



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

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

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

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

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

PROCEEDINGS

45th Annual Meeting

WESTERN AGRICULTURAL ECONOMICS ASSOCIATION

Logan, Utah  
July 23, 24, 25, 1972

Samuel H. Logan, Editor

# SOME PERSPECTIVES ON CHINESE AGRICULTURE

Chairman: R.J. McConnen, Montana State University

## ORGANIZATION OF CHINESE COMMUNIST AGRICULTURE AND SIZE OF ITS PRODUCTION UNITS

Frederick W. Crook  
Foreign Demand and Competition Division  
Economic Research Service, U.S. Department of Agriculture

### The Institutional Structure of Chinese Agriculture

To Western observers one of the most intriguing things about Chinese agriculture is the fact that it has an institutional structure very different from our own. This has resulted from a concerted drive by Chinese Communist Party (CCP or Party) leaders to refashion China's agriculture in a collective mold. The major steps in this socialist transformation process can be briefly outlined.

Prior to 1953 virtually all farming was done by individual landowners and tenant farmers. Today only a small number of peasants living in isolated regions of the country separately carry on private agriculture. It should be noted, however, that members of the government-controlled collective farms are allowed to farm small plots of land for their private use. Products from these private plots constitute a small part of total agricultural output, but the output is nevertheless very important to supplement the peasant diet and to raise peasant living standards "from the margin of subsistence to tolerable levels" [28, pp. 40-41].

Land reform, the first phase of the transformation, began in areas under Chinese Communist control even before the establishment of the People's Republic of China (PRC) in 1949. The land reform program destroyed the political power of landlords -- identified as the class enemy by the CCP -- by severing the links which bound tenants to landlords. Millions of hectares of land were redistributed to millions of poor peasants. The pattern of ownership and economic decision making, however, remained as before land reform, with the individual peasant. With the completion of land reform in 1953, the CCP commenced a socialization program which did change ownership and decision-making patterns.

In the second phase, the Party organized peasant households into "mutual aid teams". Initially several peasant households were organized into a mutual aid team for a season to plant or harvest a specific crop. Labor, tools, and draft animals were exchanged between households in these seasonal teams. Later, the peasants in several seasonal mutual aid teams, or 3 to 10 households, were organized into year-round permanent mutual aid teams, which had a leader and an accountant if one could be found. Peasants retained ownership of the means of production in permanent mutual aid teams, but some economic decisions began to be made on a collective basis and some units did accumulate capital equipment.

In the third phase, the Party organized several permanent mutual aid teams, or 20 to 30 households, to form semi-socialist agricultural producer cooperatives. These institutions were formed on a permanent basis and each had a chairman, committees, and accountants. Households gave land and capital to the agricultural producer cooperative (APC) and were remunerated for their land shares and labor contributed to production. In theory, members were supposed to have had some influence in making major farm decisions as they were members of the "Congress of Members" which approved major policy issues. In fact, the chairman exercised great influence and made day-to-day decisions.

In the fourth phase, the Party organized several semi-socialist APC's, or 100 or more households, into a collective farm. From the "Congress of Members" peasants "elected" their own administrators, a chairman and assistants, a management committee, and a control committee. To promote production and administrative efficiency, the labor force was divided into production brigades which were further subdivided into production teams. Farm management decisions were made by farm chairmen who were heavily influenced by the Party. Unlike semi-socialist APC's which in effect paid rent to their members for land shares contributed, collective farms dropped payment of rents, and remunerated members solely on the basis of labor. In the labor-day work-payment system, peasants were given larger or smaller

share in the collective profit depending upon the amount of labor they had contributed during the year.

The system was organized as follows: as peasants worked they were credited with labor days according to the amount and quality of work accomplished.<sup>1/</sup> At the end of the agricultural year, the gross income of the collective was totaled, deductions were made for production costs, taxes, and capital accumulation, and the resulting net income was then divided by the total number of labor days credited to all of the peasants and staff of the collective to determine the monetary value of a single labor day. The net income was then distributed to individual peasant families according to the number of labor days they had earned as recorded in the collective accounts.

In addition to producing goods and services, collective farms also distribute goods. Collective farm administrators implement an agricultural tax system which annually delivers about 10 percent of the total agricultural output to the Chinese Government [11, p. 342]. They also implement the "State Procurement System" in which collective farms are required to sell to the State most of their output in excess of seed, fodder, and consumption requirements. A small portion of output leaves the agricultural sector through black markets and State-controlled markets. Finally, they distribute income in cash and kind to their members.

Of the three agricultural organizations in Communist China -- private, collective, and State farms -- the collective farm is the most important. The preponderant portion of the Chinese agricultural output is produced on these farms which control the dominant part of the labor force and cultivated land. Moreover, the bulk of the agricultural product is distributed by collective farms to compensate their members for the labor they contributed to production.

