol. 2 (Guangzhou: Ren-min Chu-ban-she, 1973), pp. 30-31.

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fGraham E. Johnson, op. cit., p. 10.

gIbid., * indicates 1958 figure. See Yao Xiao-yu 姚小雨, Lo-gang Ren-min Gong-she Jian-wen 罗岗人民公社见闻 (Sight and Sound from Lo-gang People's Commune), Da-gong Bao 大公报, December 21, 1958.


production system, with a set of different relations of production, significant progress were able to be made in building up the infrastructure for agricultural development; and further increase in grain yields has to depend upon whether such infrastructure could be expanded. It is therefore important to examine the changing infrastructure for agricultural development in Guangdong; and in Mao's terms, such infrastructure is what the "Eight-Character Charter in Agriculture" *(Ba-zi Xian-fa 八字農法)* is all about: *tu* (soil conservation), *shui* (water conservation), *fei* (fertilization), *zhong* (plant breeding), *mi* (close planting), *bao* (plant protection), *gong* (tool improvement) and *guan* (Field management). And they provided the focal point of planning and implementing the agricultural transformation programs under the commune system since the Great Leap Forward.

B. Developing Agricultural Infrastructure

1. Soil Conservation and Improvement

To increase grain production, the Chinese government has not only given considerable attention to the assessment, utilization and preservation of soil resources, but has also made strenuous efforts to bring new land under cultivation.
The NPAD implemented in the early period of collectivization urged cooperatives to improve and utilize saline and alkaline land, red-soil land, low-lying land, sandy land, and poor land of other types; and to terrace hilly land energetically and in a planned manner.\(^1\) After the Cultural Revolution, however, attention was centered on the continual mass movements to transform mountains and wasteland into cultivated land, and the improvement of soil as well as overall the surveying, planning, and rational utilization of land. In 1969, the communes and their constituents, cadres, and peasants in districts of Fo-shan, Mei-xian, Shan-tou, and Zhanjiang participated in various land improvement projects which upgraded an area of land 10,000 \textit{mu} more than the total improved in the entire province of Guangdong in the previous year.\(^2\) Projects of reclaiming 10,000 \textit{mu} of sandy beach as well as other terracing construction to bring new land under cultivation were also reported in other districts in the same year.\(^3\) In 1971, after a careful survey of the soil situation in the province, projects were also planned to develop more than 20 million \textit{mu} of red soil into paddy fields.\(^4\)

In the delta region, efforts made by the communes and brigades to improve their land were mainly measures to keep the land fertile and prevent and control salification and alkalization as well as to improve the low-lying agricultural land. Salification and alkalization often resulted from improper irrigation and drainage:
inadequate drainage caused the level of ground-water to rise, bringing more salt to the surface while improper conservation left the land arid to become alkaline. The low-lying agricultural land, on the other hand, was subject to frequent floods and waterlogging in normal years not to mention years when precipitation was extraordinary heavy.

The "raised fields" methods was popularly employed in this area to reduce waterlogging and salinity in low-lying areas. The raised fields consist of rectangular farm plots bordered on two or three sides by deep drainage ditches. Over large tracts of land, the earth dug out from the drainage ditches is used to raised the height of the fields and cover the saline topsoil. Such fields also prevented the accumulation of surface water after heavy rainfalls in the low-lying areas and reduce salinity.

In 1974, the Xiao-tan Brigade of Nong-nan Commune in Fo-gang county transformed the low-lying Da-wan-do area into raised fields by constructing a new drainage and irrigation system of more than 1,050 meters and raised the fields by five inches by putting more than 823 picul of soil onto each mu of these fields. More than 21 mu of land were brought under cultivation in this district.5

In a similar fashion, the Shan-hou Brigade of Chiao-tou Commune in Dong-guan county improved their more than 4,000 mu of low-lying land by involving more than 120,000 labor unit (lao-dong-li).
to build a comprehensive drainage and irrigation system over three consecutive winters starting in 1972. The red-soil farmland was also improved, this by applications of farmyard manure and lime to increase the organic content and reduce the acidity of soil.

The Ba-jia Brigade of Chung-lou Commune in Tai-shan county spent a total of 95,000 labour days to improve its 2,500 mu of lowlying red loam land. It did so by raising the fields, and constructing a drainage and irrigation system of over 700 meters. Embankments were built to stabilize planting. Fresh water was stored to suppress salt and flood-water was used to wash away salt. Fields were also protected by carefully constructing small dams and elevated paths around the fields to prevent the mounting of the underground salt and by using organic fertilizer and intensive cultivation to block the capillaries that bring up the salt water and to reduce evaporation.

Similar projects carried out in the Huan-cheng Commune in Xin-hui county reportedly brought 750 mu of land under cultivation in 1976, and Johnson indicated that expanded cultivated areas were quite common in the communes he had visited. In Lo-gang Commune, with a total area under cultivation of 110,000 mu, some 19,000 mu had been brought in since 1949. In Dong-guan county, land under cultivation for peanuts went up to 140,000 mu in 1972 from 39,000 mu in 1949; sugar-cane fields increased to 140,000 mu in 1972 from 39,000 mu at
the time of liberation over the same period and land for planting
casava jumped to 52,000 mu from 7,800 mu. 9

2. Water Conservation and Rural Electrification

China is rich in water resources. But, it is not so much the
magnitude of these resources by their geographical distribution and
periodic variability that are destined to play a decisive role in
agricultural development. Despite rich resources and experienced
farmers, China has never been able to free itself from the calamities
of flood and drought. Water conservation, therefore, has been given
special attention by the government since liberation. Dikes have
been reinforced; discharge capacities of channels have been enlarged,
and additional channels have been built to drain off water. All
these measures, however, were given priority for the prevention or
alleviation of flood disasters rather than for the beneficial
utilization of water. 1 It was not until 1956, when the NPAD hoped
to have ordinary floods and droughts eliminated in the next twelve
years that there was a marked shift from the prevention of floods
to the full utilization of water resources, from draining water to
storing it, and from flood prevention to drought control.

The Seven-Year Rural Construction Plan released in the same
year in Guangdong province reflected this change. It called
attention to the fact that in a province with 57,000,000 mu of
cultivated land, 45,000,000 \textit{mu} were irrigated fields while the rest were dry paddies. Among the irrigated fields, however, only slightly more than half (26,000,000 \textit{mu}) were "wet fields," which were provided with facilities for irrigation and regulation of water supply and possessing a drought-resistance capacity of thirty days. Another 1,200,000 \textit{mu} "wet fields" were provided with irrigation facilities but their drought-resistance capacity was less than thirty days. The rest of the 700,000 \textit{mu} were fields without the adequate irrigation facilities to resist drought or flood and subject to a constant threat of weather fluctuation. The plan proposed that by the spring of 1958, floods and droughts would be brought under total control, and that the capacity for drought-resistance for all fields must be improved to 60, 50, or 30 days depending upon the specific requirements of the locality.\(^2\)

During these years, many water conservation projects were carried out with great enthusiasm and fanfare in Guandong under the cooperatives as well as the newly formed commune system. In Zhongshan county, the Yat-sun Dam \textit{遥仙水库} was constructed in 1956 with a capacity to store 3,650,000 metric tons of water\(^3\) and provide irrigation to 12,300 \textit{mu} of cultivated fields. In Tai-shan county, soon after the Tuan-fen Commune was formed, the members began construction of the Da-long-dong \textit{大隆洞水库} Dam in 1958.\(^4\) In the following year, another reservoir was build at the Feng-huo-jiao \textit{烽火角} to receive fresh water.\(^5\) In 1963-64, a four kilometers long
diverting channel was dug to connect the major reservoirs in the same
district. In Kai-ping county, the Da-sha-hou Dams began
construction in August 1958. More than 18,000 members from the
Ma-gang and Tang-gu-tan communiques were involved. A total
of fourteen dams covered a reservoir area of twenty-eight square
kilometers with a capacity to store 2.0 million cubic meters of
fresh water and numerous aqueducts extending over 237 square kilo-
meters. In Xin-hui county, the Tan-li and Guan-jing dams were completed in 1957 at the Huan-cheng Commune. Two years
later, the same commune dispatched 3,000 members from different
brigades and production teams to construct a diverting canal from
Feng-gang to Xin-shi; this connected the Chang River to irrigate more than 12,000 mu of fields in the area. In Nan-hai
county, the Da-li Commune completed their Bei-cun waterlock
system of 150 meters to regulate water levels for irrigation; then
another 100 canals and ditches, sixty smaller locks and thirty-two
reservoirs were added to the irrigation system in the following two
years.

The scale of construction was indeed enormous, and many of
these new construction were carried out by provincial and local
governments with draft labour. Obviously, this enormous manpower
and expenses could not be mobilized in other than a collectivized
system of production. However, the over-enthusiastic implementation
also resulted in some unexpected consequences. Because of improper
planning, lack of coordination, and poor construction, it was evident that many of the projects did not perform their functions as satisfactorily as expected. The authorities also realized that large projects required large amounts of funds, raw materials, and labour, and would take a long time to complete. Many water conservation projects were thus discontinued after 1960, except to repair or improve existing irrigation facilities and drainage outlets. Moreover, the excessive reliance on the force of gravity for irrigation was corrected. Many irrigation systems were reconstructed and pumping installations added.

A new policy on water conservation eventually emerged from these experiences. Water conservation projects were now constructed to ensure freedom from drought in conditions of up to 100 days without rainfall and to protect against waterlogging with up to six inches of torrential rain. Rivers and water systems were explored and dredged for better irrigation. Controlling sluice-gates were also built to enhance the capacity for storing up water, resisting floods, and draining excess water. Water conservation projects in farmlands were also advised to take river networks and roads as the key link, to construct in coordination with mechanical plowing, readjust systems of drainage-irrigation in the fields, and build projects systematically to meet the needs of mechanized farming. In irrigation and drainage, each piece of field was encouraged to "maintain its independence" and ensure that irrigation would not go through other
fields. Large irrigation areas of about 2,000 mu were recommended rebuilt gradually into smaller areas of 1,000 to 1,500 mu.\textsuperscript{11}

This remains the guiding principle for water conservation work in Guangdong province in recent years. In 1969, the Lai-shan Brigade in Tai-sha county cut through a mountain to build a canal to draw water from the Xin-jing Dam and improve the irrigation of its fields; another canal, extending thirty kilometers from Hai-yen and Wen-cun was built in the same year to draw water from the same source. But the most important project was the construction of a dredged artificial canal diverting water from the Tan River to become a new river to drain off excess water and to prevent flooding of the fields in that area in case of heavy rain.\textsuperscript{12}

In Kai-ping county, the Jin-River Project was enlarged and replanned. In 1970, 23,000 members from the communes of both Kai-ping and En-ping provinces spent forty days to dredge a new canal of 880 meters long, 110 meters wide and 6 meters deep to provide the water resources necessary for the new He-shan Hydro-electric power station. Included in the project was also the construction of four floodgates, each measured twelve meters in height, 5.3 meters in width and weighted fifty metric tons. The floodgates would also serve to regulate the water level to eliminate the tidal difference of 2.8 meters to facilitate and accommodate safe navigation. (See Map 2). Smaller hydroelectric power stations along the Jin River were also planned. (See Map 3).\textsuperscript{13}
Map 2 He-shan Hydroelectric Station at Kai-ping County
Map 3 Hydroelectric Station Network of the Jin River
In Nan-hai county, 10,000 members and cadres from the Da-li Commune and a team of 1,400 members from the Commune's Rural Basic Construction Team (農村基本建設隊) started their water conservation project in Chang-hong-ling (長虹嶺) in 1974. Under this project, a comprehensive irrigation system was planned to water the 3,000 mu of terraced fields on the eleven hills in the area. Aqueducts totalled to nine kilometers were built to receive water, and 900 meters of channels were installed for irrigation while another 900 meters of canals were constructed for drainage. Pumped-water irrigation was adopted.\textsuperscript{14}

In Xin-hui county, a new drainage system was completed in the winter of 1975 in the Huan-cheng Commune. Eighteen thousand members participated in this project to construct a five mile drainage canal in the first stage. The second stage of the project involved another 17,000 members to build up irrigation channels system resembling the Chinese character "非" (非字河). Then 22,000 members took part in levelling and redrawing uneven or hilly land formerly difficult to farm to bring the fields integrated to the new irrigation-drainage system.\textsuperscript{15}

Other water control and irrigation networks were also reported by Johnson.\textsuperscript{16} In Shun-de county, 80 percent of the cultivated land were irrigated by power-pumps, and there were over 106 electric pumping-drainage stations in 1973. In Dong-guan county, an extensive system of pumping stations, some 2,500 with a total capacity of
45,000 kilowatts, irrigated an area of more than 539,000 mu. In Lo-
gang district, another irrigation project provided water for some 26,194 mu of land. This was done by the construction of a reservoir
with a capacity of 8.2 million cubic meters and a 670-meter tunnel
which brought irrigation and provided water-power for two small hydro-
power stations. The water-power potential of the rivers that
criss-cross coastal Dong-guan and Shun-de county were also fully
utilized. The Jin-ju tan (金雞潭) Hydro-electric Power Station in
Shun-de county has used a slight tidal difference of 1.5 meters and
a slight narrowing of the river to generate electricity. A 360 meters
long, 75 meters wide dredged canal was built for the hydro-electric
power station with ten sets of generators and a capacity of generating
six million kilowatts. The project not only improved the irrigation
of cultivated land in the area, it also prevents floods and droughts,
and provided facilities to accommodate shipping of up to 100 tons.

In En-ping county, water conservation remained one of the
most important mass projects to transform agricultural production.17
It was reported in early 1974 that a labour force of more than 90,000
people, over 70 percent of the total manpower in En-ping county,
engaged in a drive to dig ditches, and improve soil and irrigation.
More than 4.9 million cubic meters of earth-work, including twenty
projects of dredging river courses, building dikes, and reservoirs,
were accomplished, and the irrigation and drainage constructed extended
over an area of 103,000 mu. More than 30,000 mu of land were improved
consequently.18
One of the significant consequences of the recent mass water conservation works in rural areas was the rapid electrification of rural China.

Prior to 1949 the use of electricity in China's rural areas was negligible. Even during the First Five-Year Plan period, rural electrification was minimal because of financial and technical difficulties. Although the NPAD later stated that "In building water conservation projects were power generation is possible, every effort should be made to undertake the simultaneous construction of small- and medium-sized hydroelectric power stations, and by co-ordinating them with the medium-sized and large power stations built by the state, the supply of electricity to the countryside should be gradually increased," no definite goals had been set for a rapid rural electrification.

The Seven-Year Rural Construction Plan of Guangdong Province was more ambitious. It indicates that the target for the province was "basic rural electrification" by 1962--that is, at least 50 percent of the villages in the province would have access to electricity for pumping, irrigation and drainage stations, machine repair shops, and food-processing mills as well as for general lighting. But it was not until 1958, at the beginning of the Great Leap Forward Movement, that rural electrification became a major concern of the Chinese planners, and that a first-stage rural electrification was planned and adopted at a National Conference of Rural Hydroelectric Generation in Tientsien. Under this
Plan, several major targets were to be accomplished by 1961:21

(a) a total generating capacity of 15-18 million kilowatts was to be installed in the rural sector with an annual output of 37.5-45 billion kilowatt-hours;

(b) the average annual consumption of electricity per person could reach 50-80 kilowatt-hours;

(c) from 60 to 80 percent of the water-lifting work in irrigation and processing agricultural products would be powered by electricity; and

(d) and electricity would be used as the principal power source in small industries below the county level.

Despite these goals, the development of rural electrification continued to be slow. By the end of 1958, there were 4,878 plants in China's rural areas with a total capacity of 151,826 kilowatts, an average capacity of thirty-one kilowatts. And, although 4,334 were built in 1958, many of these small hydro-power stations were in fact ineffective in their performance.22 At the end of 1959 the total capacity installed was only 400,000 kilowatts, 10 percent of the planned target.23 The total capacity reached 520,000 kilowatts by May 1960,24 but there were no increase at all from 1960-1964. In many cases, electricity was transmitted directly
from the national networks rather than generated in small rural stations which had extremely low load capacities.

It was only in recent years when the policies of water conservation and irrigation have been shifted to promote pumped water irrigation, that rural electrification began to develop rapidly. In places where hydraulic power resources were abundant, larger hydroelectric plants have been built in connection with projects for multiple purposes—flood control, and electric and water supply for industrial, domestic, and agricultural uses—with the local government carrying out overall planning and supplying financial assistance while the communes were responsible for organizing and coordinating the manpower. In areas close to urban or suburban centers, transmission lines were installed to supply surplus electricity to the surrounding rural areas. And in accordance with the principle of self-reliance and "walking on two legs," small hydropower stations have again been constructed or remodeled using many local manpower and financial resources rather than investment by central authorities.

In Guangdong province, the Jin-ju-tan Hydroelectric Power Station in Shun-te county, the He-shan Hydropower Station in Kai-ping county (and the Jin River Water Conservation Project), as well as the Da-sha-he Dams in the same county, are all representative of the new policy aiming at a more rapid development of rural electrification. The Jin-ju-tan Hydroelectric Power Station was built with an investment of six million yuan generated from the county and
100,000 yuan from the higher level government. Labour was recruited from throughout the county--each production team in the county sent two workers and the workers were paid by the collective allocation at that level while the county supplemented them with rice ration.25

The He-shan Hydropower station was constructed with similar financial and labour arrangements. Five sets of generators were installed with a total capacity of 1,250 kilowatts. Again, the station was built not only to supply electricity but also to serve the purposes of regulating river flow to prevent floods, supplying water to irrigate farmland, making possible the raising of fish and other aquatic products, and providing better and safer navigation. Each year the power station has a revenue of 200,000 yuan from supplying electricity to its surrounding areas. Electricity charges here conform to the national standardized rates. For agricultural uses, the rate is 7 fen (cents) per unit. For industrial uses such as sugar-mills and steel factories, it is 7 fen per unit but, for producing nitrogen and fertilizers, each unit costs a fen more. For electricity consumed in the cities nearby, however, the rate is 20 fen per unit.26

The He-shan Hydropower station is also part of a larger water conservation project of the Jin River on its upper-stream. Nineteen hydroelectric power stations are planned for various locations along the river. The total generating capacity will reach 39,855 kilowatts, capable of irrigating 200,000 mu of farmland and draining
110,000 *mu* of land in case of floods or heavy rain. The project will also improve navigation; the Jin River would accommodate ships up to 50 tons from Chang-sha 長沙 to En-cheng 恩城, and 10 tons from En-cheng to Tang-lao 唐勞.  

The Da-sha-he Dams, on the other hand, have four hydropower stations with a total capacity of 2,100 kilowatts (the largest one being the Ta-sha-ho Hydropower Station which has a capacity of 1,890 kilowatts) and boasts an annual consumption of 7,500,000 units of electricity netting an annual income of 500,000 to 600,000 *yuan*. Rates for the use of electricity for irrigation vary in different communes. In Che-kan 乍坎 Commune, the annual cost of irrigating one *mu* of field is 50 *fen*, while it is 60 *fen* in Tang-lao 唐勞 Commune and 70 *fen* in Ma-kang 馬港 Commune and Long-sheng 龍勝 Commune. For other agricultural uses, electricity costs 5 *fen* per unit. Rates are slightly higher for industry and light industry: 7 *fen* per unit. The Zhou-wan-tan hydroelectric station of Hua-dong Commune was also reported to have a total capacity of 250 kilowatts.  

The communes in Zhong-shan, Xin-hui, and Nan-hai counties, however, benefitted more from drawing electricity through a transmission system from the extra capacity of big power stations in the nearby cities. In 1975, Zhong-shan county installed 1,000 kilometers of high-tension transmission lines and 2,200 kilometers of power transmission lines to provide electricity for 585 pumping-
drainage stations. This provided irrigation to about 90 percent of the fields there. In Nan-hai county, a large transformer substation of 5,000 kilovolts was constructed in the Da-li Commune; 52 kilometers of high-tension transmission lines and 63 kilometers of transmission lines were also installed in 1971 to transmit power to forty-seven pumping-drainage stations in the commune. The new facilities made it possible to irrigate 100 mu of paddy fields in only an hour. The Huan-cheng Commune of Hsin-hui county, at the same time, installed 6 kilometers of high-tension transmission lines in 1976 and transmission lines networks in every small irrigation system in the commune to irrigate over 12,000 mu of farmland; it was also capable of draining floodwater and heavy rain in two hours.

By 1972, over 95 percent of the counties in Guangdong had set up their own small hydroelectric power stations, and the total installed generating capacity of such stations had reached 100,000 kilowatts, a 40 percent increase over the previous year in the province. Electricity, in the same year, was made available to 95 percent of the brigades and 87 percent of the teams in Guangdong.

3. **Fertilization**

Traditionally, in China farming depended mainly on indigenous fertilizer from peasant households to supply nourishments and maintain a moderate level of soil fertility. This fertilizer derived from
many sources including human manure, animal excrements gathered from pig and cattle pens, artificial compost, decomposed residues, green manure, ashes of grass and tree branches, etc. Since 1962, China has been strikingly successful in increasing the availability of chemical fertilizer. The supply of nitrogen fertilizers increased by less than an estimated 50 percent between 1957 and 1962, but it almost quintupled between 1962 and 1970 both in terms of imports and domestic production. In fact, China has become the world's largest importer of nitrogen fertilizers and is exceeded only by the Soviet Union and the United States as a consumer. And as of the latter part of 1975, most provinces, and municipalities directly under the central authorities, had their own large and medium size chemical fertilizer plants. Moreover, many "native-method fertilizer plants" of various sizes had also been built in the communes and were capable of producing as much as 8,000 tons of liquid ammonia per year.

Despite spectacular progress in increasing supplies of chemical fertilizers, China still faces a general shortage of chemical fertilizer because of various problems. A large share of domestically produced chemical fertilizers consists of low quality, low nutrient fertilizers such as aqua-ammonia and ammonia bicarbonate. They are helpful to crops but are generally unsuited for modern agricultural practices because they decompose rapidly when stored or exposed to the weather. Production and distribution must thus be made to dovetail with the seasonal demands of farming. At the same time, the
bulk of fertilizers produced domestically are simple fertilizers, which usually contain only one nutrient (e.g., urea and ammonium sulphate, contain nitrogen as the nutrient), rather than complex fertilizers in which nitrogen, phosphorous, and potassium are combined to balance crop nutrients. Domestic capacity for production of complex fertilizers has only recently come into being. There is, then, a gap between what is available and what can be profitably applied in terms of nutrients; and because of the increasingly large acreage of multiple cropping in China, the spread is growing even wider.

Imported chemical fertilizers have become increasingly important in recent years, but they also have become increasingly expensive. The closure of the Suez Canal in 1968 forced the price of European fertilizers, including freight, to go up considerably more than the Japanese fertilizers. Even prices of the Japanese fertilizers have gone up tremendously since 1973. What used to cost 50 yuan per metric ton now costs 350 yuan. Consequently, not only an imported fertilizers rationed to the farmers, but domestically produced chemical fertilizers are also supplied on a ration basis. At the Wei-dong Production Brigade of xin-hui county, farmers could obtain only 5 to 10 tan chemical fertilizers (nitrogen or potassium) per month per mu rice paddy. For fields growing sugar-canves, the supply was 5 tan per mu. Most peasants, thus, have to rely on the traditional sources of organic fertilizers to supplement this shortage, and organic fertilizers remain the principal source of soil fertilizer.
The commune members have various ways of obtaining the organic fertilizers they need: pond and canal sediments as well as industrial waste were burnt into ashes and charcoals; garbage and earth were composted and plant stalks were fermented under high temperature or in water. The focal point of commune efforts, in many counties, has been the accumulation of manure. In Guangtung, during the slack farming seasons in winter, 50 percent of the labour force was thrown into mass collections of manure, while meetings held by the county Party committee, communes and brigades were called to give priority to the accumulation of manure.

The accumulation of manure is not limited to animal manure and night soil. In recent years, the planting of green manure crops has been encouraged not only as a source of organic substance but also as a measure to conserve water and soil and to provide feed for animals. Communes were encouraged to grow green manure on fallow land and in between rows of other crops, and to raise hydrophytic green manure in bodies of water. Such green manure crops as sweet clover, cow vetch, and milk vetch have been introduced in Guangdong province in recent years with good results. Other green manure crops were also grown on water surfaces and popularized as a source of manure and fodder for rice fields.

The Ji-zhou Brigade of Lun-jiao Commune experimented with rearing pseudo-narcissus on the surface of rivers in 1970. They found it needed small space and was easy to plant. It also
grew fast and bore high yield, with good fertility but low cost. When trampled down in the fields, it could be a good source of base manure. In 1972, Yong-feng Brigade followed suit to expand the rearing area to 360 mu of water surface. About 7,000 catties of the aquatic plant were trampled down in each mu of field. Consequently in 1972, the brigade used some 80,000 catties less chemical fertilizer than it had in 1971 but attained an annual per-mu rice yield of 1,498 catties, an increase of 245 catties per mu over the preceding year. Pseudo-narcissus was at the same time used as feed for pigs.\(^9\)

Planting red duckweeds has also been popularized as a source of manure and fodder from rice fields and other water surfaces in the last few years in Guangdong. In 1974-75, the Gu-hu production team of Wei-yang county experimented with various varieties of duckweeds--green, red, and purple duckweeds--between two crops of rice. The results proved that the aquatic plants of the bracken family bred fast and was highly adaptable in output. About 13,151 catties of green manure were produced from each mu of paddy field, and after applying the trampled duckweeds to a low-yield plot of field, the yield increased from 600 catties to a record of 1,578.3 catties. The performance was even more impressive than applying 1,000 catties of chemical fertilizers, which only raised the annual yield from 600 catties per mu to 822 catties. Moreover, the organic matters of
the soil increased from 1.58 percent to 2 percent while total nitrogen was also increased to 0.104 percent from 0.091 percent. Farmers are now advised to interplant duckweeds, rape, and vetch with near-mature rice crops not only to maximize production of green manure crops as manure but also to provide fodder.

Certain areas in recent years have also begun making a new organic fertilizer known as ammonium humate, a compound organic fertilizer made of humic coal, peat, or lignite (containing humic acid and other organic substances) mixed with ammonium, potassium, sodium, or other compounds. It was reported to have long-lasting effects and to be efficient increasing yields. At the same time, it improved the soil and regulated its acidity and alkalinity, which no inorganic fertilizers can do. In Guangdong, some areas, notably Shun-de and Lo-gang, have embarked on experimentation with bacterial fertilizers.

4. Plant Breeding

The plant breeding and improvement program had a slow start in China after liberation although the country depends so much on rice and wheat. From 1949 to 1952 emphasis was given only to the selection and popularization of lines developed by the farmers. In the First Five-Year Plan period (1963-57) improved seeds were
exchanged between provinces and between counties, and new varieties of rice, wheat, corn, soybeans, cotton and other crops were developed by research institutes and farmers. But it was not until the Great Leap Forward campaign that the program gathered momentum and not only encouraged seed selection and improvement, but also introduced varieties from abroad. Since then, plant breeding, especially rice breeding, has made considerable progress, and development in this field stood well ahead of that in other lines of agricultural sciences.

New varieties were introduced for two major reasons. First, a new variety replaced an existing type because it provided a higher yield, better quality, or a better ability to resist plant diseases and adverse natural condition. Second, a new variety was needed because of changed cropping systems— for instance, when double rice cropping replaced single cropping, or when triple cropping is introduced, improved seeds of early-ripening varieties with better adaptability to cold temperature and high resistance to natural diseases are desirable especially for the early crop.

Many new high-yield varieties of rice have been developed. In 1958, two peasants from Chao-yang, county Jin-yue Commune developed China's first dwarf variety of rice resistant to lodging. In the early 1960s agricultural scientists developed and popularized a number of new dwarf varieties which give higher yields. The methods they used to breed new varieties, however,
were simple procedures of single crossing and seed selection. The selection of seed from the hardiest and most desirable plants for sowing during the next cropping season has insured that the varieties grown are suited to local conditions and has minimized seed degeneration.

Seed selection remained the dominant form of seed improvement during the Cultural Revolution. In recent years, however, more advanced breeding techniques such as monoploid and polyploid breeding and X-ray irradiation were reported to have been introduced to China's countryside. And in 1976 allo-octoploid triticale, a new grain that did not exist in nature, was reportedly created in China by crossing ordinary wheat and rye, then using biological reagents and selection. In the same year, new varieties of rice which are more uniform, more resistant to disease and lodging, and more readily absorb fertilizer were produced by pollen culture, a technique only developed recently.

More important, however, is that in addition to central, provincial, and prefectural agricultural research institutes, almost every county, commune, production brigade and team in the major agricultural areas has an experimental group for seed study and breeding. On the commune level, the agricultural center is normally operated with funds allocated from the commune's budget and with income derived from crops grown on experimental plots. The center is responsible for three major categories of activities--seed breeding, experimentation and testing of new varieties of crops, and experimen-
tation with improved agronomic procedures such as optimal application of manure and fertilizer, water, and pesticides, and transplanting procedures, etc. "Demonstration plots" are specially set aside by the commune but are farmed and maintained within the regular fields by the production team members as well as by cadres, youth, students, and militia.

At the brigade level, agricultural research stations are set up to operate experimental and seed breeding plots. Farming, however, is generally assigned to workers from different production teams on a rotating basis. There is only a very modest budgetary allocation of funds for the research station. At the same time each production team has its own plots for breeding and experimenting with different varieties. They are operated by the team's scientific research group which is made up of experienced peasants, cadres, and agro-technicians. The research group is to study and find out the best method to grow the early, middle, and late crops according to the local farming conditions and labour force. It is also responsible for gathering information on the properties of new varieties being tested for the selection, increase, and purification of good varieties. Members of the team's research group are also given special training in agricultural techniques by the commune.

Under this three-tier system for research, testing and dissemination, new varieties of seeds, fertilizers, and insecticides as
well as new information about agronomic techniques are fed into the commune agricultural center from the county, municipality, or provincial levels. Then such information is disseminated throughout the commune through the production brigade's research stations, which in turn work with the production team research groups. The flow is reversed with training of personnel from the brigades and teams by the commune.

This pattern of activity, with emphasis on demonstration of new varieties and practices of seed breeding, enables the commune to translate the findings of agricultural research rapidly into actual production in turn encouraging the commune to become their own supplier of seed, to take measures to maintain its purity, to select seed from plants which grow best in their localities, and to cross-breed with strains grown elsewhere to create new varieties most suited to their local conditions. For instance, the "Nan-zao No. 1" 南早一号 developed by the Shuang-shui Commune research center by seed selection from the dwarf varieties of "Nan-te" 南特 in 1964, was popularized and produced a sown area of 150,000 mu in 1971 in Xin-hui county. The "Zao-feng-zuan No. 25" 燕凤选 developed by the Zhong-shan county agricultural research institute in 1970 through seed selection from the "Tzao-jin-feng No. 12 dwarf variety" 早金凤十二号, had in two years increased the sown area to 35,000 mu in the county. 8
In 1972, some of these research centers and stations were coordinated nationwide to form a research network. This meant that breeding information and results of research could more easily become available to other units. Not only does this encourage more interaction and interchange among agricultural researchers, but it can in some cases, shortened the period for breeding and testing a new variety. For example, agricultural researchers in the North can raise several generations of hybrid rice per year in the South. Such arrangements have not only led to exchanges of traditional varieties between regions, but have been especially successful in the transferring of varieties of rice.

Traditionally xian 米 (indica or long grain) varieties of rice were grown in the Southern region and geng 梗 (japonica or short grain) varieties were cultivated in northern rice growing regions such as the Yangtze Valley. Long grain varieties were tall, rather coarse of stem, grew well in relatively infertile soils and tolerated the deep water usually associated with inadequately drained paddy fields. They, however, had the disadvantages of being prone to lodging even at low levels of fertilization and of being unable to withstand high winds. Short grain varieties, on the other hand, were short-stalked, withstood high winds and typhoons, but could not tolerate deep water and were photosensitive (i.e., required longer hours of sunlight for the plant to flower). They also demanded a high level of soil fertility.
The recent developments in plant breeding as well as water conservation and fertilization opened new opportunities. Guangtung province, with increasing areas served by mechanical pumps and more intensive application of fertilizers—both chemical and organic—has favourable conditions for the growth of short grain varieties. In the Northern regions, with more fertilizers supplemented by green manure as well as imported strains, it is also possible to grow two crops of rice in a year.10

5. **Rational Close Planting**

The idea of planting crops at a greater density to increase crop yields was not new in China. Long before the Eight-Point Charter for agriculture came into existence, the technique of close planting, its requirements as well as its limitations, had been discussed thoroughly in *Lü-shi Chun-qiu* (Lu's Annals) compiled by Lu Bu-wei, a prime minister in the Qin dynasty (255-207 B.C.), and in *Nong-sang Ji-yau* (Essentials of Growing Mulberry and Farming).1 But not until the beginning of the People's Republic regime, under advise of F.C. Lutsenko, a Soviet agronomist, was close planting officially encouraged. But it was during the Great Leap Forward movement that this practice of cultivation was again emphasized.
During those years, close planting was practised indiscriminately. In Guangdong province, most of the production units were encouraged to plant more than 400 to 500 thousand clusters of rice seedlings per $mu$ in their rice paddies as opposed to less than 100 thousand before land reform movement and less than 150 thousand per $mu$ between 1954 to 1957. In many cases, some units were told to double their targets, that is, to plant 800 thousand to one million clusters of seedlings per $mu$ of field. Close planting was believed to be one of the most effective means to obtain maximum yields with minimum cost.

Many scientists, however, cautioned that close planting should be practiced only to a certain degree and according to particular circumstances such as land fertility, the kind of crops, and local condition. And as they had expected, increasing agricultural production by indiscriminate close planting from 1959 to 1961 produced a lot of problems. Articles in journals and periodicals to reveal that by increasing the density of planting, the height of plant and ear was neither increased nor decreased but the stem became markedly more slender and caused a higher percentage of stalk breakage. In other cases, tassel emergence and ear silking tended to be delayed after planting density was increased. At the same time the transplanted seedlings were more susceptible to rot because of the increased relative humidity and decreased light intensity. Furthermore, when
the plants were growing, the closer they stood, the greater the absolute value of the green leaf area. This meant that the power of photosynthesis was increased but not the net assimilation process and therefore, the biological yield was not always increased. Reportedly with increased planting density the number of permanent roots a single plant had was reduced and the distribution was shallower. The accumulation of plant food materials was thus reduced and thereby inhibited the development of underground parts.\textsuperscript{3}

In 1961, a "rational" close planting approach was finally reached. Sole reliance on close planting as a means of increasing agricultural production was recognized as insufficient: the highest yield could only be obtained under given conditions of soil, climate, fertilization, irrigation, labour force, and rational close planting. In other words, only within a certain limit could the increase in the number of seedling clusters could raise the number of ears as well as the amount of grain and the weight of grain. Having reached that limit, even with an increase in the number of ears, the number of grains per ear would decrease and the percentage of empty grains would increase. The yield, therefore, would no longer be increased. When the density had exceeded this limit, the increase in the number of ears would not be enough to offset the decrease in the number of grains and the weight of grain, thus the yield might actually fall off.\textsuperscript{4}
The policy on close planting has since emphasized "the rational way" to ensure full use of land while guaranteeing that plants have enough sunlight and fertilizer. In recent years, 200,000 to 600,000 clusters of rice seedlings were planted per hectare of land and the recommended seedlings were planted with four inches of space between clusters and seven inches between rows as opposed to 90,000 to 150,000 clusters per hectare, and four and seven inches of space between clusters and rows before the liberation.\

More attention was also paid to intercropping in order to take advantage of close planting. In North China where the growing season is short, planting corn and cotton between rows of wheat is common. In some places, after wheat has been harvested, late corn is sown or transplanted in the vacated rows as a third crop. In the Southern regions, because of the longer frost-free period, intercropping is more diversified. In either case, however, tall stalked crops (such as sugar cane and corn) are normally grown with short stalked ones (such as soybeans, tobacco, and potato) to use sunshine and air fully. Crops having tap roots such as cotton and those with fibrous roots such as wheat, are frequently interplanted to help to keep the soil loose. Peasants are also encouraged to interplant early-ripening crops such as vegetables, with late-ripening crops, such as cereals, because they have different rates in absorbing nutrients during their different growing periods to make possible a more efficient use of fertilizers in the soil.
6. **Plant Protection**

It is natural to think that increased agricultural production implies increased fertilizer application and improved irrigation system and soil. Increasing agricultural production, however, also means controlling losses of agricultural products from pests or diseases. Statistics for plant protection in China are scattered and scarce. The following only briefly highlights the direction of plant protection in China since liberation.

Before liberation, Buck estimated that insects and diseases damaged as much as 10 to 20 percent of grain crops. After 1949, the People's Government called for the general elimination of the pests and plant diseases that were most harmful to crops such as rice borers, locusts, bollworms and army worms in the NPAD. At the same time local plans were called upon to include the strengthening of quarantine systems, the production and improvement of pesticides and related apparatus, and the assurance of their safe and effective use. (Article 15). Since then, plant protection emphasizes not only treatment, but, more important, prevention.

Pesticides, insecticides, and fungicides were increasingly supplied to the rural areas. Before liberation, there were only three factories manufacturing chemical pesticides in China (located in Shanghai, Peiping and Shengyang and were operated by the Ministry of Agricultural and Forestry of the Nationalist government). During the early 1970s the insecticide industry claimed to operate 300 plants
in China and manufacture over 120 different products. The industry was also supported by over twenty specialized institutes that employed at least a total of 2,000 research workers.

Salts of mercury, copper, and arsenic, or DDT provided the basis for most insecticides manufactured in China, but new developments have been reported in recent years. Low-toxicity pesticides, such as long-term phosphorous insecticide to guard against aphids and mites and to prevent rice leaf from wilting was developed in the last few years; it is also believed that organic phosphate insecticide became available too, although production and its uses were reportedly limited because of the high cost.

Plant protection in China, thus, pays more attention to "the most economical and effective methods of prevention." The farmers are encouraged to select seed strains with high resistance to plant disease. They were also urged to plan to grow their crops rationally to reduce crop loss due to pests such as red spider (which are often seen in cotton fields and thus soybean crops should not be grown near them) or rice borers (especially the *Schoenobius incertellus* Walker and the *Chilo suppressalis* Walker types in Guangdong which tend to destroy rice crops grown in small pieces of paddies more easily: a different planting system, such as planting in combined large fields was recommended). Crop rotation was again suggested to reduce the risks of pests (by rotating soybeans and rice crops, for example, an outbreak of worms on beans would be reduced). Frequent deep plowing
was also considered an effective measure not only to improve the condition of the soil but also kill off hidden rice borers during the winter season.\textsuperscript{5}

Agricultural science research units at all levels were organized to set up insect scouting groups and stations to forecast disease and insect migrations. Some team members were also chosen as plant protectors under such set-ups. They were trained by visiting scientists from larger research units.\textsuperscript{6}

Integrated pest control programs using beneficial insects and organisms to prevent and eliminate insect pests have also been used on a larger scale in recent years. \textit{Trichogramma evanesce} or \textit{Trichogrammatid wasp} were used to control sugarcane borers in Guangdong with good results.\textsuperscript{7} \textit{Beauveria bassiana} were also introduced to control corn borers and pine silk worms. Bollworms, on the other hand, were killed with a tiny, black, shiny parasitic chalcid fly. Rice sheath blight was prevented with \textit{Chingkangmycin}.\textsuperscript{8}

In 1978, locusts have reportedly been brought under control. Rice borers, which used to destroy 10 percent of the annual rice harvest in China before liberation, now destroyed only 1 percent or in some places, 0.1 percent of the crops as a result of mass cooperation in observing and forecasting the movement pattern of the insect and of control measures taken.\textsuperscript{9}
7. Tool Improvement and Agricultural Mechanization

The general policy on tool improvement at the outset of the People's Government was to improve traditional farm implements and move gradually toward mechanization. This was generally accepted as a realistic and promising approach as well as a necessary step before a thorough mechanization of the rural sector could be achieved. Efforts during these years were thus made to increase supplies of traditional farm implements, to popularize some new implements of either foreign designs, which had been proven more efficient than Chinese traditional ones, or improved varieties of traditional farm tools, and to encourage production of small farm machines. Realizing that large-scale mechanization was still a remote possibility, in order to raise labour productivity and agricultural output, many new innovations of farm implements for plowing, tilling, sowing, harvesting as well as threshing were made available to the peasants during the early periods of the People's Republic.1 The Soviet double-wheel/double-share plows were introduced and promoted heavily.2 Considerable attention was also given to the improvement of rice transplanters of all types—hand-operated, animal-operated, and mechanical ones. Other implements for use in manure accumulation, transport, irrigation, and drainage as well as other agricultural purposes were also reported to have been developed.3 A large part of these implements, however, was wasted, lost, or destroyed during the beginning of the Great Leap Forward Movement when mechanization was over-emphasized and management
of tools fell into total confusion. Only in the latter part of 1960 were responsibilities delegated specifically to maintain and keep up these implements.

Under the new policy of "taking agriculture as the foundation of the national economy," medium-size implements such as plows, harrows, carts, weeding disks, fertilizer dispensers, and threshers were under the care of the communes: a member was also appointed to guard and to inspect those implements and see that they were repaired in good time. Individual members, meanwhile, would be responsible for the care and use of small implements such as hoes, sickles, spades, and picks, etc.

The program of modernizing farm implements was somewhat overshadowed by mechanization after 1959 when more ambitious programs of agricultural mechanization were mapped out. In order to expedite farm mechanization, the Ministry of Agricultural Machine-Building Industry was set up in 1959 and later renamed the Eighth Ministry of Machine-Building Industry in 1964, to administer the manufacturing and popularizing of tractors and other farm machines. In the same year, China's first large tractor plant went into full production at Loyang, Honan Province with technical aid from the Soviet Union, aiming at a production capacity of 54,000 standard units of fifty-four horsepower tractors annually. Smaller plants in other cities were also set up in the same year. The numbers of tractors produced in China, consequently, jumped dramatically to a peak level of 24,800 units in 1960 from none in 1952.
These conventional tractors, however, were primarily suited for "extensive" agricultural cultivation of the type conducted on the large state farms of Northeast and Northwest China and were less useful in the intensively farmed small-size farmland and flooded paddy fields of South China. Beginning in 1964, an increasing number of garden tractors (also called hand-tractors, hand-propelled tractors, hand-guided tractors and walking-tractors) were produced to correct this deficiency. A typical conventional tractor in China is usually of the 54-horsepower category, developing 36-drawbar horsepower while most two-wheel garden tractors ranged from two to twelve horsepower. A typical conventional tractor has about 2.4 standard units, and a typical garden tractor, only 0.25 standard units. The small garden tractors, however, have a versatile power unit used for local transport. They can be fitted with antiskid iron wheels for working in wet fields, and several implements such as plows, harrows, cultivators, and trailors can be attached. They can also serve as stationary power takeoff units to operate agricultural machinery or irrigation pumps. These tractors use single-cylinder four-stroke diesel engines which consume up to nine kilograms of fuel per hectare. About 1.2 to 0.15 hectare can be plowed in an hour. When used for transport, the tractor can pull 15.3 ton-km/hour. It was estimated that in 1975 the tractor inventory of China probably consisted of about 280,000 tractors and an additional 580,000 two-wheel garden tractors. Production of garden tractors grew an
estimated 20 to 60 percent between 1974 and 1975. Measured in terms of standard 15 horsepower units, total tractor horsepower inventory in China probably increased from 292,000 to 835,000 standard units during 1970-1975.\textsuperscript{11} If similar growth rates are maintained, China will have a total of almost two million standard 15 horsepower units in service by 1980 which would be equivalent to about 830,000 conventional units but actually consist of 570,000 conventional tractors and 2,400,000 graden tractors. Measured in terms of hectares of arable land per tractor, China would need almost four times as many tractors to equal the mechanization rate in the Soviet Union. It is, however, almost two-and-a-half times better off than India although considerably behind such countries as Brazil, Argentina, and Mexico.\textsuperscript{12}

Numbers aside, how did agricultural mechanization develop in the rural areas? To understand this, the case of Xin-hui County Agricultural Machinery Plant provides as an illustrative example.