A modification of the collectivization phase occurred when Rural People's Communes (RPC's) were established in the fall of 1958. RPC's with 1,000 to 5,000 households were formed by merging scores of collective farms. Many organizational patterns existed in RPC's, but in general there were three administrative levels. The production team, which corresponded to the old production brigade in the collective farm, was the lowest level. The new production brigade, which corresponded in size to the former collective farm, was the middle level. The highest administrative level was the commune. Production and distribution decisions were made at this level.

The means of production in RPC's continued to be collectively owned. Like collective farms, RPC's continued to be concerned primarily with agricultural production. But unlike collective farms, RPC's undertook industrial and commercial projects and had governmental, political, educational, and military responsibilities as well. The distribution system used in collective farms was abandoned, and goods and services were distributed to commune members on the basis of labor and need.

A series of reforms from 1959 through 1961 changed RPC's as established in 1958. The three-level administrative structure was retained; the RPC's continued political, administrative, educational, and military functions; and they continued commercial and industrial projects. But by 1962 production and distribution decisions were made at the production team level rather than at the commune level. And by 1962 the income distribution system of remuneration according to labor and need was abandoned, and the old collective farm labor-day system was re-established.

In the fifth and final phase, nearly all of it still presumably a matter of the future, collective farm members are to be organized into State farms. These latter institutions are considered to be superior to other agricultural institutions because (1) the means of production are owned by all the people, hence there is no "foundation for exploitation"; (2) the Party, through government ministries, controls production and distribution decisions, and (3) State farm workers are wage earners, i.e., they are true agricultural proletarians in contrast to collective farm members who are still part-owners.

The number of State farms increased from 18 in 1949 to approximately 2,000 in 1965. In spite of their rapid growth, the area cultivated by such farms in 1964 was less than 4 percent of total cultivated land; the grain output of State farms as a proportion of total output was 1 percent; and the population on State farms was less than 2 percent [11, p. 95]. In the past few years there have been no signs from the authorities indicating that they intend to increase the pace in this phase. Despite the fact that the final phase has

barely started, the Chinese leadership generally considers that the socialist transformation has been completed.

Table 1 below indicates the rapid pace with which this transformation took place. In the space of four years from 1953 to the end of 1956 nearly all agricultural households were in collective farms.

Table 1. The Development of Socialist Agriculture<sup>a/</sup>

Year	Seasonal mutual aid team	Permanent mutual aid team	Some socialist APC	Collective	Rural People's Communes	Percentage of peasant households in socialist agricultural units <sup>c/</sup>
1950	2,097,000	627,000	18	1	--	10.7
1951	3,600,000	1,075,000	129	1	--	19.2
1952	6,270,000	1,756,000	3,634	10	--	40.0
1953	5,634,000	1,816,000	15,053	15	--	39.5
1954	6,130,000	3,801,000	114,165	201	--	60.3
1955	3,975,000	3,172,000	633,213	529	--	64.9
1956	--	--	682,000 <sup>b/</sup>	312,000 <sup>b/</sup>	--	96.3 <sup>b/</sup>
1957	--	--	72,022 <sup>b/</sup>	680,081 <sup>b/</sup>	--	97.0 <sup>b/</sup>
1958	--	--	--	--	26,578 <sup>c/</sup>	99.1 <sup>c/</sup>
1959	--	--	--	--	24,000 <sup>d/</sup>	n.a.
1960	--	--	--	--	n.a.	n.a.
1961	--	--	--	--	More than 26,000 <sup>e/</sup>	n.a.
1962	--	--	--	--	n.a.	n.a.
1963	n.a.	n.a.	n.a.	n.a.	n.a. <sup>f/</sup>	n.a.
1964	--	--	--	--	74,000 <sup>f/</sup>	95.0

a/ All sources except those specifically marked are from State Statistical Bureau, Agricultural Statistics Section, Nung-yeh ho-tso-hua ho 1955-nien nung-yeh sheng-ch'an ho-tso-she shou-i fen-p'ei ti t'ung-chi tzu-liao (Statistical Data on Agricultural Cooperativization and the Distribution of Income in Agricultural Producers' Cooperatives in 1955), Peking, 1957, pp. 9-11. Single totals were given for mutual aid teams in 1950, 1951, and 1952. These totals were allocated to seasonal and permanent teams in the same proportion as in 1952 and 1953.

b/ "China's APCs Achieved Great Results in Past Six Months," New China News Agency, Peking, July 4, 1957; translated in Survey of China Mainland Press, No. 1573, July 19, 1957, pp. 23-25.

c/ State Statistical Bureau, The Ten Great Years--Statistics on Economic and Cultural Achievements in the People's Republic of China, Peking: Foreign Languages Press, 1960, pp. 36, and 43.

d/ Chia Ch'i-yun, Director of the State Statistical Bureau, "Superiority of People's Communes Analyzed," New China News Agency, English, Peking, September 25, 1959; in Survey of China Mainland Press, No. 2107, October 1, 1959, pp. 34-36.

e/ Lo Keng-mo, "Nung-ts'un jen-min kung-she hsien chieh tuan te hsing-chih" ("The Nature of Rural People's Communes at Present"), Kung jen jih pao (Workers Daily), July 19, 1961, p. 3.

f/ Liu Kuo, "74,000 People's Communes in China," Ta Kung Pao (Impartial Daily), Hong Kong, September 17, 1964; translated in Survey of China Mainland Press, No. 3307, September 29, 1964, pp. 14-19.