\textbf{The Xin-hui County Machinery Plant}\textsuperscript{13}

The Xin-hui plant was first stated in 1956 as a farm tool repair shop with thirteen people on the staff repairing only small implements such as hoes and sickles. In 1958, as a result of the Great Leap Forward Movement and the call to mechanize agriculture, the plant was expanded and began to experiment in manufacturing its own \textit{Gui-feng 国锋} brand garden tractors. The plant was one of the local industries funded entirely by the provincial government but administered by the county government. The production plan, quota,
or target, nevertheless, was prescribed by the provincial government based on the national economic plan as well as the factors of production and needs of the province.

At present, the plant manufactures only garden tractors. Its production in 1975 was 7,500 units, twenty-nine times the production of 1965 before the Cultural Revolution. (See Table 22)

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<td>UNITS</td>
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<td>1,006</td>
<td>1,677</td>
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<td>3,150</td>
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The production target in 1976 was originally 8,000 units but was raised to 10,000 by the 750 workers in the plant.

Tractors produced by the plant could not be sold directly to the communes or brigades. Instead they were delivered to the provincial government which, in turn, would determine the distribution of the tractors to various communes or brigades in the province. The production units, after they had received their allocations, could obtain the machines from the plant either by cash payments or by low-interest loans if they were financially difficult. When production of garden tractors exceeded the prescribed quota, however, as in the
case of 1975 where 500 extra units were manufactured, the xian government would control the distribution of these extra units within the county.

The plant, however, is not responsible solely for producing garden tractors. It also manufactures parts for the machines as well as set up classes for commune and brigade members to learn how to operate, maintain and repair the machines and workers from the plant were organized as teams ("light brigades") and were sent to the different levels of the communes to teach (classes are normally of 30 to 40 people each and run from two to three months each), set up work shops, inspect and repair machines were necessary. All expenses involved in such "technical aids" to production teams and brigades are normally paid by the plant, but parts must be bought and there is a discount for production units with financial difficulties.

All these clearly reflect the government policy on agricultural development in recent years. First of all, contrary to the past practice of "paying more attention to building than to repairing machines," greater emphasis now is on the latter. It is believed that in most provinces, each county has set up its own agricultural machinery repairing and assembling plant. In most communes, agricultural machinery repairing and assembling stations were established, and repairing teams were commonly seen in most brigades. by forming such three-level repairing and assembling networks, it is
now possible that ordinary repairs can be done within brigades, medium repairs can be handled by the commune, and only those cases which require complicated equipment and replacements would be taken up by the county plant to save time, inconvenience, and expenses.

The work of agricultural mechanization, therefore, is no longer confined to some large agricultural machinery plants and undertaken by small groups of people. Instead, the center of work is now shifted to the localities where the peasants are mobilized to take joint action. "Build small and medium-size plants with emphasis on the former" is thus encouraged in recent years, especially in the spirit of self-reliance.¹⁴

Meanwhile, in addition to promoting agricultural mechanization in the communes, the Xin-hui County Agricultural Machinery Plant also boosts the development of some commune or brigade industrial enterprises. Minor parts of the machines, such as screws and bearings, are produced under contracts to the commune or brigade factories instead of manufactured in a plant.

8. Field Management

Field management is the last, but also the least discussed, aspect of the Eight-Point Charter of Agriculture. Generally, it refers to the meticulous management of factors and conditions favourable to the growth of crops during various stages to obtain a maximum
yield. Specifically, it involves almost every aspect during the growing period of crops such as conditions essential for the germination of seeds, including the supply of moisture, air and soil; weed control; protection of plants from unfavourable meteorological conditions such as frost, drought, and waterlogging; thinning and spacing of the seedlings; fertilization according to the growth of the plants; careful irrigation and drainage based on the need of the plants during various stages of growth; ridging of ground to protect plants against cold, growth of weeds, ineffective offshoots, insect pests and diseases; and prevention of lodging. One of the important functions of the agro-technical service networks in the commune is to analyze and furnish advice on these matters.

The agro-technical groups of brigades, at crucial periods in the growth of rice, would survey the fields once a week to discover problems and suggest solutions. Such on-the-spot diagnosis were sometimes jointly offered by the agro-technical groups of several brigades. For larger scale surveys, staffs from the commune level's agro-technical station were involved either to organize and coordinate the teams and groups or simply to accompany the teams and groups traveling and studying the many local fields.

These groups and teams, in addition to offering solutions to peasants' problems in their plantation, also played an important part in helping the peasants to make preparations to fight pests and
diseases, carrying out the installation and repair of irrigation pro-
jects, introducing of new cultivation techniques as well as new strains
of seeds, and implementing the use of chemical fertilizers. At the
same time, they also demonstrated to the peasants how they would
achieve high-yields by exercising meticulous care in farming with deep
plowing, close planting, proper manuring, irrigation, careful
cultivation and intensive farming. Through this new input; the over-
all efficiency of agriculture could be increased: extension of in-
appropriate seeds became more rare; multiple cropping without improved
irrigation were seldom seen; and the popularization of unworkable
tools was now unheard of.
CHAPTER 6

NOTES

A. Grain Production


2 Zhang Xin-yi (C.C. Chang), *op. cit.*, p. 15.


7 *Provincial Agricultural Statistics for Communist China* (Ithaca, N.Y.: Committee on the Economy of China Social Science Research Council, 1969), p. 143. However, according to the report in *Jing-ji Dao-bao*, November 24, 1953, the average rice yield in 1950 was 171.32 catties per mu, in 1951, it was 186.8 catties per mu and in 1952 was estimated to be 190 catties per mu, all represented yields for one crop. In another earlier report (see Note 6), it was noted that the total output of food grains in 1952 was over 150 million catties.

8 The NARB estimated the yields of food grains in Kunagtung in 1949 was 314 catties per mu while the PRC figures for 1949 was 191 catties per mu. Chao found that the NARB yield has been proven to be an upward biased estimate. See Chao, *op. cit.*, p. 225.

Both the People's Daily and the Red Flag journal gave publicity to the 1974-90 Plan of Agricultural Development stipulated by Jia-ding County in Jiangsu Province. The plan was drafted in August 1973, a revised version was offered in 1974, in August. It was thirty articles covering all aspects of commune administration, including not only agricultural production but also functions of a rural people's commune, such as the development of collective economy, afforestation and etc. Its seven year plan serves as an example for others to copy from. Original Chinese text is from the Shanghai monthly Study and Criticism but the English translation is available from Union Research Service, Vol. 77, No. 8, October 25, 1974.
B. Developing Agricultural Infrastructure

1. Soil Conservation and Improvement

1 See Article 12 of The National Program for Agricultural Development 1956-1967.

2 "Wo-guo Nong-cun Bei-eng Huo Chun-keng Shen-chen Re-qi Teng-teng Xing-xi Da-hao" 我国农村春耕春播生产形势大好 (Great Enthusiasm and Great Prospect for Preparation Farming and Spring Farming in the Villages of Our County), Guang-ming Ri-bao, March 14, 1969, p. 4.

3 "Hen-zhua Ge-ming Cu Sheng-ch n" 狠抓革命促生产 (Grasp Revolution with Great Fervour and Increase Production), Nan-fang Ri-bao, January 11, 1969, p. 3.

4 Da-ming Xu, op. cit., p. 771.

5 "Huang-tan Bien-cheng-liao Fa-zhan Ji-ti Jing-ji Di Ji-di" 荒滩变成了发展集体经济的基地 (Deserted Beach Became the Base for Collective Economy Development) in Guangdong-sheng Nong-tian Ji-ben Jian-she Jing-yan Hui-pien 廣東省農田基本建設經驗彙編 (A Compilation of Experiences in Basic Rural Constructions in Guangdong Province)(Guang-zhou: Ren-min Chu-ban-she, 1976), pp. 7-12.

6 "Zi-li Geng-sheng Jiu-mao Bien Xin-amo" 自力更生旧貌变新貌 (Revigorating by Self-Reliance, Old Faces Turned Into New Ones) in Ibid., pp. 36-39.

7 "Da-pi Cu Da-gan, Di-chen Bien Gao-chen" 大批促大干, 低產變高產 (Rigorous Criticisms Enhance Rigorous Production, Low-yield Transformed Into High-yield) in Ibid., pp. 29-32.

8 Author's interview, July 1977.

9 Graham Johnson, op. cit., p. 16.
2. Water Conservation and Rural Electrification


6 Author's interview, July 1977.

7 Wen-hui Bao, January 31, 1961, p. 3.


9 See Kang Chao, op. cit., pp. 129-134 for a lengthy discussion.

10 Irrigation systems relying on the force of gravity were built because this type would not require the water-lifting instruments which China's industry could not supply in sufficient quantity to cope with the scale of new irrigation construction. Typically, this type of irrigation was built by digging a canal at an upstream point on a natural flow, some distance from the field to be watered. A gradient was chosen that would allow a flow of water through an aqueduct to the field. To utilize the force of gravity, the water level of the natural stream was raised artificially by dams or weirs, and water in the aqueduct was maintained at a level higher than the field to be irrigated. Yet many irrigation works of this type had no provision to regulate the water level during flood periods.

11 See Union Research Service, 77(8), October 25, 1974.
12 See Note 4, p. 28.

13 Author's interview, July 1977.

14 Ibid.

15 Ibid.


17 The central slogan for winter capital construction varies frequently. Before and in 1970, it was "Take the building of irrigation works as the center." In 1971 and 1972, it was "Harness rivers and mountains, improve soil and build farmfields." In 1974, the slogan was "water conservancy and soil improvement." See Union Research Service, Vol. 74 (19), March 5, 1974, p. 238.


19 At 1949, there were only fifty-seven hydroelectric plants in rural China with a total capacity of only 5,330 kilowatts, an average capacity of ninety-four kilowatts. See Shui-li Fa-dian 水力发电 (Hydroelectrics), Peking, No. 12, 1958, p. 54. And during the early 1950s, electric power consumption in Chinese rural areas was between 43 to 77 million kilowatts. See Wo-guo Gang-tie Dian-li Mei-tan Ji-Xie Fang-Zhi Zuo-shi Kong-ye Di Jin-xi 我国钢铁电力煤炭机械纺织造纸工业的今昔 (The Present and Past of Our Iron and Steel, Power, Coal, Machinery, Textile, and Paper Manufacturing Industries)(Beijing: Ren-min Chu-ban-she, 1958), p. 72.


22 Ren-min Ri-bao, January 26, 1960, p. 7.

23 Hong-qi, No. 17, 1960, p. 8.

24 Ibid.

26 Author's interview, July 1977.


32 Author's interview, July 1977.

33 Yueh Sheng, "Small Rural Hydropower Stations" in *China Reconstructs*, May 1972, p. 34.

3. Fertilization

1 See the following table of estimated supply of nitrogen fertilizer (nutrient weight):

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Supply</th>
<th>Imports</th>
<th>Domestic Production (million metric tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1957</td>
<td>0.37</td>
<td>0.14</td>
<td>0.23</td>
</tr>
<tr>
<td>1958</td>
<td>0.55</td>
<td>0.20</td>
<td>0.35</td>
</tr>
<tr>
<td>1959</td>
<td>0.54</td>
<td>0.27</td>
<td>0.27</td>
</tr>
<tr>
<td>1960</td>
<td>0.54</td>
<td>0.33</td>
<td>0.21</td>
</tr>
<tr>
<td>1961</td>
<td>0.42</td>
<td>0.20</td>
<td>0.22</td>
</tr>
<tr>
<td>1962</td>
<td>0.54</td>
<td>0.24</td>
<td>0.30</td>
</tr>
<tr>
<td>1963</td>
<td>0.94</td>
<td>0.54</td>
<td>0.40</td>
</tr>
<tr>
<td>1964</td>
<td>0.78</td>
<td>0.32</td>
<td>0.46</td>
</tr>
<tr>
<td>Year</td>
<td>Total Supply</td>
<td>Imports</td>
<td>Domestic Production (million metric tons)</td>
</tr>
<tr>
<td>------</td>
<td>--------------</td>
<td>---------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>1965</td>
<td>1.19</td>
<td>.59</td>
<td>.60</td>
</tr>
<tr>
<td>1966</td>
<td>1.46</td>
<td>.72</td>
<td>.74</td>
</tr>
<tr>
<td>1967</td>
<td>1.65</td>
<td>1.13</td>
<td>.52</td>
</tr>
<tr>
<td>1968</td>
<td>1.85</td>
<td>1.20</td>
<td>.64</td>
</tr>
<tr>
<td>1969</td>
<td>2.20</td>
<td>1.40</td>
<td>.80</td>
</tr>
<tr>
<td>1970</td>
<td>2.50</td>
<td>1.48</td>
<td>1.02</td>
</tr>
</tbody>
</table>


Guangdong is one of the provinces which made the most significant progress in the production and use of phosphorous fertilizers. In 1963 phosphorous fertilizers accounted for 85 percent of all the chemical fertilizers produced in Guangdong, and they were used on 80 percent of the cultivated land in the province. In the same year, 25 of the 27 chemical fertilizer plants in Guangdong produced mainly phosphorous fertilizers. See Da Gong Bao Peking, January 21, 1964, p. 1.


Alva Lewis Erisman, op. cit., p. 141.


Author's interview, July 1977.
6. Ibid.

7. Ibid., but Johnson also reported that in Shun-de, rice is fertilized with equal amounts of composed rice stalks and nitrogen fixing plants used as green fertilizer. See Elizabeth and Graham Johnson, op. cit., p. 26. Other sources of fertilizer also include residues from soybeans, silt and industrial wastes.


11. Ibid.


4. Plant Breeding


See Note 4.

See Jiang Yi-zen, "Ji-ji Kai-zhan Yi Yang-ban-tian Wei Zhong-xin Di Nong-ye Ke-xue Shi-yan Yun-dong Duo-kuai Hao-sheng Di Fa-zhan Nong-ye Ke-xue Wei Nong-ye Sheng-chen Fu-wu" (Energetically Unfold the Experimental Movement in Agricultural Sciences, Develop Agricultural Sciences with Greater, Faster, Better and More Economic Results in Service for Agricultural Production), Zhong-guo Nong-ye Ke-xue, No. 4, 1965. For descriptions of recent development of research networks in countryside, see Ward Morehouse, op. cit., pp. 582-596. The author's interviews also indicated that in the Hao-mi production team of Li-dong Brigade, Da-li Commune at Nanhai county, there was an active research group of agronomic technicians. There were eight "agricultural technicians" in the group studying techniques of watering or irrigation, plant protection, rice-growing and fertilization. Twelve other people were responsible for operating the fields with one operation team captain and two assistants. In Tien-lu 天禄 brigade of Huan-cheng commune, there were six agricultural technical research stations.

8 Guangdong Shui-dao You-liang Pin-shong (Elite Varieties of Rice Breeds in Guangdong)(Guangzhou: Guangdong Ren-min Chu-ban-she, 1975), pp. 7 and 11.

9 See Note 4.

10 In the southern region, the "san-ai yi-geng" 矮一秆 (three-dwarf varieties and one geng variety) were introduced as early as in 1965 as examples of good strains. The geng variety was Nong-keng No. 58. See "A Preliminary Summing-up of the Farming Methods for a High Yield of Rice in South China," Zhong-guo Nong-ye Ke-xue, No. 2, 1966, p. 13. Also, "A Summing-up of the Varietal Properties of the Late Geng-Rice Nonkeng, No. 58 and its Cultivating Methods,"
Zhong-guo Nong-ye Ke-xue, No. 2, 1966, pp. 31-34. In 1975, the Academy of Agricultural Sciences of Guangdong Province and the agricultural research center of Wu-hua county jointly experimented planting the new geng variety "Fan No. 9" as early crop. The new variety has the advantages of high resistance to cold weather and high winds, it also has good strains and smaller seedlings (thus requiring less space for breeding seedlings and less manpower). Other varieties such as "Li-ming" were also planted as late crops. See San-ji Dao (Tripple Croppings) (Guangzhou: Guangdong Renmin Chu-ban-she, 1977), pp. 21-22.

5. Rational Close Planting


3Ibid., p. 6. Also, Feng-ping 梁平, "Shui-dao Gao-du Mi-ji Hao-de-hen (High-density Close Planting of Rice is Very Good) in Ibid., pp. 19-20.


6. **Plant Protection**


8. See Note 6.


7. **Tool Improvement and Agricultural Mechanization**


2. For example, see editorial of *Ren-min Ri-bao*, April 1, 1958.

4 Zhao Xue 薛, "Tan-tan Wo-guo Nong-ye Ji-xie-hua Wen-ti" (Let's Talk About the Problem of Agricultural Mechanization in China), Ji-hua Jing-ji (Economic Planning), No. 4, 1957, pp. 16-18. Also Huang-jing 黄敬, "Wo-guo Nong-ye Ji-xie-hua Wen-ti" (The Problem of Agricultural Mechanization in China), Ren-min Ri-bao, October 24, 1957; editorial of Ren-min Ri-bao, November 15, 1960.

5 Ren-min Ri-bao, December 2, 1960, p. 2; also November 18, 1960, p. 2.

6 Leslie Kuo, op. cit., p. 226. Large tractor and machinery plants were under the supervision of a production control bureau of the First Ministry of Machine Building. Originally this was under the control of the Ministry of Agricultural Machine Building established in 1959, it was renamed the Eighth Ministry of Machine Building in 1964 and around 1970 was merged into the First Ministry.

7 Kang Chao, op. cit., p. 106.

8 Ibid., p. 107. However, according to the estimates suggested by A.L. Erisman, in 1960, the total number of units (standard units) produced in China was only 23.8 thousand. See A.L. Erisman, op. cit., p. 139:

<table>
<thead>
<tr>
<th>Year</th>
<th>Thousand Standard Units</th>
<th>Year</th>
<th>Thousand Standard Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Conventional</td>
<td>Garden</td>
<td>Total</td>
</tr>
<tr>
<td>1958</td>
<td>1.1</td>
<td>0</td>
<td>1.1</td>
</tr>
<tr>
<td>1959</td>
<td>9.4</td>
<td>0</td>
<td>9.4</td>
</tr>
<tr>
<td>1960</td>
<td>23.8</td>
<td>0</td>
<td>23.8</td>
</tr>
<tr>
<td>1961</td>
<td>16.2</td>
<td>0</td>
<td>16.2</td>
</tr>
<tr>
<td>1962</td>
<td>20.9</td>
<td>0</td>
<td>20.9</td>
</tr>
<tr>
<td>1963</td>
<td>24.6</td>
<td>0</td>
<td>24.6</td>
</tr>
<tr>
<td>1964</td>
<td>29.2</td>
<td>0.2</td>
<td>29.4</td>
</tr>
</tbody>
</table>


10 Especially the Dong-fang 东方 model 12-HP garden tractor. See Guangdong-sheng Di-yi Ji-xie Gong-ye-chu 广東省第一机械工业局, Nong-cun "Xiao-wu-ji" 农村小型机 ("Five Small Machines" in Rural Villages) (Guangzhou: Guangdong Ren-min Chu-ban-she, 1972).


Comparative Use of Tractors in Selected Countries of the World in 1975

<table>
<thead>
<tr>
<th>Country</th>
<th>Arable Land (million hect.)</th>
<th>Total Tractors in Use</th>
<th>Total Usage in hectares per Tractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>105.6</td>
<td>350,000</td>
<td>301.7</td>
</tr>
<tr>
<td>Soviet Union</td>
<td>207.1</td>
<td>2,400,000</td>
<td>86.3</td>
</tr>
<tr>
<td>United States</td>
<td>177.9</td>
<td>4,109,000</td>
<td>43.3</td>
</tr>
<tr>
<td>India</td>
<td>156.8</td>
<td>215,000</td>
<td>729.3</td>
</tr>
<tr>
<td>Canada</td>
<td>39.9</td>
<td>645,000</td>
<td>61.8</td>
</tr>
<tr>
<td>Brazil</td>
<td>34.1</td>
<td>254,000</td>
<td>134.2</td>
</tr>
<tr>
<td>Mexico</td>
<td>23.7</td>
<td>140,000</td>
<td>169.3</td>
</tr>
<tr>
<td>Japan</td>
<td>5.9</td>
<td>350,000</td>
<td>16.8</td>
</tr>
<tr>
<td>North Korea</td>
<td>2.1</td>
<td>10,400</td>
<td>301.9</td>
</tr>
</tbody>
</table>

Looking closer at the communes, the Da-li commune of Nan-hai county, with a total area of 72 square kilometers (720 hectares), owned 220 (physical) units of garden tractors (approximately 16 standard units), and 26 forty horsepower tractors (about forty standard units), the total usage in hectare per tractor was 12.9, and can be considered to be quite highly mechanized (in fact, the commune claimed to be 70 percent mechanized in farm production.) It also owned seventeen units of harvesting machines (combines), 420 hand-operated rice-transplanter and eleven trucks for transportation. It is also one of the rich communes in the delta region.

The Tien-lu 天禄 Brigade of Huan-cheng commune, Xin-hui, on the (1301.13 hectares). It also owned a two motor boats for transportation. Figures above were collected during author's interview, July 1977.

Author's interview, July 1977.

8. Field Management

1Ding-ying, op. cit., pp. 451-474.

2Author's interview, July 1977.
A. Standard of Living

1. Generating Surpluses: Rural Income

When the infrastructure for agricultural development has been strengthened under the commune system, it is not surprising to find that rural surpluses were generated and rural income has increased tremendously since liberation. According to Stavis' estimate, the average annual rural income per capita in China has roughly doubled from 70 yuan to about 150 yuan since liberation in 1949.\(^1\) Other sources indicated that in the delta region of Guangdong province, similar increases were observed (Table 21).