#### The Size of Production Units

There are many aspects of this socialist transformation process which merit much more investigation, but the size of production units and its relationship to agricultural incentives has too long been neglected [1, 15, 23, 24]. Several measures, such as size of

income, acreage, and number of workers employed, can be used to determine farm size. The Chinese Communists, acknowledging the supremacy of labor in production, measured the size of socialist agricultural units in terms of households.<sup>2/</sup> Table 2 presents data on changes in size of socialist agricultural units.

Table 2. Average Number of Households per Type of Socialist Agricultural unit a/

Year	Seasonal mutual aid teams	Permanent mutual aid teams	Semi-socialist farms	Collective farms	Rural People's Communes
1950	n.a.	n.a.	10.4	32	--
1951	n.a.	n.a.	12.3	30	--
1952	5.4	6.5	15.7	184	--
1953	5.7	7.3	18.1	137.3	--
1954	6.2	8.1	20.0	48.6	--
1955	6.9	10.4	26.5	75.8	--
1956	--	--	51.1	246.4	--
1957	--	--	--	170.6	--
1958	--	--	--	--	--
1959	--	--	--	--	--
1960	--	--	--	--	--
1961	--	--	--	--	4,600 <sup>b/</sup>
1962	--	--	--	--	5,100 <sup>c/</sup>

a/ State Statistical Bureau, Agricultural Statistics Section, Nung-yeh ho-tso-hua ho 1955-nien nung-yeh sheng-ch'an ho-tso-she shou-i fen-p'ei ti t'ung-chi tzu-liao (Statistical Data on Agricultural Cooperativization and the Distribution of Income in Agricultural Producers' Cooperatives in 1955), Peking, 1957, pp. 9-11. Liao Lu-yen, "I-chiu-wu-chiu-nien nung-yeh chan-hsien te jen-wu" ("Tasks at the Agricultural Front in 1959"), Hung ch'i (Red Flag), No. 1, January 1, 1959, p. 14.

b/ State Statistical Bureau, The Ten Great Years--Statistics on Economic and Cultural Achievements in the People's Republic of China, Peking, Foreign Language Press, 1960, p. 43.

c/ Chia Ch'i-yun, Director of the State Statistical Bureau, "Superiority of People's Communes Analyzed," New China News Agency, English, Peking, September 25, 1959; in Survey of China Mainland Press, No. 2107, October 1, 1959, p. 34.

Data presented above indicate that the general trend in the period under study has been one of increasing size of agricultural units. This seems to substantiate the common Western conception that the Chinese countryside is dominated by massive communes. In a sense, this is an accurate picture, but in another very real sense, it is not. The key to this paradox lies in understanding the term "production unit". The term is used in this paper to refer to the accounting unit responsible for calculating profit or loss, for making production decisions, and for distributing income. A socialist agricultural unit, such as a RPC, might have 10,000 households, but because the production team, a sub-unit of the commune, calculated profit or loss, made production decisions, and distributed income, the actual size of the production unit might only be 20 households. Thus an entirely different picture emerges if one charts changes in size of "production units" during the same time period (see Table 3).

The underscored figures in the table indicate the kind of socialist agricultural unit in which most peasants worked that particular year. After 1955, according to the data in Table 3, there was an increase, a following decrease, then a very large increase, and finally dramatic decrease in the average size of production units. The balance of the paper attempts (1) to explain some of the reasons for the fluctuations in the size of production units, and (2) to assess the effect these changes had on production and overall development strategy.

Table 3. Average Number of Households per "Production Unit"

Year	Seasonal mutual aid teams	Permanent mutual aid teams	Semi-socialist APC's	Collective farms	Rural People's Communes
1950	1	1	10.4	32	
1951	1	1	12.3	30	
1952	1	1	15.7	184	
1953	1	1	18.1	137.3	
1954	1	1	20.0	58.6	
1955	1	1	26.5	75.8	
1956	--	--	51.1	246.4	
1957	--	--	--	170	
1958	--	--	--	--	4,600
1959	--	--	--	--	5,100
1960	--	--	--	--	100 - 400
1961	--	--	--	--	100 - 400
1962	--	--	--	--	20 - 30

1953-1956: State Statistical Bureau, Agricultural Statistical Section, Nung-yeh ho-tso-hua ho 1955-nien nung-yeh shang-ch'an ho-tso-she shou-i fen-p'ei te t'ung-chi tzu-liao (Statistical Data on Agricultural Cooperativization and the Distribution of Income in Agricultural Producer Cooperatives in 1955), Peking: Statistical Publishing House, 1957, p. 10.