The income of the peasants in the communes, however, was not distributed entirely in cash. Grain, subsidiary foodstuffs, and other materials were also distributed as income in kind. At the same time, the figures in Table 21 represented only the net income of the team members derived from collective farming activities. More specifically, it meant that before personal income was distributed at the team level, a certain amount of cash income of the team was set aside for collective purposes; production expenses for both the
current year and advance production investment; funds for public "accumulation" devoted to financing new development; and welfare funds to relieve poorer families, to supplement school meals, meals for patients in the commune hospital, and other welfare projects. A certain proportion of the grain, too, was laid aside before it was distributed directly to the peasant members: grain for agricultural tax, compulsory purchased grain by the State, reserve grain, seed grain, and fodder grain. (See discussion in previous chapter).

Members of the production team usually received their income grain and cash, twice a year, first as advance distribution after summer harvest (in June) and then as the final distribution at the end of the year. The policy of distribution is "from each according to his ability, to each according to his work, and more gain for more work," which means that to each commune member who took part in collective productive labour work-points were given according to the amount of work done. The production team, furthermore, also records work-points for families and handed out manure they had accumulated according to quantity and quality.

The method of grain distribution differs among production teams. Some production teams adopted the combination of basic ration and distribution according to work-points; others carried out distribution according to work-points on labour with due
### TABLE 21

Average Annual Rural Income in Guangdong Communes
(Per Capita of Household*)

<table>
<thead>
<tr>
<th>County</th>
<th>Commune/Brigade</th>
<th>Income (yuan)</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shun-de county</td>
<td></td>
<td>140</td>
<td>1972</td>
<td>a</td>
</tr>
<tr>
<td>Le-li Commune</td>
<td></td>
<td>80</td>
<td>1949</td>
<td>a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>160</td>
<td>1972</td>
<td>a</td>
</tr>
<tr>
<td>Dong-guan county</td>
<td></td>
<td>57</td>
<td>1957</td>
<td>a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>130</td>
<td>1972</td>
<td>a</td>
</tr>
<tr>
<td>Wen-tang Brigade</td>
<td></td>
<td>173</td>
<td>1972</td>
<td>a</td>
</tr>
<tr>
<td>Lo-dong Brigade</td>
<td></td>
<td>127</td>
<td>1972</td>
<td>a</td>
</tr>
<tr>
<td>Nan-hai Da-li Commune</td>
<td></td>
<td>160+</td>
<td>1976</td>
<td>b</td>
</tr>
<tr>
<td>Li-dong Brigade</td>
<td></td>
<td>*2,170-2,900</td>
<td>1976</td>
<td>b</td>
</tr>
<tr>
<td>Xin-hui Tien-lu Brigade</td>
<td></td>
<td>164</td>
<td>1976</td>
<td>b</td>
</tr>
<tr>
<td>Wei-dong Brigade</td>
<td></td>
<td>*480</td>
<td>1976</td>
<td>b</td>
</tr>
<tr>
<td>Kai-ping Chi-kan Commune</td>
<td></td>
<td>240</td>
<td>1976</td>
<td>b</td>
</tr>
<tr>
<td></td>
<td>Nan-yang Brigade</td>
<td>*240</td>
<td>59-65</td>
<td>aa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*360</td>
<td>1966</td>
<td>aa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*516</td>
<td>1975</td>
<td>aa</td>
</tr>
<tr>
<td>Guangzhou Hua-dong Commune</td>
<td></td>
<td>65</td>
<td>1957</td>
<td>c</td>
</tr>
<tr>
<td>Municipality</td>
<td></td>
<td>*120</td>
<td>1958</td>
<td>d</td>
</tr>
<tr>
<td></td>
<td></td>
<td>188</td>
<td>1963</td>
<td>c</td>
</tr>
<tr>
<td></td>
<td></td>
<td>200</td>
<td>1964</td>
<td>c</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*456</td>
<td>1972</td>
<td>e</td>
</tr>
<tr>
<td></td>
<td></td>
<td>*350</td>
<td>1973</td>
<td>f</td>
</tr>
<tr>
<td>Lo-gang Commune</td>
<td></td>
<td>88</td>
<td>1966</td>
<td>a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>115</td>
<td>1972</td>
<td>a</td>
</tr>
<tr>
<td>Ren-huo Commune</td>
<td></td>
<td>250-300</td>
<td>1975</td>
<td>aa</td>
</tr>
<tr>
<td>Jiang Village</td>
<td></td>
<td>*590</td>
<td>1977</td>
<td>d</td>
</tr>
<tr>
<td>Kao-yao Guang-li Commune</td>
<td></td>
<td>127</td>
<td>1973</td>
<td>g</td>
</tr>
<tr>
<td>Fo-shan Sha-chao</td>
<td></td>
<td>220-550</td>
<td>1973</td>
<td>h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>285</td>
<td>1975</td>
<td>i</td>
</tr>
</tbody>
</table>
consideration for the number of people in a family. In Guangdong, however, the first method is more common.² The peasants felt that this method not only ensured that all members of a family, children and grown-ups, can receive their ration grain at a certain standard but also implemented the principle of "more reward for more work."

Under this system of basic ration and work-points, each person in the team during the year received a 'basic' allowance of grain.³ The total consumption of each household was recorded. At the year-end, together with any cash advances received, the value of the grain⁴ would be deducted from the value of the work points earned by the household members.
The increase in rural income in recent years may be accounted for by the fact that under the collective system, production cost have been able to remain between 15 to 30 percent of the collective gross income. The agricultural tax, moreover, was reduced from 12 percent in 1953 to only about 6 percent in recent years; and in the event of bad harvests due to natural calamities, the rate could be further reduced. At the same time, the production unit encouraged the diversification of agriculture; and the State has also increased purchasing prices for the agricultural produces.

The production cost at the Dong-feng-hong Production Cooperative in 1956 was reported to be 22.6 percent of the gross income of the production unit. Johnson indicated that in 1972, production costs at the communes of Lo-gang, Wen-tang, Lo-dong, and Dong-guan county were 20, 28, 20, and 34 percent of their annual gross income respectively. Worsely also estimated that in many cases, production cost was normally 12 to 14 percent of the production unit's gross income. At Guang-li Commune, the production cost was estimated even lower—at 5 to 8 percent. This in turn, suggested that prices of goods supplied to rural China have either been stable or kept down, especially goods for agriculture such as fertilizers, insecticides, farm machinery and implements, diesel oil, and kerosene. Peng noted that since 1950, prices of such items have been lowered by from one-third to two-thirds. Masahisa also documented that in 1966-67, prices of fertilizer (domestically-produced) and insecticides were 10 to 15 percent lower than the previous year;
small motors for agricultural uses were also 20 percent cheaper. By 1971, prices for chemical fertilizer (domestic produced) declined further by 9.7 percent compared to the year before while the cost of insecticides also declined by 15 percent. Prices of agricultural machinery in the same year went down at an average of 15.7 percent; and lamp oil was 20.8 percent cheaper than a year ago.11

As for the agricultural tax, in 1953 when the peasants were still in cooperatives rather than communes, 10 percent of the gross income (less for the poorer cooperatives) was the yardstick. The actual amount of the 1953 tax was fixed in perpetuity in the following year. This meant that the cooperatives would pay the same amount of tax they had paid in 1953 and that as production increased, the amount of tax, remaining the same, came to constitute a declining proportion of total income. By 1958, it was estimated that taxation absorbed about 7.4 to 10.3 percent of the gross income of the cooperatives.12 At the same time, provisions for agricultural exemption or reduction in case of bad harvests due to natural calamities were upheld: production units losing over 60 percent of their crops would be exempted from agricultural tax; those losing 50 to 60 percent of their harvest would be taxed 30 percent; the rate for those who lost 40 to 50 percent would be 50 percent; while those losing 30 to 40 percent, or 20 to 30 percent would get a 3.5 and 2.5 percent reduction from their normal 10 percent tax rate respectively.13
It is generally agreed that the proportion of general income going to tax, in recent years, is very much lower even than 10 percent--somewhere between 6 and 10 percent is the most widely accepted estimate. Johnson reported that in Dong-guan county, the amount of income paid to agricultural tax was only 4.5 percent of the gross yield; at Lo-gang Commune, the rate stood at 8 percent, but at Wan-tang Brigade and Lo-dong Brigade, the rates dropped to only 4.8 and 5 percent respectively. The tax burden for Guang-li Commune, according to Printz & Steinle, has also lightened gradually. In 1953, it was a heavy 9 percent; by 1972, it fell to 5 percent. The Chen-cun 鄴村 peasants also saw their tax consuming a much smaller portion of their annual yield in recent years. In 1953, the tax stood at a hefty 12 percent; as productivity increased in the ensuing years, the tax quickly dropped to 6 percent.

In addition to the implementation of a purposely regressive agricultural tax system, the government has also allowed the rise of prices paid to the peasants in the communes for purchasing agricultural produce. In 1950, the State reportedly paid 5.55 yuan for 50 kilograms of the six major types of grains; by 1971, the purchasing prices was increased to 10.82 yuan. Purchasing prices for pigs have also risen from 26.85 yuan for 50 kilograms in 1950 to 48.5 yuan in 1971, representing an increase of 90 percent. An increase in purchasing prices for other produces have also been reported over the years. These are summarized by Table 22 in index form:
TABLE 22

Increases in Purchasing Prices of Various Agricultural Produce (1950 = 100)

<table>
<thead>
<tr>
<th>Year</th>
<th>Rice</th>
<th>Wheat</th>
<th>Cotton</th>
<th>Tea</th>
<th>Fish</th>
<th>Pigs</th>
<th>Eggs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1952</td>
<td>154.6</td>
<td>104.6</td>
<td>124.1</td>
<td>112.5</td>
<td>114.3</td>
<td>113.2</td>
<td>115.0</td>
</tr>
<tr>
<td>1956</td>
<td>167.7</td>
<td>109.1</td>
<td>124.1</td>
<td>117.9</td>
<td>200.0</td>
<td>113.2</td>
<td>197.5</td>
</tr>
<tr>
<td>1962</td>
<td>186.1</td>
<td>167.4</td>
<td>124.1</td>
<td>128.6</td>
<td>381.0</td>
<td>138.2</td>
<td>410.0</td>
</tr>
<tr>
<td>1966</td>
<td>200.4</td>
<td>194.3</td>
<td>146.0</td>
<td>155.3</td>
<td>266.7</td>
<td>138.8</td>
<td>265.0</td>
</tr>
<tr>
<td>1972</td>
<td>200.4</td>
<td>194.3</td>
<td>172.9</td>
<td>155.3</td>
<td>323.8</td>
<td>138.8</td>
<td>300.0</td>
</tr>
</tbody>
</table>


Furthermore, in recent years, when the teams sell 'surplus' grain to the State, that is, grain sold to the State other than the enforced sale quota, the State offers a price about one-third higher than the price paid for grain acquired through compulsory purchase. This "high-priced" grain, according to Unger, was paid some 42 percent more in Chen-tsun. The implication of this policy is that by implementing "high-priced" grain, not only would it encourage the peasants to produce more for the market than for their own consumption, but also to force their peasant economy into a cash economy. Teams are obliged by the government to concentrate on the primary food crops that bring high prices, and only when they have fulfilled their quotas and able to provide a stable input of the needed basic crops, they are encouraged to put further work into diversified, high-priced subsidiary crops.

In view of this, the diversification of crops in the delta region becomes an important indication of success in agricultural
development. Today, increased diversification of crops is common among the communes. In Lo-gang Commune, efforts were made to specialize in fruit growing; and in 1972, the commune enjoyed an output of 21 million jin. At the Le-liu Commune, diversification was also successful: the output of banana reached 12 million jin and vegetables, 20 million jin in 1972. The commune also had a yield of mulberries of 6,000 jin per mu; and of sugar-cane, 1,200 jin per mu in the same year. In Shun-de county, yields of sugar-cane went up by 21 percent from 7,691 jin per mu in 1957 to 9,288 jin per mu in 1972. Dong-guan county was reported to have had similar success in diversifying of crops (Table 23).

### TABLE 23

<table>
<thead>
<tr>
<th></th>
<th>Output (million jin)</th>
<th>Yields (jin/mu)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1949</td>
<td>1972</td>
</tr>
<tr>
<td>Peanut</td>
<td>0.29</td>
<td>2.3</td>
</tr>
<tr>
<td>Sugar</td>
<td>14.00</td>
<td>84.1</td>
</tr>
<tr>
<td>Casava</td>
<td>0.67</td>
<td>7.44</td>
</tr>
</tbody>
</table>


Guang-li Commune of Kao-yao county has also transformed its one-crop (rice) economy into a more diversified agricultural output. Printz pointed out that approximately 60 percent of land in the commune...
was devoted to second crops, and that diversification has been impressive. (Table 24)

**TABLE 24**
Output of Subsidiary Crops in Guang-li Commune

<table>
<thead>
<tr>
<th></th>
<th>1971</th>
<th>1972</th>
<th>1973 (projected)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugar-cane</td>
<td>16,000 tons</td>
<td>21,800 tons</td>
<td>25,000 tons</td>
</tr>
<tr>
<td>Peanuts</td>
<td>-</td>
<td>830,000 jin</td>
<td>900,000-1,000,000 jin</td>
</tr>
<tr>
<td>Hemp</td>
<td>-</td>
<td>110,000 jin</td>
<td>350,000 jin</td>
</tr>
<tr>
<td>Tangerines</td>
<td>-</td>
<td>140,000 jin</td>
<td>170,000 jin</td>
</tr>
<tr>
<td>Garlic</td>
<td>-</td>
<td>1,200,000 jin</td>
<td>1,500,000 jin</td>
</tr>
<tr>
<td>Yams</td>
<td>-</td>
<td>580,000 jin</td>
<td>650,000 jin</td>
</tr>
</tbody>
</table>


At Sha-chao Commune, according to Worsley, taking 1961, the base year, as 100, not only has rice production in 1973 (208), but sugar production also made progress (132). Peanut production in Hua-dong Commune has also showed substantial growth as reported by Morehouse.
Crops diversification in other communes at Xin-hui, Nan-hai and Kai-ping counties were also significant. Out of the 68,700 mu were sugar-cane fields, and 4,700 mu were planted with tangerines. In addition, a total of 9,720 mu of land grew palm trees which supplied the major materials for the county's handicrafts factory manufacturing fans, baskets, hats, and toothpicks. In one of its brigades, Tien-lu brigade, there were also 1,100 mu of palm trees, 700 mu of sugar-cane, 690 mu of cane and 399 mu of vegetable fields in addition to its 5,100 mu of rice paddies. More impressive was that after a 12 kilometer embankment was completed near Yin-chou Lake, not only could the paddy fields inside the embankment be standardized and enlarged, the embankments built around the enclosed fields (totaled 80 kilometers) could also be used to plant fruit trees. In 1976, there were 56,000 lychee trees, 38,000 apple-pear trees, 3,300 guava trees, and 240,000 palm trees which brought in about 240,000 yuan annually to the brigade.

Diversification in fruit production was also important in Nan-hai and Kai-ping counties. At the Da-li Commune, there were 200,000 fruit trees in 1976. At the Xin-lian brigade of Chi-kan Commune, an orchard was set up since February 18, 1966. The Hong-wei Orchard now has 490 mu of tangerine and orange fields, 300 mu of bamboo fields and 800 mu of other fruit trees. In addition, there was a handicraft factory, a preserved-fruit factory, a small chemical plant and a factory manufacturing mosquito coils.
There are other sideline productions, however. These would include pig and poultry raising, oil pressing, the manufacture of bamboo ware, basketry, carpentry, and handicrafts as well as raising fish and silk-worm cocoons. Some of these activities were operated collectively, while some others remained predominantly private, or both. Fish and silk-worm cocoon production, for example, were sidelines managed mainly under the collective system. In Shun-de county, yields of silk-worm cocoons, which were organized often on a brigade basis, increased 94 percent from 1957 to 1972 while fish production, with the rationalization of fish ponds (bunds were flattened to merge small ponds into larger ones of about 8 to 10 mu minimum) and improved breeding and hatching techniques, expanded 49 percent between 1957 to 1972. At Dong-guan county, fish production was also reported to have increased 565 percent in 1972 since 1949. Worsley noted that at Sha-chao Commune, the index for fish production in 1973 was 177, taking the year 1961 as base, while silk-cocoons production also increased by one-third. At the Huan-cheng Commune at Xin-hui county, there were also more than a thousand mu of fish ponds.

Poultry raising, including ducks and geese, and handicrafts production, however, can be operated both collectively and privately. Peasants in the production team could certainly raise their own chickens, ducks or geese on their private plots allocated to them on a particular basis of per capita, provided that this production was for their own consumption and did not interfere with collective
production. On the other hand, in some communes, such as Huan-cheng, poultry raising was also organized collectively as a commune sideline activity.

Pig raising, however, remained predominantly a private sideline activity heavily "promoted" by the government. In Guangdong, the "informal" government policy was to approach one pig per person—that is, for every two persons in a household, a pig should be raised; with two to four persons, two should be raised while with over five people in the household, three pigs were the minimum. To encourage pig raising, the government has, since 1970, implemented policies to subsidize peasants 40 catties of fodder grain per 100 catties pig sold to the State; to supply feeding grains to peasants monthly at government list price; to give credit or loans to pig-raising peasants; to exchange pig-manure for cash or work-points, and to set up commune veterinary stations to insure healthy production of pigs. The peasants, however, could only retain 40 percent of their pigs raised privately for their private consumption, while the remaining 60 percent would be bought by the State at government list price of 0.8 yuan per catties. Under such a system, pig raising at Liu-lian Brigade, Nan-hai county in 1972 exceeded the official target of one pig per mu: the average was 10.8 pigs per household and 3.04 per mu 2.4 pigs per capita. At Huan-cheng Commune's Cheng-nan Brigade No. 1 Production Team, on the average, there were 2.07 pigs
per mu and 2.8 pigs per capita in 1976 which could bring in at least 20 yuan per capita annually on the sale of commune-owned pigs raised by individual members in the team, while sale of surplus pork, which the peasants did not consume, on the free market could bring in more supplementary income with a higher market price of 2.1 to 2.2 yuan per catty. Other household sideline products such as domestic fowl, fresh eggs, wild medicinal herbs, etc. could also be sold to the commune's Supply and Marketing Cooperative as well as on local markets within controlled price ranges.

The sideline activities of individual peasant families on their private plots and those collectively organized by the team, brigade or commune offered not only substantial rewards to individual peasant households but also became an integral part of supplemental economic activities essential to the commune. Howe suggested that the private plots accounted for 35 percent of China's vegetable output, and that private economic activities probably accounted for 20 percent of peasant labour time and earned about 30 percent of their income. Johnson also pointed out that in 1972, between 65 and 60 percent of the pigs were raised privately and that Dong-guan county, 15 to 30 percent of household income derived from such private activities. In most of the delta area, income earned from such sideline activities averaged about 60 yuan per capita in 1972, and, in some cases, could range up to 50 percent of collective income.
Rural development not merely increases in rural income figures. As much of the development and demographic literature points out, continued neglect of rural health needs is counter-productive in at least two aspects. Firstly, high infant mortality fuels high birth rates;¹ and secondly, increasing urban-rural disparity in terms of economic and welfare benefits contributes to political instability by 'pushing' the peasant population into the cities in enormous numbers.² It is significant to see then that well-integrated in China's strategy of rural development is a system of health delivery that offers not only medical care to a vast peasant populace but also the prospect of progress without making unrealistic resource demands.

Contrary to most developing countries where the great majority of medical professionals and the curative, hospital-centered system is urban-based, leaving the bulk of the rural population without care and an avenue of entrance into the urban system, China's rural development strategy deliberately brings medical attention to rural areas, with emphasis on both curing and prevention.

The delivery of such curative and preventive medical care to the peasantry generally is the responsibility of the brigades. Most brigades, since 1968, with the financial assistance of the communes, have popularized a cooperative medical system which was first developed in Shanghai around 1958.³ Under this system, each brigade operates at least one health clinic or medical station
where a limited range of medical services such as simple diagnosis and treatments, and innoculations are given. Each commune, at the same time, has at least one hospital set up with more sophisticated facilities and offers a wider range of medical services. More elaborate facilities and more complicated medical services not available at the medical stations and at the commune hospitals are provided by hospitals operated at the county level. Individuals in the production unit, by paying a low premium ranging from 0.05 yuan to 0.25 yuan a month, are entitled to receive all medical services offered by the brigade medical station, and commune and county hospitals for a registration fee of 0.05 yuan at the brigade clinic and 0.10 yuan at the commune and county hospital.4

Medical services at the brigade clinic are usually given by paramedic "health personnel" (办公卫生) or "barefoot doctors." They are generally trained at either the county hospital or supervised by mobile medical teams sent regularly to brigades from high-level institutions. They are trained to give simple diagnosis and treatments in both the Western method and the Chinese herbal tradition. When a patient needs a more thorough diagnosis or a more complex treatment, such as an operation, he will be referred to either the commune or the county hospital.

The brigade clinics, in addition to offering simple medical services, often carry the responsibility of promoting public health programs and campaigns. Medical personnel and barefoot doctors
are often dispatched to the villages to give innoculations for smallpox, polio, cholera, diphtheria, and tetanus. They also administer herbal medicine and give advice and instructions to the peasants for prevention of seasonal diseases such as bronchitis, pneumonia, and coughed in cold winter months and influenza in hot, wet summertime.

The commune and county hospitals, by the same token, have more responsibility than simply treating patients. They are the agents for upgrading and improving the quality of the rural medical care system. Special classes and courses are organized by these hospitals to give further training to barefoot doctors. Medical teams are regularly sent down to factories and to brigades to serve and to observe their needs. Special meetings are also arranged to encourage medical personnel from other communes or county hospitals to come and exchange ideas and experience on dealing with the problems of the rural health care system. Their personnel are also selected and sent to higher level institutions in the cities for more advanced training, or when the professional staffs from major urban hospitals are sent down to rural areas, special study programs are set up for them.