1957: Liao Lu-yen, "I-chiu-wu-nien nung-yeh chan-hsien te jen-wu" ("Tasks at the Agricultural Front in 1959"), Hung-ch'i (Red Flag), no. 1, January 1, 1959, p. 14.

1958: State Statistical Bureau, The Ten Great Years--Statistics on Economic and Cultural Achievements in the People's Republic of China, Peking: Foreign Language Press, 1960, p. 43.

1959: Chia Chi'i-yun, Director of the State Statistical Bureau, "Superiority of People's Communes Analyzed," New China News Agency, English, Peking, September 25, 1959; in Survey of China Mainland Press, No. 2107, October 1, 1959, p. 34.

1960-1961: Ch'en Chang-jen, Deputy Director, Rural Work Department, Chinese Communist Central Committee, "Systems of Ownership and Distribution in People's Communes," Jen-min jih-pao, Peking, October 18, 1959; translated in Survey of China Mainland Press, No. 2125, October 28, 1959, pp. 3-13. Ch'en does not cite statistics but does note directives limited the size of units.

1962: Ho Yu-wen, "Kung-fei nung-ts'un jen-min kung-she hsien-chieh-tuan te t'ichih yen-chiu" ("A Study of the Structure of the People's Communes in Rural Areas at the Present Stage"), Ta-lu fei ch'ing chi-pao (Mainland Intelligence Quarterly), July-September 1964, Taipei, Chinese Nationalist Party Central Committee, Section 6, October 1964, 16 pages. On page 3 Ho notes that the Central Committee, CCP, issued a directive "I shen-ch'an-tui wei chi-pen ho-suan tan-wei te chih-shih" ("Directive to Make the Production Team the Basic Unit of Account"). A survey of press releases since 1961 reveal that production teams usually had about 20-30 households. Also see C.S. Chen, editor, Rural People's Communes in Lien-chiang, Stanford, California: Hoover Institution Press, 1969, pp. 5-8.

The Size and Structure of Socialist Agricultural Units, and "Production Units," 1955-1962: A Case Study of the "Three Contract System"

The size of farm units is affected by factors such as climate, soil type, capital, technology, labor supply, management skill, dominant cultural and political beliefs of a community, and incentives. No attempt will be made in this brief paper to give equal treatment to all these factors as they relate to unit size in China. Instead only those factors related to the "production-labor cost contract" incentive system will be discussed. Hereafter, the term "Three Contract System" (San-pao i-chiang) will be used to refer to this system. The findings presented below are based upon post-doctoral research study of the "Three Contract System" [7, 8].

Prior to collectivization, members of peasant households labored on their own (and/or rented) land to raise crops and animals which were distributed to such members after fulfilling government grain tax obligations, production costs, and rent. Disparities in income between families existed due to differences in (1) quality and quantity of land and labor under their control, (2) household choices between investment and consumption, (3) motivation of labor force and management, and (4) levels of technology. These production and distribution relations, as noted earlier, were fundamentally altered when collective farms were organized.

The Party leadership developed a new incentive model to replace traditional incentives inherent in the ownership of land. According to Marxist theory as adapted by Chairman Mao, collective incentives would prove much stronger than individual incentives once the transition to socialized agriculture was completed. The Party leaders also recognized that the change to collective incentives would require a fundamental reorientation in peasant attitudes and values which could not be accomplished overnight. In the interim, the Party proposed to make use of both material and nonmaterial incentives. The principal material incentive was a share in the profits from the collective farm. The nonmaterial incentives included such devices as selecting and honoring "model" peasants for outstanding production or other contributions to the welfare of the collective and inducing component production units within a collective to engage in competition with each other, the winners to be awarded red flags or other symbols for their achievement. In the long run, the Party hoped the nonmaterial incentives would become preponderant, and the material incentives could be minimized or done away with altogether.

The material rewards peasants received in the collectives were determined in part by such factors as the quality of the collective land, the cost of production inputs such as tools and fertilizers, and the size of the private plots that collectivized peasants were permitted to farm for their own personal advantage. The incentive value of these rewards was also affected by the availability and prices of consumer goods the peasants could purchase with their share of the collective earnings. The most important factor in the material incentive system was the fact that peasants were given larger or smaller shares in the collective profit depending upon the amount of labor they had contributed during the year.

This new incentive program encountered several difficulties -- problems related to differing productivity rates among production brigades, the labor-day work-payment system, and peasant attitudes.

The Party normally mobilized peasants from several villages in establishing collective farms. Peasant households were seldom transferred from one area to another in the collectivization process, so that village neighbors more likely than not ended up in the same production brigade. Upon entering the collective farm, households within production brigades gave up their ownership and control of their means of production to the collective farm. The quality of land contributed by households in the various production brigades often differed due to natural endowment, i.e., nearness to water, soil type and fertility, and previous capital investment of individual owners. Production brigades also differed in the efficiency of administration, motivation of the labor force, and knowledge of technology. Because of these elements, production varied from one brigade to another.

The essence of the labor-day work-payment system, as described earlier, was that it remunerated peasants according to the labor they contributed to production. With this system of income distribution, households in rich production brigades soon found that more rice left their village during the production year than was returned to them at the end of the year. At the same time they saw that some poorer brigades produced much less than they, and yet received a disproportionate amount of grain in relation to what they had produced. The reason for this phenomenon was that the system of distribution rewarded individuals for the labor they contributed to production, not output or productivity. The emphasis this system placed on labor meant that a brigade which produced little, but used much labor, received more reward than an efficient brigade which produced much, but minimized labor input. This distribution system did not recognize the fact that the productivity of brigades might be due to better land, better management, better motivation, and better use of technology.

Certainly collective farms were socialist institutions. It does not follow, however, that with the organization of socialist units, members of these institutions automatically changed their past bourgeois attitudes to those considered socialist or communist. If such a change of attitudes had occurred, then members of rich brigades would not have been



concerned with sharing their incomes with their brothers in poorer brigades, and there would have been no conflict between brigades over income. Present evidence indicates that such a transformation of attitudes did not occur. A People's Daily editorial expressed the state of peasant attitudes as follows:

The overwhelming majority of members of cooperatives still retain the ideological consciousness of individual peasants, and so in both lower and higher cooperatives, the struggle between individualism and collectivism continues to exist. As an example, many members seek to take advantage of the cooperatives, many members do not treasure the common property of the cooperatives and intentionally or unconsciously damage and lose farm tools belonging to the cooperatives. Even among members with higher ideological awakenings who labor with active enthusiasm, ideological questions are still to be found [6, p. 5-6].

The Party found that incentives and production declined in collective farms in which productivity rates differed sharply within the same unit, the labor-day work-payment system distributed income on the basis of time put into production, and peasants were reluctant to share income with their neighbors. By 1954 and 1955 some Party members recognized these problems in collective farms and recommended that the three-contract system be employed to overcome incentive difficulties and to insure the viability of large-sized production units. To establish this system, collective farms first assigned farm workers, land, and equipment to production brigades and then made contracts with them covering labor, production, and costs. For example, a collective might contract with its number one brigade to award it 10,000 labor days, if the brigade raised 200 tons of rice within prescribed cost limits. Extra labor days or a percentage of the actual produce in excess of the production contract was added as a reward if the unit overfulfilled its contract [12]. Production brigades had the responsibility of distributing labor days or produce from the collective to its own members.

From 1955 through early 1958 Government and Party organs encouraged collective farm cadres to establish the three-contract system. The system was established in many farms, but a number of factors limited its effectiveness. First, contrary to Mao's assertion in 1955 that accounting personnel could be recruited and trained, there continued to be an absolute shortage of well trained highly motivated cadres [13, p. 451]. Many basic level cadres had gone to school an equivalent of only three to four years. Many could not add or subtract, and some could not multiply or divide. Training programs generally failed to provide adequate training for these cadres because of shortages of trained instructors, scarcity of teaching materials, and lack of funds. Moreover, basic level cadres often left their posts for more lucrative posts in Government, the Party, or industry [9]. As a result collective farm labor records and financial accounts were not accurately kept, making it impossible to employ effectively the three-contract system [29, 32]. Second, the paucity of basic records concerning crop production yields for plots of land [17] and the tendency of higher echelon cadres to set production targets for collective farms meant that production contracts were often impossible to fulfill [12]. Third, production brigades circumvented the three-contract system method by underreporting production. When production brigades made production contracts to produce 600 catties (1 catty equals 1.1023 pounds) of rice per mou (1 mou equals .1647 acres), raised 660 catties, but in fact only reported a yield of 580, they obtained for themselves a substantial reward. Underreporting also rendered the system ineffective, as rewards were not based on production, but on which brigades were willing to undertake the risks involved in underreporting [4, p. 22].

Coincident with the general failure of collective farms to implement effectively the three-contract system and hence to reward production brigades came Party directives to reduce the size of collectives. In 1956 the Party stated

according to current experiences, villages in which there is great difference in the distribution of land, in the levels of income, and in the nature of production and management should not be incorporated into one cooperative under present circumstances, because this will be detrimental to both production and the consolidation of the cooperative concerned [10, p. 20-21].