Under this system of cooperative medical care, medical services are made available to almost every major rural area in China. Johnson noted that in 1972, the cooperative medical system operated in about 70 percent of the brigades in China. In Guangdong Province, 429 of the 436 brigades in Dong-guan county had set up such a system. In Kai-ping county, reportedly that all of its 270 brigades had cooperative medical care in 1976. In addition, there
were more than 900 barefoot doctors, with at least two to three for each brigade in the county. In Xin-hui county, more than 50,000, close to all of the members of its Huan-Cheng Commune, were covered by cooperative medical care in 1976. Moreover, there was at least one barefoot doctor for every 500 peasants in the commune.⁶

According to Johnson, in Dong-guan county, there were four county hospitals in 1972. Including those in the commune hospitals, there was a total of 1,867 hospital beds with 2,532 medical staff. In Le-liu Commune, in addition to the one hospital, there were also six clinics and twenty-four medical stations with a total of 174 medical staff including thirty-seven Western doctors and thirteen traditional herbal doctors plus, 211 paramedics. At Lo-gang Commune, there were two hospitals, with one having seventy beds and seventy-two staff including thirteen Western doctors and three or four traditional doctors.⁷ The commune clinic of the Huan-cheng Commune, Xin-hui county, had fifty beds, with a total of 116 staff, including thirty-nine doctors (twenty-three Western doctors, sixteen traditional doctors) and thirty-six nurses, offering out-patient service twenty-four hours a day. It also trained 3.5 to 10 barefoot doctors each year. The Ren-min Hospital at the Kai-ping county had 210 beds in 1976. Before 1949, when operated by a missionary organization, it had only slightly more than ten beds.⁸
Family Planning

Apart from giving innoculations and promoting and supervising public health programs, a major activity of the barefoot doctors and health personnel is family planning work. To ensure not only an adequate but also a rising standard of living in the rural areas, family planning became part of a national policy in 1963 and has been intensified in recent years. Family planning campaigns were carried out at every level of the rural commune organizations: propaganda teams consisting of medical staff, commune cadres, and women cadres were organized to popularize the idea of family planning and the techniques and devices involved. Doctors in the hospitals were assigned to give technical advice, while barefoot doctors were sent to the villages not only to inform the peasant population about family planning but also to ensure that contraceptive supplies and information of different methods were easily available.

Furthermore, in some cases, a "persuasive" system was set up to discourage population growth. Under this system, the members of the production team would hold meetings to discuss and decide on how much growth in the population was desirable, in the village, and a quota would be set. This meant that married couples in the village would have to wait their turn to have their children. Usually two was considered the ideal number of children to have but, because of the restrictions on population growth, very often there was a three-year period between the birth of the first child and the second. If, during this three-year period, a woman was pregnant, she would be
visited by a member of the propaganda team, a woman cadre or a bare-
food doctor, to persuade her to "give up" her child at the commune 
clinic. Such a medical procedure would be free, and she was also 
entitled to thirty days leave to recover from the operation, with 20 
yuan of allowance in addition to the regular work-points allotted to 
her during her recovery, as well as regular check-ups by visiting 
barefoot doctors. On the other hand, if she wanted to have a child 
regardless of the "quota" and time-period, she could be entitled only 
to her maternity leave and there would be no extra allowance or work-
points allotted to her after her leave. Moreover, her child would 
be ineligible to receive the monthly grain ration of sixteen catties 
per month.

Birth control measures adopted in Guangdong were the 
insertion of intrauterine devices (IUD), tubal ligations, vasectomies 
and abortion. Johnson noted that for the months of January to June 
1973, at Dong-quan county, there were 6,067 IUDs, 84 vasectomies, 499 
tubal ligations and 2,971 abortions. In Shun-de county, 60 percent 
of the couples of childbearing age were planning their families. Of 
these, 70 percent used IUD and 15 percent had sterilization. Pills 
condoms, and abortions accounted for the remainder. At the Hong-qi 
production team an estimated 70 percent of the childbearing 
couples were planning their families; 30 percent used tubal ligations, 
35 percent vasectomies, and 25 percent IUDs in 1975.

Birth rates, thus, were brought under control. (Table 25)
TABLE 25
Mortality and Birth Rates in Selected Communes in Guangdung

<table>
<thead>
<tr>
<th>Mortality Rate</th>
<th>Crude Birth Rate</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong-guan xian&lt;sup&gt;1&lt;/sup&gt;</td>
<td>n/a 5.4/1000</td>
<td>35/1000 25/1000</td>
</tr>
<tr>
<td>Shun-de xian&lt;sup&gt;1&lt;/sup&gt;</td>
<td>n/a 6.4/1000</td>
<td>34/1000 24.4/1000</td>
</tr>
<tr>
<td>Lo-gang Commune&lt;sup&gt;1&lt;/sup&gt;</td>
<td>5/1000</td>
<td>25/1000</td>
</tr>
</tbody>
</table>

Source: 1Elizabeth and Graham Johnson, *op. cit.*, p. 44.

2Author's interview, 1977.

In addition to promoting birth control to limit population growth in the countryside, late marriage was also strongly encouraged as a means of keeping birth rate low. The target age for marriage for men in rural areas is 25 and for women 23.<sup>11</sup> Delayed marriage, as Johnson pointed out has generally become acceptable. At Huan-cheng Commune in Xin-hui county, it was reported that 98.4 percent of the young men got married at the target age.<sup>12</sup>
3. **Education**

If rural income and health care are measures of the success of rural development, one should also note the significance of education. As Simmons noted, during the past ten years many observers have seen that investment in formal education in developing countries has not been meeting the needs of the poor: formal education has provided training for urban, white-collar jobs, while most jobs, and the major development problems, have tended to call for manual skills in rural areas. The students from most poor families, moreover, have generally been unable to continue formal education to the university level. In fact, what the poor do learn from formal education is that they are failures. They failed to be promoted from one grade to the next in primary school, or they failed the entrance examination to secondary school. Educators, the gatekeepers to job security and high incomes, reject them as unfit. In most of these developing countries, the poor are resigned to letting the educational establishment decide their fate and legitimize their poverty. In Myrdal's words, "the poor are not educated to see their interests and they are not organized to fight for their interests." Worse still, such investment in education widens the gap between the rich and the poor in most of these developing countries.¹

China's approach to education in rural development is similar to the concept of education for self-reliance and participation, a con-
cept which has its roots both in community development and worker participation in management, and has been advocated by Freire, Nyerere, Alinsky, and Curle.² It attempts to help groups of people in the rural areas to learn how to study together and become aware of the political and economic determinants of their poverty. The peasants then can learn to organize and mobilize to improve their circumstances rather than relying on outside experts as often seen in the paternalistic community development approach. Through this, the peasants will then develop a self-confidence that in turn generates further initiatives.

To this end, the peasants in China were given greater access to education. In 1958, the communes set out to administer the three-year middle schools and six-year primary schools directly. By 1962, however, all these schools were restored to the control of the xian education department. After the Cultural Revolution, primary schools were taken over by brigades, while middle schools were now entirely run by communes. The brigade primary schools are mostly administered by the brigades but teachers, school facilities, and other teaching materials are supplied by the government. There are schools, however, that do their own hiring of teachers, and they are also subsidized by the government.

The school years for primary and middle schools are now standardized as the "5-2-2" system, that is, for primary schools, it is a five-year program, while there is a two year program for middle
school and another two years for high school, or, a combined four-year secondary school program. In general, primary education has been made universal for peasants. Bennett remarked that before 1949, half of the adult men and four-fifths of the adult women in Hua-dong Commune, Guangdong province, had never attended a class. By 1973, however, the literacy rate of the commune had reached 75 percent. At the same time, education in Hua-dong has greatly improved. (Table 26).

**TABLE 26**

Regular Education at Hua-dong Commune

<table>
<thead>
<tr>
<th>Academic Level</th>
<th>No. of Schools</th>
<th>No. of Teachers</th>
<th>No. of Students</th>
<th>Percent Advancing to Next Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>28</td>
<td>323</td>
<td>7,352</td>
<td>28</td>
</tr>
<tr>
<td>Junior Middle</td>
<td>24</td>
<td>116</td>
<td>2,077</td>
<td>58</td>
</tr>
<tr>
<td>Senior Middle</td>
<td>3</td>
<td>53</td>
<td>1,215</td>
<td>2</td>
</tr>
<tr>
<td>University</td>
<td>-</td>
<td>-</td>
<td>21</td>
<td>1</td>
</tr>
<tr>
<td>Totals</td>
<td>31</td>
<td>492</td>
<td>10,665</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Gordon Bennett, *op. cit.*, p. 138.
In the area now comprising Lo-gang Commune, Johnson observed that prior to 1949, 70 percent of the men and 90 percent of the women were illiterate. In 1972, virtually everyone under the age of twenty-five was literate. At Lo-gang Commune there were fourteen primary schools and two secondary schools with a total student population of 11,670. At the Da-li Commune in Nan-hai county, before the Cultural Revolution, the education offered was limited to primary education while junior high school had the capacity to admit only 45 students. There were only five senior high schools in the entire county. By 1976, however, one could find a primary and a junior high school in almost every brigade; the commune student population totalled 13,392. (Table 27).

TABLE 27
Regular Education at Da-li Commune

<table>
<thead>
<tr>
<th>Academic Level</th>
<th>No. of Students</th>
<th>No. of Classes</th>
<th>Percent Who Advance to the Next Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>9,322</td>
<td>234</td>
<td>93</td>
</tr>
<tr>
<td>Junior Middle</td>
<td>3,063</td>
<td>74</td>
<td>73.5</td>
</tr>
<tr>
<td>Senior Middle</td>
<td>1,007</td>
<td>23</td>
<td>n/a</td>
</tr>
<tr>
<td>Totals</td>
<td>13,392</td>
<td>331</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author's interview, July 1977.
At the primary schools in Da-1i Commune, students in Grade 1 to 3 had a total of thirty sessions weekly with each session running forty minutes. They were taught language (12 sessions), math (8 sessions), physical education (2 sessions), labour (2 sessions), drawings and others (6 sessions). For students in Grades 4 to 5, classes included language (10 sessions), math (6 sessions), labour (2 sessions) and other (12 sessions) including arts, abacus, physical education, civics (chang-shi 崎) and politics.

The junior middle school students, on the other hand, were taught language (6 sessions), math (6 sessions), English language (2 sessions), physics, chemistry, agriculture and labour (each 2 sessions). There were, in addition, nine sessions of theory studies (li-lun xue-xi 理論學習), music and politics making up a total of thirty-one sessions of schooling a week. Similar courses were offered in senior middle high school but courses such as history, geography, and literature (wen-yi 文艺) were also introduced.

Teaching in these schools heavily emphasized the principle of theory and practice. After the Cultural Revolution, all primary schools in the commune have their own school-farms or orchards. Students were encouraged to combine theory and practical training in raising crops, selecting various strains of plants, fertilizing fields and field management for their agricultural classes. They were also encouraged, for their language class, to write about their experience working in the fields. High school students, to the same
end, were urged to take part in production work in factories for their physics lessons. They were also taught to repair and to operate farm implements in the workshops.

Education fees vary among brigades but in general, the amount is low. Johnson reported that at Le-liu Commune, fees for junior and senior high school in 1972 were 5 yuan for each six month term and 3 yuan for primary schools. Fees for kindergarten were 1 yuan per month.\(^6\) At Guang-li Commune, the senior middle school cost 3 yuan a year for tuition and 1 yuan for books. The primary schools in the villages cost less, about 1 yuan tuition per year and 2 yuan for books.\(^7\) At the Nan-cun Commune in Pan-yu county, the school fee for secondary education was 3 yuan a term with extra charges for books and stationery at 0.05 yuan per book.\(^8\)

A separate type of advanced training is offered by an expanding system of agricultural and technical colleges. Specialized courses on agronomy, orchards and forestry, water conservation, hydrology, water project construction and veterinary science were offered. Students in these colleges each year spend several months in the classroom and several more months back working with their team. Through this, they gradually involve themselves in experimentation both in school and with their home team. At the Lao-dong College in Xin-hui county, students were recruited through recommendations from the communes. Each student in the college, once admitted, received a monthly allowance of 15 yuan and an extra 2 yuan
of medical allowance so that he would not become a burden for his family. The amount of living allowance seems small, but is sufficient to live comfortably because the college is able to provide itself with cheap foodstuffs from its own farm and orchards. There were sixteen teaching staff but over 200 students from high schools, 200 "intellectual youths" and 400 peasants participated in various projects. Over the years, the students and other participants, have constructed thirteen reservoirs (the biggest one measured 220 mu with a capacity of 2,300,000 cubic meters) and a small hydropower station of 6,600 kilowatt capacity and reclaimed 10,500 mu of waste land. A fishery was also set up near the hydropower station, raising 50 to 60,000 fish annually. An average of 600 pigs were also raised each year and an estimated 2,000 piculs of fruits were produced annually.
B. Rural Industrialization

1. Serving Agricultural Mechanization

A rapid development of rural industrialization seems to be essential for the further development of agriculture. In the case of China, however, rural industrialization is also a consequence of the development of agricultural infrastructure and the subsequent increased agricultural production in recent years. Improved irrigation and drainage, as well as the popularization of better seeds through agricultural scientific networks, have increased grain yields considerably. With increased grain production, it is possible to expand acreage available for industrial crops, thus supplying industry with more raw materials. Increased agricultural production also generates, firstly, a demand for agricultural inputs and consumer goods, both of which can be met through rural industries; and secondly, a surplus which can be retained and reinvested in rural industry. This means that local light industry can almost immediately operate at a profit. At the same time, other infrastructure for rural industrialization is also important. Education made available to the rural population has ensured that young people have a fairly comprehensive education adapted, to a large degree, to local needs, and preparing them to work with technology in both agriculture and industry. The medical and public health networks, with its grassroots organization, also saw to it that the labour force was protected
from malnutrition and disease. Rural electrification, finally, provide the necessary power resources for rural industries.

It is under such circumstances, with financial assistance from the county government or allocation of funds from the commune-level accumulation funds, that small and medium rural industries, especially food processing plants, tractor stations, and repair workshops or brickworks are created. With further allocations from the county government, or as enterprise profits accumulate and have been built up to a considerable level, larger county-level enterprises or commune-level industries, such as cement, fertilizer, and agricultural machinery plants, can be developed.

The significance and advantages of rural industrialization by setting up local industries are readily seen. It is first and foremost, an effective measure to reinvest and retain rural surplus. Moreover, because these "small and comprehensive" and relatively self-sufficient industrial systems are operated and controlled by the various localities themselves, not only farm products can be processed, sideline products and light industrial goods can be manufactured directly related to the needs of the peasants, especially to those of agriculture, the local industries are able to accumulate more funds for building an industrial base in the rural area without having to draw on scarce national funds and detract from investment in other areas. Local resources and raw materials can also be better utilized and exploited.
Furthermore, as suggested by Sigurdson, rural industrialization is even more important in aiding agricultural mechanization, for the mechanization of agriculture requires frequent maintenance and repair of farm machinery and equipment. Repairs during the busy farming seasons must be quickly done, necessitating repair facilities close to where the farming is carried out. But the repair of any equipment which incorporates electric motors or combustion engines needs relatively complicated and expensive machinery and relatively highly skilled mechanics. A widely distributed network of high-quality repair stations would consequently require considerable resources which can hardly be justified in the early stage of mechanization. By setting up local industries, the three-level network of agricultural machinery stations based on a referral system where they are responsible for repairs in the busy farming seasons and engaged in manufacture and maintenance during the rest of the year, this basic problem of mechanization of agriculture is solved.

At the same time, in the process of agricultural mechanization one of the common problems is that the topographical features, climatic conditions, and farming systems vary greatly from place to place, and so do the needs for specific farm machines. By placing the main emphasis on small and medium rural industries, it will be possible to better meet the needs of agricultural development in quantity, variety, performance, and timely provision of aid.
2. Integrating Rural/Urban Relations

When agricultural production is mechanized and productivity is rising because of the new inputs, a fairly substantial transfer of employment from agriculture to rural industry can take place and the job structure in the rural areas can be upgraded. Most importantly, though, it is through rural industrialization, that a new urban—rural relation can be created. This is because rural industrialization does not involve only the identification and promotion of industries suitable for the district but also the development of supporting structures.

Rural industry is first introduced as an intermediary to provide initial repair and maintenance facilities needed for tools and machinery used in agriculture and to provide facilities for processing agricultural produce and for producing industrial inputs for agriculture. At this stage, much of the technology of the rural industry is provided by the modern industrial sector; thus, the rural industry only starts to provide technical skill formation. However, as rural industry further develops and reaches a certain degree of sophistication and differentiation, ancillary rural components and products. Here, although technology will continue to flow from the modern industrial sector, a mutual linkage gradually developed between the modern and rural industry.

Along this direction, when the quality standards and standardization with the rural industry improve considerably thus permitting
the expansion of the subcontracting system, and when some lines of production can be shifted from the modern sector to the rural industrial sector, rural industry and modern industry will be integrated (see Figure 4). The dispersion of industries in the rural sector, therefore, can bring the living standard, as well as the lifestyle, of peasants closer to that of the urban worker. At the same time, a new network of technological diffusion is forged. As Lee pointed out, the importance of such diffusion is that it serves a "consciousness-raising" function: it reduces the psychological distances between the peasant and the urban dwellers, between the people in China and the industrialized countries, and has contributed to the formation of a cultural identity that sustains rather than conflicts with industrial progress.²

Rural industrialization, therefore, forms an essential part of rural development, fulfilling multiple objectives. Based on local resources of manpower and capital, it provides a basis for the mechanization of agriculture. It is also an instrument to transform relatively backward rural areas. Rural industrialization, however, has to be gradually developed and closely coordinated with agricultural development to ensure that the local economy is not disrupted. And there is ample evidence in Guangdong that this has been done in many places: this is summarized in the following table:
Phase 1

Agriculture  Rural Industry  Modern Industry

A  B  C

Market Development  Development of Appropriate Technology

Phase 2

A  B  C

Labour Absorption

Phase 3

A  B  C

Labour Absorption


Figure 4 Schema of the Three Phases of Rural Industry Integration
TABLE 28
Rural Industries in Shun-de and Dong-guan Counties

<table>
<thead>
<tr>
<th>Level</th>
<th>Number of Factories</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>County</td>
<td>34</td>
<td>machinery, cement, silk filiation, sugar refining, nitrogenous fertilizer</td>
</tr>
<tr>
<td>Commune</td>
<td>228</td>
<td>--</td>
</tr>
</tbody>
</table>

Shun-de County: (1972)
Industrial Output: 210 million yuan
Agricultural Output: 119 million yuan

<table>
<thead>
<tr>
<th>Level</th>
<th>Number of Factories</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>County</td>
<td>261</td>
<td>machinery, electric motors, fertilizers, cement, sugar refining, starch manufacturing, oil processing, fireworks, matches, paper, batteries, light bulbs</td>
</tr>
<tr>
<td>Commune</td>
<td></td>
<td>fruit processing, machinery repair, handicrafts</td>
</tr>
<tr>
<td>Brigade</td>
<td></td>
<td>facilities for grain and oil processing, sugar refining, repair and service stations for farm tools, brick and tile kilns</td>
</tr>
</tbody>
</table>

Dong-guan County: (1972)
Industrial Output: 118 million yuan\(^a\)
Agricultural Output: 239 million yuan

\(^a\)The output value of 1949 was 21 million yuan; 1965, 100 million and 1971, 116 million yuan.

### TABLE 29
Rural Industries in Nan-hai, Xin-hui and Kai-ping Counties

**Nan-hai County, Da-li Commune: (1976)**

<table>
<thead>
<tr>
<th>Level</th>
<th>Number of Factories</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commune</td>
<td>8</td>
<td>Cement, machinery repair, lime, printing, iron appliances, plastic, shoe manufacturing and rice/food processing. Also accept contracts for fireworks, bamboo basketry and wood handicrafts</td>
</tr>
<tr>
<td>Brigade</td>
<td>n/a</td>
<td>Agricultural product processing, mason weaving handicrafts. Also accept contracts from Canton for manufacturing fireworks and polishing headlight shells for bicycle</td>
</tr>
</tbody>
</table>

**Xin-hui County, Huan-cheng Commune: (1976)**

Industrial Workers: 200

<table>
<thead>
<tr>
<th>Level</th>
<th>Number of Factories</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commune</td>
<td>16</td>
<td>Paper, machinery repair, wood/lumber yard, rice processing, brickworks, cement, palm farm, toilet paper and wrapping paper. Also offer sub-contracts to individual families</td>
</tr>
</tbody>
</table>
Table 29 (continued)

<table>
<thead>
<tr>
<th>Level</th>
<th>Number of Factories</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>County</td>
<td>n/a</td>
<td>Fertilizers (nitrogen, phosphate and others), iron and steel plants, coal and electrical machinery</td>
</tr>
<tr>
<td>Commune</td>
<td>n/a</td>
<td>Electric fans, paper, bone processing and brewery</td>
</tr>
</tbody>
</table>

Source: Author's interview, 1977.
CHAPTER 7
NOTES

A. Generating Surpluses: Rural Income

1 Benedict Stavis, Making Green Revolution, p. 54.

Also see Peter Worsley, op. cit., p. 154.