Again in the fall of 1957 the Party said that on the basis of the past two years of experience, big collectives "are generally not suited to present production conditions..." and suggested that the size of collective farms be limited to 100 households [3].

In the Great Leap Forward movement of 1958, production unit size was greatly enlarged, and the incentive system was changed. The new system emphasized non-material incentives, and replaced the labor-day system with a wage-supply system, which was based on the socialist principle of "remuneration according to labor" and the communist principle of "remuneration according to need". Peasants were to be graded on the basis of their physical capacity to work and attitudes and were to be paid a monthly money wage based on their wage rate per day and the number of days they worked [5]. A major portion of peasant income, food, shelter, and clothing, however, was to be supplied free of charge, with quantities for each individual determined on the basis of need [27].

Within several months after the establishment of the communes, the Party issued instructions to curb the use of the supply system [16, 19]. Moreover, by the spring of 1959 a press article urged communes to re-establish the three-contract system [20] in order to provide rewards for production brigades which at that time had several hundred households. The shift in incentive policy emphasizing non-material incentives, and utilizing the new wage-supply system, did not succeed as planned in providing incentives to peasants in productive brigades. This meant that pressures built up in communes to reduce the size of the production unit. In August 1959, a year after communes had been established, the Central Committee of the CCP formally acknowledged the fact that the commune as a production unit was too large a unit, and issued a directive making the brigade the production unit [22].

The brigade, the production unit from August 1959 to November 1961, was somewhat larger but still comparable in size to collective farms in 1956 and 1957. The Party continued to urge brigades to employ the three-contract system [21]. But these production units were no more successful in their second attempt to implement the three-contract system than their first. The same factors which limited the effectiveness of the systems in the earlier period operated again in this later period. Brigades continued to have difficulties establishing and operating effective labor record keeping and financial accounting systems [30]. Higher echelon cadres continued to interfere in the setting of contracts. And production teams, the sub-units of brigades, continued to underreport production [26, 31].

The failure to properly implement the three-contract system meant falling production and flagging incentives, and once again pressures were generated to reduce the size of the production unit. In November 1961, the Central Committee of the CCP, finally issued a directive making the production team, with 20-30 households, the production unit. At the same time the Party ceased its press barrage urging units to employ the three-contract system. Presumably the teams were of such a size that an equilibrium point was reached in which peasants were satisfied with income distribution among members of a small familiar group. The Party has not tampered with the size of this unit established in 1961. The team, the production unit, to date still has a size of 20-30 households, and is comparable in size to the semi-socialist APC's organized in the early 1950's [33].

#### Conclusion

Chinese Communist Party leaders formulated their general economic development strategy, using the Soviet Union's experience as a model, which called upon the agricultural sector to feed both the agricultural population and the industrial proletariat, and to supply much of the capital for purchasing key industrial items abroad. The Party believed that national goals could be realized only if heavy industry was rapidly developed. This depended on dynamic agricultural growth which in turn depended in part on the successful establishment of large-sized collective farms [18].

The Chinese Communists were able to establish giant socialist agricultural units which continue to exist at present. They were not able to organize effective production units on the same scale. Evidence presented in this paper corrects the misconception that with the establishment of communes, the size of the socialist agricultural units coincided with the size of production units. Moreover, it establishes the fact that the predilections of Chinese Communist leaders for massive units on one hand, and the inability to motivate peasants and to produce effective management, on the other hand, were significant elements which explain the fluctuations in the size of production units from 1955 through 1962.

Poorly motivated peasants, working in mismanaged mammoth production units, adversely affected production. Low rates of agricultural growth occurred in 1956 and 1957, and actual declines in production occurred in 1959-1961 -- both periods in which these enormous

institutions were operating. These declines and losses in production dampened the enthusiasm of Chinese leaders for such units.

Because of the lack of motivation of peasants and effective management, the Chinese leadership found that they could not organize the agricultural sector into such expansive units. The anticipated increases in production from such units, which was a critical element in the development model noted above, did not materialize. As a result of these experiences the Chinese leadership in 1962 revised their general economic development strategy from one which called upon agriculture to subsidize the nascent industrial sector. The new strategy recognized the limitations of increasing agricultural production by developing immense production units, emphasized capital inputs as well as labor to increase productivity in agriculture, and maintained modest pressure to industrialize.

In the past 10 years Chinese agriculture has been organized into large socialist agricultural units, i.e., communes, with thousands of households, but at the critical production unit level, the size has been 20-30 households. These small-sized production units, more closely aligned with cadre management capabilities, removed from undue political influence, and using organizational structures and incentive systems more familiar to peasants, have generally increased production. They have produced the food and fiber to feed and clothe hundreds of millions of people year after year. In addition they have been able to provide for the population increase of 10 to 20 million people per year. On this stabilized agricultural base the Chinese Communists have been able to maintain a large military establishment, produce jet aircraft, tanks, submarines, and missiles, and have built a modest industrial establishment and an extensive railroad system, and have made some rather remarkable scientific achievements such as detonating nuclear devices, launching missiles, and synthesizing insulin.