3 The basic grain ration for an adult in rural China as reported in 1965 was an average of 29.5 catties per month; each child under one year old was entitled to have 8 catties of grain per month with an additional 1 or 2 catties where of grain by age:

<table>
<thead>
<tr>
<th>Age</th>
<th>Amount Per Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 1</td>
<td>8.0 catties</td>
</tr>
<tr>
<td>1</td>
<td>10.0</td>
</tr>
<tr>
<td>2</td>
<td>11.0</td>
</tr>
<tr>
<td>3</td>
<td>12.6</td>
</tr>
<tr>
<td>4</td>
<td>15.6</td>
</tr>
<tr>
<td>5</td>
<td>16.5</td>
</tr>
<tr>
<td>6</td>
<td>17.6</td>
</tr>
<tr>
<td>7</td>
<td>18.5</td>
</tr>
<tr>
<td>8</td>
<td>19.5 catties</td>
</tr>
<tr>
<td>9</td>
<td>20.5</td>
</tr>
<tr>
<td>10</td>
<td>21.5</td>
</tr>
<tr>
<td>11</td>
<td>22.5</td>
</tr>
<tr>
<td>12</td>
<td>23.5</td>
</tr>
<tr>
<td>13, 14</td>
<td>25.0</td>
</tr>
<tr>
<td>15, 16</td>
<td>25.5</td>
</tr>
</tbody>
</table>

Source: Zhong-gong Jie-yu Yun-dong 中共節育運動 (Birth Control Campaigns in Communist China) (Hong Kong: Union Research Institute, 1966(?), p. 27.

Another account, released in 1967, indicated that the amount of grain ration for an adult in rural Kunaghtung had increased to 40 catties per month. See Ming Bao, September 26, 1967.

In recent years, other sources reported that the basic grain ration were also increased. Johnson pointed out that in Lo-gang Commune a young adult doing heavy agricultural work might receive as much as 40 kilograms (80 catties) of rice per month, whereas, a child or old person was allocated only 15 kilograms (30 catties); but on the average, each adult received 22 kilograms (44 catties) in 1973. See Elizabeth and Graham Johnson, op. cit., p. 52.
Sklair, in 1975, however, wrote that at Shachao Commune, "workers received 285 yuan per year in cash on average to which we must add distribution in kind (including 36 jin of vegetables, 20 jin of fish, and over 300 jin of rice per person per year). . . ."

See Leslie Sklair, op. cit., p. 9. According to Printz and Steinle, at Guang-li Commune, the monthly grain allowance in 1972 was 53 catties. See Printz and Steinle, op. cit., p. 83. Unger stated recently that in Chen Village during a good year, each working man was allotted 30 kilograms of rice per month, a woman 25 kilograms, elderly 17-20 kilograms and children, depending on their age, some 10-15 kilograms. See Jonathan Unger, "Collective Incentives in the Chinese Countryside: Lessons from Chen Village," World Development, May 1978, p. 600.

The reason for rationing the amount taken in grain is that grain taken in this way is priced at 0.196 yuan per kilogram, according to Howe, while the price of grain in some rural markets is reported to be 0.4 to 0.6 yuan per kilogram. Thus, unless stopped, households would take far more grain than they needed and sell it privately. See Christopher Howe, China's Economy: A Basic Guide (London: Paul Elek, 1978), pp. 48-49. Unger also reported that the State also set a ceiling on the total amount that the team is allowed to distribute amongst its member. It cannot exceed an average of 25 kilograms (50 catties) a month per member during an excellent year. Again, the reason for this ceiling is to keep grain that is above the consumption needs of the family off the rural black market. A second function of the ceiling is to channel this extra rice into urban shops and exports. See Unger, op. cit., p. 590.

As for prices of grain in the black market, Bennett reported that at Chuhai County, 1975, black market rice cost 3.6 times more than the standard list price set by the government. See Gordon Bennett, op. cit., p. 94.

Howe reported that the grain consumed by the peasants was priced at 0.196 yuan per kilogram. See Howe, op. cit., p. 48. Printz and Steinle, however, stated that at Guang-li Commune in Guangdong, 53 catties of food grain were valued roughly 2.5 yuan, i.e., 0.10 yuan per kilogram. See Printz and Steinle, op. cit., p. 83.

Shin Chugoku Nenkan 1974, p. 121. Also Xu, op. cit., p. 792, and Unger, op. cit., p. 590.

Shin Chugoku Nenkan 1975, p. 137.
7 Elizabeth and Graham Johnson, *op. cit.*, p. 72.

8 Peter Worsely, *op. cit.*, p. 147.


11 Suganuma Masahisa, "The Revolution and Economics of 700 Million" (Tokyo: Sangyo Noritsu Tanki Daigaku Press, 1973), pp. 175-76. Unger also stated that since the latter half of the 1960s, the industrial products used in agriculture have lowered their prices, and presently cost slightly less than they did a decade ago. Such pricing policy has been engineered in an explicit effort to speed agricultural development. See Unger, *op. cit.*, p. 590.

12 Peter Worsley, *op. cit.*, p. 145.


14 Elizabeth and Graham Johnson, *op. cit.*, pp. 72 and 51.

15 Printz and Steinle, *op. cit.*, p. 94.

16 Unger, *op. cit.*, p. 590. According to another report released in 1973, however, the total output value of farm and sideline production rose from 1.7 million yuan in 1965 to 3.9 million yuan in 1972 while agricultural taxes remained at about 8,300 yuan. This meant that in 1972 while agricultural taxes in Chen-cun constituted only approximately 4 percent of the commune’s total grain output. See *Union Research Service*, Vol. 72, No. 16, 1973, p. 229.

17 Shin Chugoku Nenkan 1974, p. 121. Also see Suganume Masahisa, *op. cit.*, pp. 175-76. Unger also reported that the government in Guangdong paid 9.8 yuan per 50 kilograms (100 catties) which was up from the price of 8.9 yuan paid until 1966. See Unger, *op. cit.*, p. 600.

18 See Howe, *op. cit.*, p. 49.
19. Unger, *op. cit.*, p. 600. However, an earlier report on Chen-cun indicated that the State only paid a price of 30 percent above that of the fixed quota grain in 1973. This seems to be closer to Howe's description above. See *Union Research Service*, Vol. 72, No. 16, 1973, p. 230.

20. Printz and Steinle, *op. cit.*, p. 188.


27. Elizabeth and Graham Johnson, *op. cit.*, p. 70.


30. The peasants in a production team work seven hours an average day. Their schedule is something like: 7 A.M. work begins; 10:30 A.M. to 1 P.M. lunch break; 4:30 P.M. off work. Therefore, they can work on their private plots either in the evening or during lunch hours. For the sideline activity of poultry raising, it was reported that each household could raise *not* more than twenty chickens, ducks, or geese combined, any number of fowl exceeding the quota allowed would be bought by the State at government list price. Author's interview, 1977.

31. It was reported that there were 10,000 chickens and 30,000 ducks (Peking-bred) raised collectively in Huan-cheng commune in 1976. At Nan-hai county, the Da-li commune had similar sideline activities organized collectively. Author's interview, 1977.

32. Author's interview; see also *Nan-fang Ri-bao*, May 12, 1975.
According to Printz and Steinle, "the residences of the family pigsty were also covered by an unusual actuarial system:

after the peasants sold their healthy animals to the State, they paid a premium of about $1.10, to be deposited in a special account at a commune veterinary station. If a pig died, the veterinarian would compensate the pig's owner from this communal fund. Compensation was not equal to what the farmers could earn from a sale, but it covered the cost of growing the animals. Grown pigs, weighing about forty pounds, brought about $45 or more when they were sold to the commune's purchasing office. Insurance compensation was only ten cents a pound for pigs weighing under about five pounds and twenty-nine cents a pound for those exceeding that weight. . . . Pig insurance fees also covered the costs of inoculating the animals against disease, a procedure repeated every three months. . . ." See Printz and Steinle, op. cit., pp. 95-96. For policies encouraging peasants to take the risk of raising pigs, see "Zhu-Duo Fei-Duo Liang-duo" 猪多肥多粮多 (More Pigs, More Fertilizer and More Grain) in Yang-Zhu-ye Yao-Da Fa-zhan 堆殖興農大發展 (Pig Raising Must be Developed Greatly)(Peking: Non-ye Chu-ban-she, 1976), p. 40.

Peasants in the production could raise commune-owned pigs in the public pigsty in exchange for using the public pigsty to raise their privately owned pigs. This was generally referred to as 堆殖興農.

At the same time, when pigs were sold to the purchasing office, only healthy pigs were accepted. At times when meat supplies were low and demand was great in the villages, peasants were required by the government to sell any pigs they raised which weighed over 120 pounds. One of the ways for the peasants to protect their own interest was to cripple some of the pigs at night when no one was around, thus claiming the pigs unhealthy for sale. This certainly could be considered cheating, but this could also only be done collectively with the connivance of the village's own leaders and Party members—or they simply looked the other way to let the peasants off, for they were afraid that production work might slacken if the peasants' morale were low.

After the purchasing office's inspection, the pigs were sent to the government slaughterhouse. Peasants would be charged a fee of 1.4 yuan for slaughtering each pig, then, 60 percent of the pork would be sold to the state at list price of 0.8 yuan per catty while the other 40 percent was at the disposal of the peasant. He could either sell the meat to the state at market price which normally ranged from 1.5 to 2.5 yuan per catty in exchange for cash; or, he could sell only part of this amount to the state at market price in exchange for cash and meat ration-coupon; or he could simply keep this 40 percent of meat to himself at home. In general, most peasants would keep the fat from this part of the pork to render oil for cooking, while selling most portion of the pork to the state to get cash and ration-coupon while reserving a small portion for their own consumption.
This practice of "60 percent for the state and 40 percent for the peasants," however, has reportedly been changed recently, in Guangtung at least. It was revealed that now the peasants now could keep 60 percent of the meat and were required to sell only 40 percent to the state. See Wei-quin, "Dai-zhao Jia-su Xian-dai-hua Di Yi-wen Sheng Bei-jing" (Bearing in Mind the Doubts on Speeding Up Modernization while Going North to Peking), *Dong-xiang* (Monthly) 1(1), October 20, 1978, p. 7.

"Nan-hai xian Shi-xian Yi-ren Yi-Zhu Yi-mu Yi-zhu" (Nan-hai County Realizes the Goal of One Pig Per Person, One Pig Per mu) in *Yang-shu-ye Yao-da Fa-shan*, p. 36. Also see p. 7.

Author's interview, 1977.

There were restrictions on certain commodities to be sold on the local free markets. Major food grains such as rice, sugar, tobacco, certain expensive medicinal herbs, and major food grain and subsidiary foodstuffs produced by the commune, as well as by the production team collectively, were prohibited to be sold at the market. Tea, fuel, fertilizers, and other industrial raw materials and machinery, were also restricted from sale at the local market. Oil, soy beans, food ration-coupons, and agricultural implements were not allowed for sale. Red beans, black beans, vegetables, sweet potatoes, yams, turnips, and a few variety of fruits could be sold on the market but their sales would have to be approved by the local official government and a certain tariff would be paid to the purchasing office. Pigs and fish could not be sold freely on the market. They could only be put on the market for sale after the state compulsory purchasing quota had been fulfilled. Also, beef or any part of the cow was prohibited from the market. Slaughter of cows or pigs had to be done by government slaughter-houses.

Moreover, cadres and employees of any public unit were not allowed to take part in private economic transactions. Free markets were also allowed only on the first and the sixteenth day of the month (lunar calender) in order to prevent people from buying commodities cheap at one market and selling them at marked up prices at another. Market prices could not be marked up too much from government list price. Those who did would be "criticized" by the commune members for leaning towards capitalism.

Howe, *op. cit.*, p. 11-12.
2. Health Care


4 The monthly premium varies in different communes. In Dongguan county, the range was 0.10-0.30 yuan in 1972. See Elizabeth and Graham Johnson, *op. cit.* , p. 55. In Guang-li Commune, it was 0.60 per year. See Printz and Steinle, *op. cit.*, p. 156. In Huan-cheng Commune, the rate was 0.25 yuan per month in 1976. In Da-li Commune of Nan-hai County, the fee was 0.20 yuan monthly. Both author's interview, July 1977.

The registration fee for each visit at the commune or county hospital and brigade medical stations, however, was quite standardized. Charges for more complicated medical services, nevertheless, varied a great deal among different communes. A patient who had blood transfusion at the commune clinic at Huan-cheng commune reportedly paid only the 0.10 yuan registration fee although the whole operation cost 600 yuan while at the Kai-ping county Ren-min Hospital, the cost for a bed in the hospital daily was 0.50 yuan with additional cost for various medical services performed: appendicidis, 10 yuan, for example. Author's interview, July 1977. In some cases medical expenses were reimbursed by the brigade. See Printz and Steinle, *op. cit.*, p. 156.


6 Author's interview, 1977.
7 Elizabeth and Graham Johnson, *op. cit.*, pp. 55-56.

8 Author's interview, 1977.

9 At the Tien-lu production brigade of Huan-cheng commune, Xin-hui county, the limit on population growth per year set in 1976 at 105 persons as opposed to the average growth of 360 persons per year in previous years. At the Hong-qi production team of Wei-dong Brigade, Xin-hui county, the quota was four persons in the years of 1974 and 1975 but was further reduced to two in 1976. The small quota is due to the small population the team had in 1976--223 persons. Author's interview, 1977.

10 Elizabeth and Graham Johnson, *op. cit.*, p. 45.

11 For urban areas, the target age for marriage for men is 28 and 25 for women.

12 Author's interview, 1977.

3. Education


4 Elizabeth and Graham Johnson, *op. cit.*, p. 57.

5 Author's interview, July-August, 1977.
Elizabeth and Graham Johnson, *op. cit.*, p. 57.

Printz and Steinle, *op. cit.*, p. 143.

Author's interview, June 1977.

Ibid.

### B. Rural Industrialization


A. **Rural Inequalities**

1. **Intra- and Inter-Commune Inequalities**

Despite the dramatic improvement in rural development and the gradual increase in agricultural production, it is obvious that income per head of teams within a brigade and brigades within a commune as well as incomes between communes can vary a great deal (see Table 24). The sources for such income differences of inequalities are many. Firstly, differences in geographical conditions such as location, man-land ratio, soil fertility, climate, and other natural endowments as well as differences in human resources for agricultural development, can all account for the intra- and inter-commune inequalities.

At the same time, however, because each of these production units exercises its own administrative function and is responsible for its surplus and losses, and that a production unit cannot transfer its resources from a rich to a poor one for income equalization, inequalities persist among the various communes. Moreover, because production units can retain the bulk of increments in income from improved productivity, or wealthier communes can
invest more in their local industrial sector, it is also clear that
the rich production units can become even richer under the present
program of rural development.

The richer production units, furthermore, can often benefit
more from the government policies—such as the regressive agricultural
tax structure, tax-exemption policy as well as price reductions of
some essential industrial goods for agricultural production—originally
set up to expedite agricultural development and reducing the income
disparity between urban and rural sector.

2. Individual Inequalities

As Blecher\(^2\) pointed out, even with socio-economic environ­
ments and payment systems most conducive to equality of distribution,
some inequalities among individual households in a commune will
remain. This is because all payment systems used in rural Chinese
communities conform to the socialist principle of distribution
according to labour, an-lao fen-pei 按勞分配 , and some households
have more labour power per household member than others. It is,
therefore, not unusual for Whyte and Parish to find that there were
inequalities in rural villages in Guangdong, and that the differ­
ences between families were sometimes quite noticible, especially in
the case of overconsuming households, Chao-zhi-hu 超支户 , house­
holds whose workpoints were not sufficient to pay for the grain
rations they had consumed, and who eventually went into debt to the team. And certainly, private income derived from private economic activities can also affect on the income distribution in rural communities.

3. Towards an Egalitarian Rural Economy

The Chinese government, of course, recognizes this problem of inequality, but they also recognize that the main source of inequality between communes, and between brigades and teams within communes, is the difference between units with respect to their ownership of means of production. To them, although private ownership of land and other production assets has, by and large, been abolished, collective ownership below the level of ownership by the whole people, equality among various collective units and the constituent households is impossible to achieve. Translated into the language of Western economics, this means that to abolish this source of inequality, ownership of land and resources must be pooled and the rental income distributed equitably.

In other words, in order to achieve equality, the ownership of land and other assets must be transferred from lower levels of collectives to higher levels. Therefore, in recent years, a shift has been taking place in favour of the higher collectives: teams in
some areas have ceased to be the basic accounting units; this function has moved one tier up to the brigade. At the same time, the rates of accumulation out of income generated at the brigade and commune levels have generally been higher than that at the team level. These measures would certainly help to reduce the sources of inequality between units within a commune although they would have no effect on differences between communes. Nevertheless, they represent the direction and the course of transition of ownership from the level of the communes to that of the whole people.

It does not necessarily mean, however, that there is no active policy to reduce intra- and inter-commune inequalities. Before the ownership system is finally transformed and transferred, the emphasis is on self-reliance. This means that the Chinese government, instead of using its power of taxation to redistribute income from the wealthier ones to poorer ones, or to restructure the agricultural tax so richer areas have to share their wealth with other areas, insisted that the poorer communes or teams should rely on themselves to pull themselves into the advanced ranks instead of relying on outside resources. The emphasis is thus not on supplying capital for relief, but on providing administrative and material assistance to those who are "lagging behind." Administrative assistance usually takes the form of sending cadres of the commune party committee from the advanced commune to work in poorer communes and teams in order to improve their managerial efficiency—to retrieve manpower and
implements employed in sideline production elsewhere, to teach them how to get the best results in their production, management, and organization of their resources. All these aim at passing on experience in "grasping revolution" to build up self-reliance rather than at supplying short-term social welfare.

The provision of material assistance, on the other hand, takes the form of making interest-free loans to communes lagged behind because of shortage of capital construction funds. With such loans, the commune is obliged to appropriate the funds for developing infrastructure for agricultural development (such as the purchasing of farm implements). The Lu-yu production team exemplified the effects of such assistance best:

The Lu-yu production team . . . is situated in a mountain ravine with poor and thin soil. Its 42 households of commune members moved there in the old society to escape conscription. After liberation, they organized themselves and formed their producers' cooperative. In the initial period after the establishment of the people's commune, this production team was comparatively backward economically. Up to 1964, its per-mu yield of grain increased only to little over 400 catties; its total income from farm and sideline undertakings amounted to only some 7,000 yuan. The commune revolutionary committee and the brigade revolutionary committee, to help this team to develop production, mobilized its members to launch the movement of 'in agriculture, learn from Dazhai,' make progress on their efforts, fight against nature, reclaim the mountain gully, transfer 120 mu of muddy fields and expand the acreage of paddy-rice by 50 mu. This team had not many labour power. To make good use of the farming season, every year the brigade sent its tractors into the gully to plow land and harrow fields for them, and help them to complete the job within the season. In this way, this production team had pushed up its output of grain continuously year by year. Last year its per-mu leapt from some 400 catties in 1964
to 1,300 catties. Next, the brigade again helped this production team to buy water-wheel machines, rice-grinding machines, and crushing machines, mechanize the processing of farm and sideline products, and raise the productivity of labour. To change quickly the appearance of poverty of Lu-yu production team, the brigade again led this team to develop forestry production by cultivating some 500 mu of forests and running 200 mu of fruit gardens. In the last year, the team received a total income of more than 35,000 yuan from farm and sideline undertakings, 28,000 yuan more than that of 1964, each household of commune members increased its cash income by four times.

Rural industrialization represents another effective measure for the reduction of rural inequalities among production teams. This is due to the methods of allocating surplus and distributing income in the commune and brigade-run industrial enterprises, and to the higher-factor income in industry than in agriculture. On the one hand, the commune and brigade retain only part of the surplus and distribute the rest among the production teams according to the proportion of their contribution to the total labour inputs of the enterprise. On the other hand, workers do not receive income directly from the factory. They receive workpoints from their own production team and a small amount of subsidy from the factory for food and travelling from home to the factory. Their wages are paid directly from the factory to their production team as a source of collective income. Thus income disparity between the factory workers and the farmers of the same production team is reduced, and all team members also benefit from the progress of rural industry. Given this method of income distribution of commune-run industries, the commune may recruit labour for industry mainly from poorer production teams.
for reducing intra-commune inequalities. This may lead to a decline of collective farm income, but it will be more than offset by an increase in industrial income. Indeed, the relative importance of man-land ratio as a source of rural inequalities has declined, and inequalities can be more effectively reduced in communes with a number of industrial enterprises. More significantly, the rise in the level of collectivity and a reduction of inter-team inequalities will facilitate the ownership transition of the collective economy.

As for the problem of individual inequalities, we have to note that the major cause of overconsumption in households is essentially a function of the stage of the life-cycle, that is, at any one time some families have more favourable hand-mouth rations than others. And since most families do experience the various stages of the life-cycle, the effects on individual households of inequality resulting from the hand-mouth ratio will eventually even out over time as most households' ratios change over the years and their incomes move up and down the income distribution as a consequence. It is, therefore, more important to see how these inequalities are moderated than to exaggerate the conceptual importance of inequalities resulting from these differences in hand/mouth ratio. The Chinese government is certainly aware of these problems. Directives were issued to rural cadres to find ways to limit the proportion of households which overconsumed, especially whose over-consumption was not due to the ratio of family members in the labour
force to total family size but rather a result of negligence of work. In some areas, the poorest families could also apply for small amounts of relief grain or cash, and would be eligible for certain benefits such as special assistance for private sideline production. And as Whyte and Parish both pointed out, the grain-overconsumption system is in itself a sort of welfare mechanism which allows poor families to consume beyond their earnings in any particular years.

We have pointed out that there are inegalitarian aspects in rural China under the commune system. The system, however, has a certain institutional constraints on the polarization of inequality in rural China. For one thing, the collective ownership system implies that a rich collective unit is unlikely to exploit the poor one through the transfer of land ownership or the employment of labour. At the same time, the rural communes also provide many more items of consumption collectively, and the distribution of private consumption income. Within a commune access to health, education, and other services is probably the ideal suggested by Khan, and indeed the distribution of such services seems to be designed to improve the distribution of consumption within a commune in that the fees for medical and educational services are charged on the basis of ability to pay. The quality of such services provided by the communes also appears to differ less between communes than distributed income. Moreover, irrespective of membership of specific communes, all have reasonably access to services provided by the regional and central government.
Viewed this way, inequality between teams, brigades, and communes is to some extent corrected although it is difficult to assess or quantify how large a correction for this factor is necessary. Nevertheless, its importance must be recognized. At the same time, we should also note that as communities develop economically, because of the existence of various mechanisms and regulations designed to prevent restratification, such as prohibitions on owning land, draught animals, and major tools of production, restrictions on marketing, and the existence of payment systems in which differentials are set not by the application of impersonal rules but by consensus of the small community itself, whose members must be able to justify them to one another in both economic and ethical terms if they are to continue to work and live together harmoniously, inequalities will not increase indefinitely. Furthermore, new mechanisms can be found to minimize the effect of higher levels of wealth in increasing inequality, such as apportioning a greater share of income to public accumulation and a smaller share to direct consumption.12

4. Urban-Rural Differentials

A related issue of inequality is, of course, the rural-urban differences. It has generally been observed that there has been a dramatic difference of income between urban workers and rural
peasants and that the peasants' standard of living is much lower than that of the urban workers. As Deleyne pointed out, "it is only in some very rich communes that the annual per capita income of the working population is as high as 400 yuan, and yet that is hardly as much as a labourer earns in the towns when he starts work in a factory. The average income of a peasant throughout China is probably less than 150 yuan per working person, whereas, that of the workers in the town factories, who are admittedly only a small proportion of the population, is about 700 yuan a year."