#### FOOTNOTES

- 1/ The labor-day is defined officially by the State Statistical Bureau as follows: "Labor-days are units for computing the amount of labor spent on completion of the labor norm set for each kind of work and for computing labor remuneration. One labor-day is equivalent to 10 work points. The number of labor-days which should be credited for completing the norm of each kind of work should be determined by the technical standard required for each kind of work, the arduousness of the labor process, and the importance of this work to the entire process of production. One labor-day should be credited for completing the norm of a medium grade of work. A labor-day, therefore, represents the time spent for completing the norm and for attaining the quality of labor which meets a given standard. It does not mean that by doing a day's work, a labor-day will be credited" [25, p. 36].
- 2/ Newspaper and journal articles often referred to the number of households in socialist units, but the term household was never defined in these articles. It is possible that some units may have used the definition given by the 1955 census instructions, which defined a household as follows: "1. The members of a family living together shall be considered as one household; 2. when a single person lives alone, he or she shall be taken as one household" [14, p. 31].

#### REFERENCES

1. Chao, Kang, Agricultural Production in Communist China, 1949-1965 (Madison, The University of Wisconsin Press), 1970.
2. Chen-chia, Chin, "Chieh-shou ch'u-nien te ching-yen chiao-hsun tso-hao chin-nien te pao-kang pao-ch'an kung-tso" ("Understand the Teaching of Last Year's Experience and Do a Good Job with Labor-Production Contracts this Year"), Ho-pei jih-pao, February 16, 1957.
3. "Chinese Communist Party, Central Committee Issues Directive to Improve APC Administration of Production," NCNA, Peking, September 15, 1957; translated in Survey of China Mainland Press, No. 1618, September 26, 1957, pp. 22-25.
4. Chinese Communist Party, Shansi Provincial Committee, "T'ui-hsing 'i-ch'an ting-kung' chih t'i-kao ching-ying kuan-li shui-p'ing" ("Promote the System of Calculating Work According to Production and Elevate the Level of Management and Control"), Chung kuo nung pao (Chinese Agricultural Journal), No. 13, July 10, 1958, p. 22.

5. "Commune Wage System," Ts'ai Ching Yen Chiu, No. 16, September 15, 1958, pp. 28-31; translated in Joint Publications Research Service, No. 1337-N, March 12, 1959, pp. 32-35.
6. "Cooperatives Cannot be Properly Run with Methods of Compulsion and Commandism," Jen min jih pao (People's Daily), Editorial, Peking, June 27, 1956; translated in Survey of China Mainland Press, No. 1326, July 11, 1956, pp. 5-6.
7. Crook, Frederick W., An Analysis of Work-Payment Systems Used in Chinese Mainland Agriculture, 1956 to 1970 (unpublished Ph.D. dissertation, Fletcher School of Law and Diplomacy), June 1970.
8. Crook, Frederick W., "A Study of the San-Pao I-Chiang Work Measurement Method in Chinese Mainland Agriculture, 1956-1961," presented at the Colloquium: Modern China, Sino-Soviet Institute, George Washington University, April 1971.
9. Crook, Frederick W., Rural Labor Recordkeeping in Mainland China, 1952-1970 (U.S. Bureau of the Census, Unpublished Report, Washington, D.C., 1971), Part I, personnel.
10. "Directive of CCP Central Committee and State Council on Strengthening Production Leadership and Organizational Construction of Agricultural Producer Cooperatives," NCNA, Peking, September 12, 1956; translated in Survey of China Mainland Press, No. 1382, October 3, 1956, pp. 20-21.
11. Donnithorne, Audrey, China's Economic System (New York: Frederick A. Praeger Press) 1967.
12. "Draft Model Regulations for Agricultural Producer Cooperatives," New China News Agency, Peking, November 10, 1955; translated in Current Background, No. 369, November 25, 1955.
13. General Office of the Central Committee of the Chinese Communist Party, Editorial Comment, Chung-kuo Nung-ts'un te She-hui Chu-i Kao-Ch'ao (Socialist Upsurge in China's Countryside), Peking: Jen-min Chu'u pan she, 1956, p. 451.
14. Government Administrative Council, "Measures for National Census and Registration of Population," New China News Agency, Peking, April 6, 1953; translated in Current Background, No. 241, May 5, 1953, p. 31.
15. Grey, Jack, "Some Aspects of the Development of Chinese Agrarian Policies...", The China Conference, Chicago, February 8-12, 1966.
16. Hoffman, Charles, Work Incentive Practices and Policies in the People's Republic of China, 1953-1965. (New York: State University Press) 1967.
17. Kang, Hsu, "Make A Success of Wage Statistical Work in 1959," Chi hua yu t'ung chi, No. 4, February 23, 1959; translated in Extracts from China Mainland Magazines, No. 172, June 15, 1959, pp. 33-37.
18. "Lead the Peasants to Take the Path of Prosperity for All," Jen min jih pao (People's Daily), editorial, November 16, 1953; translated in Survey of China Mainland Press, No. 701, December 4, 1953, p. 2.
19. "Party Resolution on Questions Concerning People's Communes," New China News Agency, English, Peking, December 18, 1958; in Current Background, No. 542, December 29, 1958, pp. 7-22.
20. "People's Communes Must Establish Sound Responsibility System for Production," editorial, Jen-min jih-pao, February 17, 1959; translated in Survey of China Mainland Press, No. 1969, March 10, 1959, pp. 19-20.
21. "Quickly Assign the 'Three Quotas' to the Production Teams," Jen-min jih-pao, editorial, March 10, 1960; translated in Survey of China Mainland Press, No. 2219, March 18, 1960, p. 17.