The comment is undoubtedly valid. Howe observed that in 1952, the average wage for workers and staff in the cities was 85 percent higher than the average peasant income, and the difference has increased to 95 percent in 1965. This crisis of inequality, however, led directly to countervailing policies in the 1960s. More consumer goods were made available and often at lower prices to the rural areas, and at the same time, rural incomes were raised by increasing purchasing prices for rural products and by reducing costs of production inputs such as fertilizers. A reallocation of health, education, and welfare expenditures toward the countryside was also in effect.

At the same time, one must also note that while rural income has increased gradually between 1957 and the early 1970s, the average income in the cities has until recently been frozen. This means that not only has the average urban-rural differential began to
narrow, but, just as importantly the surplus for industrial investment has been raised increasingly from the industrial sector itself, thus permitting the rural collective sector to retain a rising portion of its surplus and so attain higher private and social consumption.

On another level, one also could observe that although income per capita annually in the cities is higher than that of the rural areas, daily provisions are estimated to be at least 30 percent less than what they cost in the cities, being distributed directly by the production teams to its members without any charge for transport, storage, processing and marketing. Worsley had suggested that "foodcosts in the city for adults probably absorb no more than 15 percent of their income." Klatt, however, demonstrated later that for an average urban working class family, consisting of five members of whom two earn about 1.7 times the average wage, an "average" food basket costs almost 60 percent of its wage income while accommodation is generally free for the peasants, since every peasant is the owner of his house, as are water and fuel.

One could also argue that comparisons of personal consumption between the rural and urban areas would only understate the urban-rural differentials, since such comparisons do not take into account the major differences in consumption standards and the superior provisions of social consumption benefits in the urban areas. Our
point however, is simply that as 80 percent of China's population is still in the rural areas, the extent of the reduction of urban-rural disparities has been remarkably high, even by international standards. Moreover, the Chinese government has again emphasized its commitment to the major rural development policies. Firstly, it will continue to extend long-term, low-interest credit to supplement the communes' accumulated funds for farm mechanization, diversification, and operation of small-scale industries. Secondly, efforts will continue to ensure upward adjustment of purchasing prices for farm produce at the same time holding down prices of industrial goods in rural areas. Thirdly, commune and brigade industries will continue to enjoy low taxation or even tax exemption as well as receiving funds or materials as required. Fourthly, some urban factories will be required to have their products or parts processed or manufactured in the rural factories. And finally, low agricultural tax, grain quota and price premiums will be continued to encourage peasants to increase production. It is, thus, reasonable to anticipate that China will make further, substantial progress toward overcoming the urban-rural differentials.
B. Problems of Agricultural Mechanization

As we mentioned earlier, the Chinese government started their program of mechanizing agricultural production as early as 1950. In 1973, however, a secret document revealed that "the degree of agricultural mechanization . . . is now 27 percent. Efforts will be made to raise it to 40 percent by 1975."¹ The Ten-year plan for the development of national economy (1976-1985) drawn up by the Fifth National People's Congress, also indicated that by 1980 China plans to mechanize 70 percent of the main work in farming, forestry, animal husbandry, sideline production, and fishery.² It is obviously clear that despite the progress China has made in agricultural mechanization, the process was complex and many problems still remain.

During the first years of the People's Republic, agricultural mechanization was a low priority in its plan of national development. The land reform movement tore apart classes who could afford to buy machines and the farm lands which could be managed by mechanization. On the other hand, there was no infrastructure for any sort of mechanization program either: not only was China's petroleum industry undeveloped, there were also no facilities to provide parts or repair services for the machines. At this time, mechanized farming was carried out only in State mechanized farms where they served as sites to test machines and personnel in operation, maintenance, repair, and management, these forms also opened up virgin land in sparsely populated areas and supplied commodity grain for urban consumption from previously uncultivated land.³
It was not until 1953 that agricultural production was collectivized by the establishment of cooperatives with this, Eleven Machine Tractor Stations (MTS) were set up on an experimental basis using personnel trained at State farms and tractors imported from the Soviet Union and other Eastern European countries. In the following year, the number of MTS increased to 113, serving 40,000 hectares and renting out tractor services to surrounding cooperatives. Despite the increasing number of MTS and the potential that mechanization had to increase grain yield, an increase in yield did not come automatically, especially when the machines were unable to integrate with agricultural production. For instance, in farming, plowing must be done at the appropriate time in the agricultural season. Delay of even a few days could cause problems with sowing or harvesting. Plowing, at the same time, must also be done with uniform depth; it should respect the natural contour line and it should be done in a way consistent with local cultivation practices such as intercropping. The MTS had great difficulties in meeting such requirements.

For one thing, the machinery had not been developed for paddy cultivation in the Southern or hilly regions in the Country. Implements for specific Chinese crops and intercropping techniques had not been designed yet either; nor was China able to produce its own petroleum products yet. Consequently, in order to save fuel or achieve fuel economy, the MTS personnel failed to plow the fields to the specific depth. Farmlands were reportedly plowed either too shallowly with high speed, or were plowed to greater depth at the
head of fields while shallow in the middle to evade inspection. Timing also became a problem when the MTS tried to dispatch their tractors in the most efficient and economic manner. They waited to gather all orders for plowing before starting. By the time all orders came in, it might be too late for some units. In the mean time, with the reliability of the machines not particularly high and spare parts in short supply, and a general lack of operators and repairman, the problem of timing was aggravated. In addition, some MTS had problems in collecting fees from production units and thus required advance payments. When some poorer, outlying production units could not produce such payments in advance, and because it would cost more fuel to get to those regions where farm lands were smaller, they were refused service. 5

It is, therefore, easy to see the basic contradiction between the peasants and the MTS. The operation of the MTS was based on profit, utilization rates of the state-owned machines, and fuel economy. The peasants, on the other hand, were only concerned with whether the machinery would guarantee good quality work and would increase output and income. Because of this contradiction, there were difficulties in the overall arrangement for coordinating of mechanical power, animal power, and manpower. When the machinery failed to integrate fully with agricultural production, it was easy to understand why the peasants were less than enthusiastic about agricultural mechanization.
During the establishment of the MTS, the Chinese government also relied heavily on the promotion of a new type of plows—one with two wheels and two blades—hoping that with the introduction and popularization of this new machine, the cooperatives would have a sound economic basis and increased productivity would be assured and a high and constant extraction of grain and industrial crops from the rural areas thus assured. The new plows were introduced to provide new technical underpinning for the agricultural cooperatives. The introduction, however, was based on hope rather than on field experimentation. Serious technical deficiencies were discovered only later after the plows were widely distributed. The plows were found to be too heavy and cumbersome to operate; they were also difficult to use on small terraced fields and paddies. Furthermore, they sank into mud and required more draft animal power to pull. At the same time, parts and repair services were not available in areas where plows had not been distributed previously.  

The MTS system was eventually reviewed in 1956, and the distribution of this type of plows was suspended in the same year. An attempt to solve these problems of mechanization was made in the following year. A dual tractor ownership/management system was experimented with some cooperatives. Here, the tractor station was responsible for fuel, maintenance, repair, and staff expenses. The cooperatives, on the other hand, had complete freedom to assign
the tractor. Such a system did not work out very well either, because the basic contradiction was still there: when the cooperatives did not own the machines, they did not take good care of the machines, thus causing excessive wear and tear because they were only interested in getting more work out of the machine to increase their yields. The operators of the machine, meanwhile, still did not interest themselves in the results of production but were more concerned with maintaining their own profit.7

This brought the government to recommend, at the Chengdu Conference in March, 1958, a decentralization of the ownership of agricultural machinery. It meant that the cooperatives could buy the tractors outright from the tractor stations and manage them. For a while, things seemed hopeful. By the end of 1958, roughly 70 percent of the tractors owned by the stations in the previous year were sold to the communes. In addition, some communes also received new machines.8 The commune management system, however, could not solve the many problems inherent in implementing a program of agricultural mechanization.

There was the basic problem of maintenance. In 1958, about 20 percent of China's tractors were out of commission and in need of repair, while 40 to 50 percent of its irrigation and drainage machines needed repair. By 1961, 65 percent of its tractors were in need of repair, and 48 percent of the irrigation and drainage machines were in the same shape.9 The agricultural crisis in 1960, however,
practically eliminated the agricultural surpluses that could have provided investments for machinery and repair service. Meanwhile, the very success of the mechanization program helped to create a more serious problem of maintenance. Between 1957 and 1961, the total number of tractors in China was estimated to have almost quadrupled. Personnel such as operators, maintenance workers, and managers had to be trained very rapidly, and production and distribution of spare parts also had to be stepped up enormously. Equally important, repair shops had to be set up quickly. When over a hundred types of tractors and internal combustion engines were used--some domestic and some imported from over a dozen of countries--supply of spare parts was more difficult to meet than had been expected. In fact, the shortage of spare parts and repair facilities was so great that it was suggested that for one yuan had to be invested in factories to manufacture implements, and two and a half yuan had to be invested in spare parts factories and repair shops.

To make things even more complicated, after 1959, the supply system of spare parts was changed from the local representatives of the Ministry of Agriculture to the normal commercial channels representing the Industrial department. The change was made on the basis the repair service being organized by the industrial department and spare parts being distributed through its commercial outlets. The rationale was that this would increase the efficiency of the repairing services and the spare parts supply. In the long run, this might achieve the
desired efficiency. In the short-run, such institutional change required considerable time to smooth the transition and effect the establishment of the new method. Not surprisingly the peasants complained about the magnified inefficiency and the problems of mechanization.\textsuperscript{12}

It would be unfair to say that the government did not try very hard to resolve all the contradictions inherent in the process of agricultural mechanization. In August 1959, a new ministry was specially created for the purpose of organizing mechanization and tool reform.\textsuperscript{13} In fact, it was also established to facilitate the implementation of the Ten-Year Plan for Agricultural Mechanization which was announced earlier. Efforts were made to provide mechanized irrigation and tractors to some regions, especially North China. A Department of Education was also created within the new Ministry of Agricultural Machinery to coordinate formal education in agricultural machinery in schools and to expand training facilities for machinery experts. Substantial additional training of operators, repairmen and managers was also provided at the province and local level and more maintenance and repair shops were set up.\textsuperscript{14} The contradictions between mechanization and agricultural production could not be fully resolved in a short time, nor could the infrastructure for agricultural mechanization be established quickly either. At the same time, all these problems were further aggravated by the Soviet pull-out in 1960 which, in addition to disrupting the
industrial sector which relied heavily on their technical assistance, destroyed whatever momentum the Ten-Year Plan of agricultural mechanization had gathered.

In response to the broad economic crisis, there was a backlash against the decentralized program of agricultural mechanization. Mechanization, it was thought, could not solve the immediate agricultural crisis; and that since agricultural machinery was expensive and complicated in technique, most peasants could neither afford it nor operate it. The State, then, should be relied upon the realization of agricultural mechanization and its decentralized implementation should also be reconsidered carefully. Emerging, therefore, was the assumption that centralized administration, specialized functions in factories and bureaucracies, increased material incentives for workers and administrators, and profits were crucial ingredients for efficiency. In the following years, thus, emphasis was placed not only on expanding research and development in machinery, manufacturing machinery, and importing technology, but also on a new managerial system, controlled by the State, which would coordinate all these and increase efficiency and machine utilization.

The State-owned tractor stations were soon re-established in 1961 and 1962 but changed their name from MTS to Agricultural Machinery Station (AMS). They were more or less the same as those first created before 1957, but their functions were to be broader. Efforts were also made to establish the AMS on a cost-
accounting basis, i.e., being self-supporting rather than relying on subsidies from the State. In order to generate profit to achieve self-support, material incentives were recommended for station personnel who exceeded the acreage target set up for each tractor. Bonuses were also offered to units which could achieve fuel economy and reduce the cost of maintenance. Despite all these changes, many stations still operated with financial losses. One of the major problems was that the stations had an improper mix of large and small tractors and implements for the local geographical and cultivation conditions throughout the year. Staff expenses were also unnecessarily high because of the excessive personnel.

In 1963, a new management system was advocated by Liu Shaoqi, and the organization of "trusts" (to-la-si 信托) or "corporations" for agricultural machinery was established in the same year. The "corporations" first made their appearance in the form of the Peking Municipal Agricultural Machine Corporation, integrating production plans of various machinery production. More experiments with such organizations were carried out in other regions in the following years; these absorbed local enterprises and established regional branches which not only spare parts but also manufactured engines. In 1965, a further expansion was planned—the creation of the China Agricultural Machine Company. In addition to manufacturing agricultural machinery and spare parts, in addition, it would control repair shops, research institutes, and the network of agricultural
machinery stations. Moreover, it would concentrate its efforts in about 100 selected key counties receiving mechanization.\textsuperscript{21}

Such increased centralization was expected to increase efficiency in the production and distribution of parts and machines. However, when the manufacture and supply of certain specialized parts of engines became increasingly centralized, efficient transportation, close coordination, and careful timing became essential to permit all factories to operate at capacity without excessive inventories. During the course of a major change in patterns of supply to factories, substantial problems were reported.\textsuperscript{22} At the same time, an economy requiring such sophisticated integration and coordination would be particularly vulnerable to serious disruption by natural disaster or military attack.\textsuperscript{23}

County and province officials did not favour such centralization either. They felt that the trust system would deprive them of any influence over the mechanization of agriculture. Poor production teams, especially, because of the key county plan, would for years not be able to receive any aid from the State in mechanization. Opportunities to train local personnel and to encourage local responsibility and enthusiasm for operating and maintenance of machinery would also be lost.\textsuperscript{24} These complaints, coupled with Mao's interest in rapid mechanization throughout China via semi-mechanization, self-reliance, and the masses, and his fear that the trust system was too close to Soviet revisionism (encouraging elitism and concerned only
with profit) brought under severely criticism and caused its rejection in 1966. When the Cultural Revolution began later in the year, the system was totally denounced.

While the trust system was introduced to consolidate tractor use in specific localities, simultaneous campaigns were also begun by some of the top leadership to encourage nationwide semi-mechanization. In 1965, while the Ministry of Agricultural Ministry was renamed the Eighth Ministry of Machine Building to indicate that the ministry was more closely related to advanced machinery and industry, a new ministry, the Second Ministry of Light Industry, was created to campaign to develop semi-mechanization and tool improvement. These changes, on the one hand, were reflective of China's policy of "walking on two legs"; on the other hand, they were the beginning of the struggle between two lines.

The policy on agricultural mechanization that emerged from the Cultural Revolution was one that clearly favoured mechanization based on the local collective economy and on self-reliance, using semi-mechanization as a stopgap measure. Ownership and management of machinery again was decentralized. The most important changes, however, were implementations of programs of agrotechnical transformation to complement agricultural mechanization. More attention was given to the gradual establishment of the necessary infrastructure for mechanization. By improving water conservancy and water control;
by mechanizing irrigation and drainage systems; by the intensive use of both organic and chemical fertilizer; by strengthened networks of extension services; better seed strains, pest control and plant protection—agricultural production could be increased, making it possible to develop a sound financial infrastructure for mechanization. By transferring State tractor station cadres to county service units and by integrating education and agricultural production, an infrastructure of manpower and skill was gradually built up. With county leadership and local planning, rural industries could also be set up not only to generate more income for mechanization, but to manufacture spare parts and provide repair services.

It does not, however, mean that the basic problems of agricultural mechanization have all disappeared since then. On the contrary, some basic contradictions still persist. To begin with, there is generally a reluctance among the peasants to accept standard type tractors or combines in mechanization of agricultural production, despite the general acceptance and increasing adoption of small garden-variety tractors and mechanized equipment for irrigation and drainage. Their reluctance, naturally, is indicative of their conservatism. Their conservatism, however, is not solely because they are living at subsistence level, and thus reluctant to depart from practices they know will at least keep them alive, in favour of unknown techniques which they must take on trust. The Chinese peasants, in fact, have been enjoying a gradually rising standard of living and security which
they never had before. But, it is precisely because of this newly gained security and higher standard of living that most peasants are content with what they have achieved so far and they simply cannot see the necessity of increasing their production further by stepping up mechanization. Some also fear that with increasing mechanization, their hard-earned security and improved standard of living might have to be somewhat lower for a time in order to acquire the machinery. More funds would have to be set aside from the collective income, thus less would be available for distribution for private consumption.

On closer examination, their reluctance is not entirely without justification. The larger implements for agricultural production, such as tractors and combines are expensive, despite the efforts from the government to lower their prices as much as possible. A Dong-fang-hong 勳方紅 Brand standard tractor costs over 20,000 yuan; a medium built tractor costs well over 10,000 yuan. Even the garden tractors cost between 3,000 to 4,000 yuan each. The price of such machinery can be further inflated psychologically by the peasants when they started calculating the cost in terms of catties of grain, a measuring yardstick they are most familiar with.

To complicate matters more, there are problems with the quality of the machines, especially the combines, tractors, and rice-transplanters. Peasants have complained of the frequent service they required as well as the frequent accidents operators had. They also felt that the machines could not do as good a job as
manual labour, especially in mechanized harvesting where complex intercropping techniques were used. Mechanized harvesting by combines, they found, left too much rice uncollected and unreaped, and they naturally questioned the validity of spending an astronomical amount of public accumulation funds on such a farm implement. Furthermore, in Guangdong, in many cases, because of the absence of plains and large flatlands, land leveling and improvement projects are carried out to flatten and enlarge the size of fields to facilitate the use of tractors or mechanization in farming. Some peasants are resentful, because they are not only unconvinced by the advantages of mechanization, they also felt they were made to participate in these projects which did not automatically guarantee an increase in their yields.

And unfortunately, owning of a tractor does not automatically increase productivity in agricultural production. Because of the frequent servicing it requires and because of the lack of enthusiasm on the part of the peasants, the utilization rate of the tractor remains low. Even when the machinery is utilized with sufficient frequency, the economies of scale in mechanized agricultural production require operation on farm lands larger than those of a single commune. And in such cases, in some communes, tractor stations have to find other means to operate to pay for investments and expenses. For example, tractors which have a versatile power unit used for local transport are rented out to transport rural
produce to the cities. In doing so, however, the utilization rate of the tractor in agricultural production is further reduced while the peasants remain convinced that ownership of such an implement is not necessary to increase yields in farming. One of the side effects of this attitude is that experimentation with farming machinery in the fields has been met with great reluctance, and even restrictions, making improvement in machine designs more difficult.

The process of agricultural mechanization in China, therefore, has not been a particularly smooth one. It involved a lot of problems as well as intense political debates. It is, however, precisely because these problems and debates, a more practical and realistic policy on agricultural mechanization will eventually emerge. The Chinese have found that the benefits generated by large scale modern equipment tend to be beneficial only to certain regions which have flat lands and extensive agricultural systems in which large tractors can be used efficiently. Rice paddies in South China, on the other hand, can benefit better from mechanized irrigation and drainage, grain processing, and transportation rather than large tractors. Smaller-scale equipment, therefore, are more desirable not only because they are well-suited to the hilly regions and small plots in the South, but they also can be used throughout the nation. But again, the Chinese also emphasizes that where it is required, large-scale, modern agricultural machinery has to be developed. This, of course, is what "walking on two legs" is all about.
CHAPTER 8
NOTES

A. Rural Inequalities

1 Communes closer to large cities are usually richer because they have a better chance to benefit from industrial sub-contracting and from the production of vegetables and farm sidelines.


3 See Martin King Whyte, "Inequality and Stratification in China," The China Quarterly, No. 64, December 1975, pp. 688-689. Also William Parish Jr., op. cit., pp. 613-630. However, Parish also noted that overdrawing is not an infallible index of poverty because some families overdraw when their main labourer works in a salaried job outside the production team; and others overdraw because they skimp on collective work while devoting more energies on their private plots or other private sideline. And in Guangdong, teams appear to have one or more poor, overdrawn households. But even with incidents like these, the proportion of overconsuming households is not extremely high. See p. 617.


7 Blecher, op. cit.


10 Whyte, op. cit., p. 689.

11 Khan, op. cit., p. 273.

12 This, however, is yet widely practiced in many communes although since 1958 the Dazhai Brigade has steadily increased the share of annual income allocated to collective accumulation. See Dazhai Hong-qi (The Red Flag of Dazhai)(Peking: Ren-min Chu-ban-she, 1974), p. 113.


14 Howe, op. cit., p. 187.

15 Ibid., but according to Lardy, the average real wage in 1971 in the industrial sector was somewhat below the level of 1957; and although retail price data for 1975 would be less than 7 percent above that of 1957. See Nicholas Lardy, "Economic Planning and Income Distribution in China," Current Scene, 14 (11), 1976, p. 3.

16 Deleyne, op. cit.

17 Worsley, op. cit., p. 253.

Ching Hua, op. cit. pp. 9-10. It is also indicated that provisions of consumer goods in the rural areas would be improved. See Ban-hao Nong-oum Dai-gou Dai-xiao-dian (People's Agricultural Supply Co.) (Peking: Zhong-guo Cai-zheng Jing-ji Chu-ban-shi, 1976).

B. Problems of Agricultural Mechanization

1 See Issues and Studies, 10 (10), July 1974, p. 101.

2 Ching Hua, op. cit., p. 10.


5 "It is Good for Tractors to Revert to Chairman Mao's Line," Nong-ye Ji-Xie Ji-shu (Agricultural Technology), No. 10, October 8, 1968, SCMM, 919, p. 22. See also SCMM, 643, p. 22; 610, p. 8; and 643, p. 18.


9(continued)


11 Ren-min Ri-bao, December 22, 1962.

12 SCMM, 633, p. 22; also SCMM, 610, p. 12.


14 "Introducing a Few Schools of Agricultural Machinery," Zhong-guo Nong-ye Ji-xie (Chinese Agricultural Machinery), No. 6, June 1962, p. 32.


16 Kang Chao, op. cit., p. 111. See also Audrey Donnithorne, China's Economy, p. 112.

17 SCMM, 624, p. 3. Also, SCMM, 633, p. 32.


19 SCMM, 613, p. 20.

20 SCMP, 374, p. 9.

21 SCMM, 451, p. 7.

22 SCMM, 610, p. 27.

23 The military concern might have been important during the escalation of U.S. involvement in Viet Nam during 1965-66.
It was reported that peasants held attitudes similar to that of the period after the completion of Land Reform: they were satisfied with and were asking for "a cow per 30 mu and a hot stove for wife and children" (三喜一季半，老婆孩子热炕头). Peasants also felt that "when collectivization was realized, mechanization was not necessary," and that "it did not matter much if mechanization came early or not" (这心我可, 俏我什). See Zen Ce-bin 凌策彬 and Lu Bing-xin 刘炳新, Ta-shan Guo-min Jing-jii Zong-fang-zhen Tan-hua 山西国营焦煤总厂支援 (A Talk on the General Direction of Development in People's Economy)(Guangzhou: Guangdong Ren-min Chuban-she, 1976), pp. 34 and 37.

Fang Jiao 方俊, "Lue Tan Nong-ye Xue Da-zhai Yun-dong Zhong Di Ji-ge Wen-ti" 略谈 农业学大寨运动的几个问题 (Let's Briefly Talk About a Few Questions on the Movement of 'In Agriculture, Learn from Dazhai'), Zuo-yi-Ping-tun & The Socialist Review, Nos. 4-5.1977, p.43.

Author's interview, 1977.

For example, experimentations with rice transplanters were not permitted in high-yield units; units especially set up for visitors; and fields near the roads and commune boundaries. See Ibid., p. 31.
CONCLUSION

Before 1949, rural Guangdong was characterized by a rural system of self-sufficiency dominated by an integrated and powerful network of exploitive relations consolidated by the alliance of the local government, landlords, and clan organizations. Under this network of exploitive relations, much of the rural surplus was extracted and very little was redirected back to the peasants. Furthermore, such a network, with its strategic power position as the linkage between the State's administrative bureaucracy and the peasants, absorbed much of the inputs injected from outside and intended for rural reconstruction. Thus, it was a major obstacle to rural development and the main source of rural underdevelopment.

The first step of the socialist transformation of rural Guangdong was the land reform movement. As a means to foster agricultural development, the impact was marginal at best. In the absence of new forms of labour organization, new inputs, and new technology, agricultural production depressed by years of international and civil war, could bounce back only to pre-existing levels of production with the mere redistribution of resources and means of production. Production could not rise above these levels. As a form of social change, although it was the first step in the destruction of the alliance of political and economic power of the rural elites, it
could not completely eradicate the exploitive relationships and their resurgence was soon apparent.

Collectivization of agricultural production in rural China thus marked the significant beginning of the Chinese model of rural development. It recognized that the primary factor responsible for rural underdevelopment was not the lack of resources but the class relations found in the social structure. In collectivizing agricultural production, the benefits in economic terms could be easily understood: new forms of labour organization could be created and in turn, a more rational use of existing labour could be organized collectively on the village scale partly in more intensive cultivation, and also for labour-intensive construction and diversification of the rural economy. Eventually, this would lead to increased production, increased incomes, and increased accumulation in agriculture. More important than this is the social implications of collectivization. The Chinese argued that by collectivizing, assets or basic economic resources could certainly be redistributed more evenly among the peasant population, but more crucial than whether there was absolute equality was whether collectivization could destroy the basis upon which a rural elite, who could monopolize information, control participation, and determine the utilization of scarce resources in the rural areas could re-emerge.

The core of the Chinese design for rural reconstruction, however, did not emerge until after the fateful years of agricultural
crisis and the Soviet pull-out. "Take-grain as the key link and ensure all-round development" was established as the guiding principle for the development of Chinese economy. This meant a consolidation of the national economic base and meeting the needs of construction and people's livelihood by putting priority on the rural sector. It proposed that as agricultural production proceeded, through a spiral process, it would generate pressure of its own on the scientific and industrial program. Such a spiral process, according to the Chinese model, began with the use of surplus labour in rural areas through collective efforts. By using this surplus labour, the rural areas could pledge themselves to some specific plans of development of agricultural construction, such as land reclamation or improvement of irrigation systems. These improvements carried out in winter could, if successful, pay off at the autumn harvest. Any such construction could result in an increased demand for routine labour in the following year, and very soon this would begin to press on the supply of labour in the busy season. This new labour scarcity would create a demand for simple labour-saving devices, while the profits of the construction already completed would provide the means to purchase them. In the next year, with better equipment, enlarged construction could be undertaken, resulting in an increase in or further demand for better tools, and at the same time, new means to pay for them. This spiral could continue through agricultural construction, crop processing, tool production, and the development
of ancillary occupations until agriculture was fully mechanized and fully modernized, with each step taken only in response to increasing labour shortages.

In other words, the Chinese model argues that only when the infrastructure for agricultural development—that is, the eight essential dimensions pinpointed by the Eight-Point Charter of Agriculture—is strengthened, with increased agricultural production and growing rural surplus, a supporting infrastructure for rural development—such as rural industries, health care and education system—could be developed fully to produce new inputs, capital, and skills necessary for a further development in agricultural production. The forces derived from the interplay and the interdependence of these two sets of infrastructure, according to the Chinese model, is the essence of rural development. The mechanism and dynamism of rural development is illustrated by Figure 5.

When the output of agriculture became the basic focus of planning, changes in the structure of production are necessary to carry out new combinations, to discover and establish new organization and reorganization of production; to raise productive capacity by introducing or acquiring new inputs (or new sources of inputs), new techniques to convert inputs into outputs; and to forge new linkages or to alter existing links between inputs and outputs. And this is what the people's commune attempts to accomplish, to create changes in the structure of the rural system rather than changes in scales,
Figure 5 Model of Rural Development in a Rural Commune System
to introduce qualitative changes rather than quantitative undertakings, and to achieve development rather than growth.

In development terms, commune organization brought about two types of structural changes essential to promoting the basic conditions of development: incremental change and innovative change. The former refers to changes resulting from extension and integration of markets and from the increase in persons' endowments possession of the various factors of production. This meant that when the local or peripheral markets were linked up with or absorbed into a national or central market, the scope of exchange could be extended—the market, technical knowledge, social and political support—and linkages could be set up to give the self-isolated village community a reliable and growing contact with the outside system. At the same time, however, development will not be facilitated if the endowments of production—individual or aggregate natural resources, capital, or skills—are not made somewhat more equal, at least in relative terms. Many scholars have pointed out that in the process of development, sectors and individuals with less resources always end up having their unequal relations not only reinforced, but often worsened. More equal distribution of resources, especially for those less endowed, is a basic precondition for getting started and achieving benefits in development.

Innovative change, on the other hand, refers to the establishment or the organization of new exchange relations which mobilize resources for productive collective enterprises. This means the creation of infrastructure and organization to provide external economies for various sectors and pattern their resource flows as
well as to facilitate the aggregation and utilization of resources for a particular sector.

One, however, cannot assume development is automatic even when conditions for development are favourable—expanded scope of exchange, establishment of linkages, increased resource endowments, organization of resource flows and infrastructure contributing to the predictability of resource flows, and mobility of resources and their convertibility. Crucial also is the strategy for development.

The Chinese strategy for rural development, at first glance, does not differ from any other design for development. Basically it is one of mobilizing resources and structuring resource flows to satisfy more needs of more people more adequately. On closer examination, however, the difference is that more attention is paid to the structures and processes of production and less to standard production functions and physical capital accumulation. In other words, their aims go well beyond the usual economic objective of maximizing the output of goods and services in the shortest possible time.

The Chinese strategy insists that development should be carried out by self-reliance, that is, the autonomy to set one's own goals and realize them as far as possible through one's efforts in regeneration rather than self-sufficiency or autarchy. In this, the use of local factors and resources is heavily emphasized because the output produced with others' inputs must be paid to others. Related to this is that even by using the admittedly meager initial
resources of the less well-endowed, when the returns from development go back to the many instead of the few, the factor endowments of the many will be correspondingly raised. Their strategy, thus, aims at changes in the parameters and the structures of production, a strategy that deliberately encourages the using and upgrading of the factor endowments of the majority, and increasing the productive capability of persons and groups by increasing their factors of production rather than a "growth" strategy which aims only at maximizing gross national economic product in a limited amount of time.\(^7\)

Self-reliance, however, is not the end. Rural development, according to the Chinese experience, should also be self-sustaining. This means that a self-supporting agriculture which can consistently provide surpluses for financing social overheads and services must be built up gradually. This is not only because people's expectations of what can be supported will become excessively inflated when the central government provides rural areas with water supply, drainage, buildings, and other facilities at little or no cost, but more importantly for a developing country, the government simply does not have the resources to finance the establishment, operation, and maintenance of rural infrastructure and services indefinitely.\(^8\)

Rural development in China, therefore, concerns itself more with the mobilization of under-utilized and unused resources rather that with the mere apportionment and utilization of given resources.
This idea certainly is nothing new. Their emphasis is, however, that such utilization and mobilization should not be treated as a mere function of physical capital or as a consequence of capital formation. The priority of development efforts should, to the Chinese, also be assigned to human and natural resources because only when these two factors are combined, can capital, the derived factor of production, be produced. And only when human resources are developed, can the exploitation of natural resources be more productive. Such a strategy is, then, one which does not aim at reducing "social" expenditure on health, education, etc. in favour of "economic" ones. Nor is it one geared to building up economic infrastructure at the cost of social and human infrastructure.

The Chinese strategy also demonstrated more of the "political" approach to development than the "administrative." This meant that it does not rely primarily on the efficient allocation of resources and activity; instead, it is based on the masses and oriented toward the majority rather than toward the few elites. In this, local patron monopolies which limit the growth of factor endowments of the majority can be brought under control and eliminated gradually.

The rural development programs implemented through the commune organizations in China, therefore, are integrated ones aiming at more than increasing agricultural development. They are programs also aiming at inducing technical change, institution building, and, most
important, a redefinition of the rural-urban or rural-industrial relationship. Instead of perpetuating the unequal structural relationships between rural and urban (or core and periphery), decision-making is decentralized to create a new pattern of interaction and decisions across the sectoral space. In place of the continued of draining off and extraction of resources and surpluses from the rural into the urban centers, the structural changes in ownership of productive assets, and in the structure of production and policy decision-making are designed to generate as well as to encourage retention and reinvestment in the rural region. Even technology diffusion and idea-flow are being recomposed and redirected to emphasize equal exchange and learning rather than urban imposition and rural imitation. Rural development, thus, is viewed as an essential part of the development of the total society and not as an isolated sectoral, short-term selective development aiming at increasing the performance and complexities of a particular institution.

In view of the current re-examination of development theories and concern of alternative strategies for development, the Chinese development experience also has its relevance. Its development model suggests that the economic consequences of a nation are consequences of the particular social structure of the nation reinforced by the policy measures introduced by the government. This is because governments are part of the society and respond to pressures
exerted by those who possess political and economic power. A manifestation of such pressures, much discussed in recent years, is the alleged 'urban bias' of many economic policies, as witnessed, for example, by the low proportion of total investment devoted to agriculture, the emphasis on import-substituting industrialization and the subsequent slow growth in per capita food availability. The Chinese experience points out that while there is undoubtedly truth in this claim, many policies have just as much of a class bias which cuts across the sectoral divisions of the economy as a locational or sector basis. This is because the majority of the poor people, as in the case of China and in other developing nations, are peasants living in the rural areas; and the surplus they generated have always been extracted. Their model, thus, suggests that not only an 'urban bias' strategy for development needs to be corrected, but more importantly, a 'rural bias' and a class-oriented strategy is necessary for development. In the case of China, then, their development design reflects a firm commitment on the part of the government, not just to destroy an exploitive system, but also to provide inputs and leadership to a peasantry, and the masses who never had this before, and to build a complex institution, a comprehensive network which not only increases agricultural production but also improves the social well-being of the majority of the population. The design is also one which provides an institutional framework in which peasants and the masses can have sustained
participation instead of eruptive involvement. It recognizes that only when the peasant masses have seized power are they motivated to articulate their aspirations fully and to develop their political perspectives, their consciousness, and to become a force in rural development as well as development as a whole. It is with such a perspective that the Chinese collective model of rural development proved most vital.

We have to note, however, the Chinese development model is one which is always evolving and constantly changing. The recent changes in the power structure in the central government and its policies certainly will create reverberations in its development design. To Bettelheim, the policies implemented, including the emphasis on the program of "four-modernizations"--agriculture, industry, national defence and science and technology--have already reflected a revisionist orientation which stresses economism, elitism, the placement of enterprise benefit (Bénéfice d'Entreprise) over social benefit (Bénéfice Social) and the eventual evasion in dealing with the contradictions inherent in a transitional socialist society.13 Others also raised questions on the possible consequences might have on rural development: because of the emphasis on development in heavy industry, the importation of foreign expensive technology, and the strengthening of forces for national defence, does it mean that funds for agricultural development will be more
scarce and consequently rural development will be severely affected? Because of the strong emphasis on science and technology, key schools have been restablished in the cities with better facilities and teachers, and that admission into university is no longer granted to peasants solely on the basis of his class background and political attitudes. Does it mean that elitism will re-emerge? And that the differences between urban and rural area will be reinforced rather than resolved?

These are undoubtedly valid questions and concerns over the future and direction of China's development. We feel that, however, any kind of pessimism and conclusive observations at this stage are unwarranted. This is not only because little is known how the policies under the "four-modernization" program are actually changing the overall direction and the core of the development model of China; nor will the effect of such policies on China's path of development be able to be seen fully and systematically until a much later time; but more importantly it is, on the Chinese road to socialism, in their process of attaining a higher level of development, a new set of contradictions are presented and new ways of handling these contradictions are necessary. And it is precisely now, China is embarking on a new dialectical process to explore and examine, to invent and to modify various ways and means to realize its objectives. It is because of their experiences and their examination of their own experiences, we are able to recognize more of the weaknesses and
strengths of existing development designs, and to explore further alternatives and possibilities. And perhaps, this is what is most valuable and what we can gain most from.
CONCLUSION

NOTES

1 Collectivization in China was implemented before mechanization. The implication is that collectivization was made into a precondition for rural development in China. In Mao's words, "... socialist industrialization cannot be in isolation from the cooperative transformation of agriculture. ... In agriculture, with conditions as they are in our country, cooperation must precede the use of big machinery. ..." See Mao Tse-tung, "On the Cooperative Transformation of Agriculture" in Selected Works of Mao Tse-tung, Vol. 5 (Peking: Foreign Language Press, 1977), pp. 196-197. See also his discussion on collectivization and mechanization in "reading Notes on the Soviet Union's Political Economy," in Mao Ze-dong Si-xiang Wan-sui (Long Live the Thought of Mao Tse-tung), Vol. 1967 and 1969 (Hong Kong: I-shan Bookstore, 1975 reprinted), pp. 185-186; 218-219 (in Vol. 1967) and pp. 337-338; 369-370 (in Vol. 1969).

2 Xu Di-xin, "Lun Nong-ye Zhai Guo-min Jing-ji Di Di-wei Huo Fa-zhan Sheng-chan Di Guan-jian" (On the Position of Agriculture in the People's Economy and the Key to the Development of Agricultural Production) in Jing-ji Yen-ji (Studies in Economics), Vol. 12, December 17, 1962, pp. 1-10. Also, Zen and Lu, op. cit.


5 The example of "dualism" is illustrative of such situation. See Keith B. Griffin, "Reflections on Latin American Development" in Uphoff and Ilchman, op. cit., pp. 203-212.

7 This switch from "sectors" to "people," from the high abstractions and generalities of "economic growth" to the immediate, concrete and critical needs of human beings, in Ward's term, is also a strategy for people. See Barbara Ward, "A 'People' Strategy of Development," *Communique on Development Issues*, Overseas Development Council, No. 23, 1974.


APPE N D I X
This dissertation represents a case study of the Pearl River Delta area in the province of Guangdong. In view of the nature of available data on rural development in China, that is, in most cases, they are scattered and incomplete, a case approach is most appropriate. This is because it would help to focus better the collection of data, and in turn, would enable a more thorough analysis, although chances are that gaps of vital information are inevitable.

The selection of the area of this study is also a deliberate one for reasons quite commonly known among scholars working in the field of China. Generally, access to information from Guangdong province, and especially from the Delta area are much easier and thus more abundant than other provinces because of its physical proximity to Hong Kong. Visitors' information, radio reports, newspapers articles as well as government documents, all somehow can be pooled and picked up in Hong Kong. At the same time, because of its physical proximity to Hong Kong, it offered an easier access for the researcher to make personal visits.

The bulk of the information in this dissertation is document research. The library research work was conducted mostly in the libraries of UBC, the Library of Congress at Washington D.C., and
the invaluable library of Union Research Institute in Hong Kong. The sources consulted in this research covered materials written in various languages—Chinese, English, Japanese and to a small degree, French. They are also of various forms—books, newspapers, booklets, yearbooks, journals, and documents—and were published in various countries.

Of special importance to this research is of course source from the mainland China. The mainland press, especially Nan-fang Ri-bao, the regional government newspaper of Guangdong, and various other ones which were clipped and stored systematically in the files at the Union Research Institute, are especially helpful in informing us of the government policies on agricultural development, their momentary concern with particular issues and ways of dealing with problems encountered in the process of agricultural production in the Guangdong delta area. Their reports on and investigations in various communes as well as articles of political thought clearly emphasized how things ought and ought not to be done, and they laid out the general direction and principle of rural development.

In the same way, the SCMM (Selection from China Mainland Magazines), SCMP Selection from China Mainland Press) and JPRS (Joint Publications Research Service) are also useful in that they extend the coverage of sources to magazines and other publications.

At the same time, another valuable source of information is the "small" publications. They are sometimes series of supplementary
readings for political night-schools in the villages and for rural cadres; they are also pamphlets published regionally and in the form of simplified talks on agricultural production and mechanization, explaining more in detail the specific directions and ways to organize production, rural construction and mass movements.

These publications and the newspapers are often aiming at reaching and addressing to the grass-roots: the peasants, the workers, and the lower-level cadres, they are thus more concerned to express or to report in memorable slogans and down-to-earth style of writing than in sophisticated statistical tables although they do give relatively simple statistics in their presentations at times. The lack of comprehensive statistics, and the discontinuity of annual statistical figures, however, remain a problem--they still make comparison and charting trends often difficult.

It is here the secondary sources of yearbooks, scholarly books and journals proved to be most helpful. Among the different yearbooks, two deserve special attention. The Japanese published *Shin-ohugoku Nenkan* 新中国年鑑 (New China Yearbook) represents an amazing amalgamation of information on various aspects of agricultural and rural development in China with comparative statistics from various sources and reports. Although their coverage is mainly nationally oriented, information on Guangdong is abundant. The Taiwan published *Zhong-gong Nian-bao* 中共年報 (Yearbook on Chinese Communism), on the other hand, provides to a certain extent, helpful chronology of events, statistics
related to agricultural development and communes, and reviews of recent rural development with major related government-issued documents. Of course, one has to note the bias of the ROC military intelligence in their analysis.

The recent China "trip-books" also offered interesting sources. Although they commonly have many short-comings from simple mispelling to the inevitable limitations of the brief experience for making generalizations, and that their trip itenaries are so standardized that much of what is written might not be able to present new and useful insights, as pointed out by Whyte, they nevertheless enable us to compare the discrepancies and the convergence of their impressions.

While most of the sources discussed could provide much of the macroscopic and general information to our research, the microscopic details of rural development such as the mechanisms for bringing about change, how conflicts and disruptions are minimized, and the daily experience of the peasants in rural production are left unexplored. In-depth interviews of both former and present residents of the People's Republic of China are necessary. A total of twenty informants were consulted for this research during the summer of 1977. Most of the informants were emigres residing in Hong Kong, and all of them were from the Guangdong delta area. It is a well-known drawback that most emigres informants would display a negativeness or positiveness towards China, and that many of them who were willing to give information
and to be interviewed had been either well-exhausted by scholars doing research on China in Hong Kong, or had become professional informants giving only fabricated information. The informants contributed to this research, however, are relatives and friends of this researcher's own relatives and friends. Such connections provided not only an immediate trust to the informants for this researcher, but also created an immediate ease for the researcher to probe more delicate questions and to obtain minimally distorted answers.

A list of questions was prepared to find out the background of each informant--their name, village of origin, age, sex, education, class status, work experience, service in cadre posts or in Party, etc., members of family still in China, when and how did the informant leave China. They were also asked if they had any experience of severe struggle, confinement to labour reform, and their experience living in Hong Kong. Each informant was interviewed alone, and often more than once. Notes from the interviews were rewritten within twenty-four hours.

A brief personal trip to the villages in the delta area was also made during the last two weeks of July 1977, and interviews with residents from these communes were also arranged. Much of the statistics for various communes noted in the text of this research were collected through these interviews. While the trip was a bit too brief to conduct any kind of research, it nevertheless provided
an invaluable experience to familiarize the daily life and personal interaction of the people in their rural Chinese context, thereby, increasing the researcher's empathy, understanding, and interpretations of the rural situation in Guangdong.
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