22. "Resolutions of 8th Plenary Session of 8th CCP Central Committee on Production Increase and Economy Campaign," New China News Agency, Peking, August 25, 1959; translated in Current Background, No. 589, September 1, 1959, pp. 4-10.
23. Robinson, Joan, "Organization of Agriculture," a working paper for the China Conference, Chicago, February 8-12, 1966.
24. Skinner, G. William, "Marketing and Social Structures in Rural China," The Journal of Asian Studies, Vol. XXIV, No. 1, November 1964, No. 2, February 1965, and No. 3, May 1965.
25. State Statistical Bureau, Statistical Work Handbook Committee, Nung-yeh t'ung chi-kung-tso shou-ts'e (Handbook of Agricultural Statistical Work), Peking: T'ung chi ch'u pan she, 1956.
26. Ti-min, Sung, Vice Director, Financial Department, Keangtung Province, "Carry Out Successfully Accounting Work for Distribution of Autumn Harvest," Nan fang jih pao, Canton, November 26, 1960; translated in Survey of China Mainland Press, No. 2415, January 12, 1961, pp. 5-8.
27. Ts'un, Chih, "Nung-yeh-she ts'ai-wu k'uai-chi kung-tso fu-tao chiang-hua ti-pa chian: ts'ung jen-min kung-she te chien-li k'ao-lu i-ch'ien te ke chiang wen-t'i" ("Lectures on the Guidance to Finance and Accounting Work in Agricultural Cooperatives. Lecture No. 8: Problems Discussed in Previous Lectures Considered in View of the Establishment of People's Communes"), Ta chung kuai chi (Popular Accounting) No. 11, November 10, 1958, p. 49.
28. Walker, Kenneth R., Planning in Chinese Agriculture: Socialization and the Private Sector, 1956-1962 (Chicago: Aldine Publishing Company) 1968.
29. Wang I-ch'ing, and Ying hsiang-yun, "Nan-shing-shih sh'iag-ch'u nung-yeh sheng-ch'an ho-tso-she te lao-tung-jih ho-suan" ("Calculation of Labor Days in Agricultural Producers' Cooperatives in the Suburbs of Nanching"), Ta chung k'uai chi (Popular Accounting), No. 7, July 10, 1957, pp. 272-275.
30. Wei-tsung, Yu, and Fu Ying-nung, "T'an-t'an 'san-pao i-chiang' chih-tu" ("On the System of Three Guarantees and One Reward"), Shan hsi jih-pao, Taiyuan, November 9, 1960.
31. "What Does the Labor Management of I-tu-ho and Fu-ma-chuang Brigades Show?" Peking jih pao, May 20, 1961; translated in SCMP, No. 2530, July 5, 1961, pp. 1-6.
32. Yu-ping, Yang, and Wu Pai-an, "Kuan-yü nung-yeh sheng-ch'an ho-tso-she'pao-kung, pao-ch'an, pao-fei-yung' ta k'uai-chi ho-suan" ("Concerning the Accounting Calculation in APC's Using the 'San-pao System'"), Ta chung k'uai chi (Popular Accounting) No. 7, July 10, 1957, pp. 282-284.
33. Yu-wen, Ho, "Kung-fei mung-ts'un jen-min kung-she hsien-chieh-tuan te t'i-chih yen-chiu" ("A Study of the Structure of the People's Communes in Rural Areas at the Present Stage"), Ta-lu fei ch'ing chi-pao (Mainland Intelligence Quarterly), July-September, 1964, Taipei (?), Chinese Nationalist Party Central Committee, Section 6, October 1964, 16 pages.