

“SELF-SUSTAINED NATIONAL ECONOMY” IN MAINLAND CHINA

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The Chinese formula for populist revolution (Maoism) was established at the Tsunyi Conference in 1935, after the defeat of the revolutionary movement which had been led under instructions from the Comintern since 1921. In the socialist construction of society, the period 1949-1957 was modeled on the Soviet pattern, but by 1958 an independent Chinese pattern had to be sought in order to achieve a self-sustained National Economy. This changing process reveals some important unsolved problems bequeathed to “The Great Cultural Revolution” as main issues.

Since July, 1960, when the USSR repudiated its agreements providing for economic and technical aid to China, China has much emphasized slogans on “the construction of a self-sustained National Economy” and “the building-up of an independent, balanced, modern economy.”

This article looks into the ideology and actual situation behind these slogans, and handles the applicability of these Chinese policies to the developing nations which are facing the same kind of problems as China.

I. THE FORMATION OF THE IDEOLOGY OF “A SELF-SUSTAINED NATIONAL ECONOMY”

The Chinese Revolution up to 1949 aimed at overthrowing Imperialist monopoly capital, comprador-mandarin capital, and the feudal landlords, and made an effort to create a people's democratic state centred on the Chinese Communist Party out of an alliance of workers, peasants, intelligentsia, and national bourgeoisie. This view was introduced from the analysis of three social classes at home and abroad which were united in the exploitation of the Chinese people and concluded that all invasions of Imperialism, even in the form of economic aid, must be repulsed in order to overthrow the exploiting classes at home.

This viewpoint was realized in economic policy as the rejection of economic aid from the Imperialist countries and its acceptance from the USSR and Eastern European countries. Both in and out the Chinese Communist Party, in 1949, certain quarters were willing to rely on aid from the UK and the USA as the generative force for further development of their National Economy. Regarding this matter Mao Tse-tung wrote as follows:¹

¹ Mao Tse-tung, “On the People's Democratic Dictatorship,” in *Selected Works of Mao Tse-tung*, Volume IV, Peking, Foreign Languages Press, 1961, p. 417.

"This, too, is a naive idea in these times. Would the present rulers of Britain and the United States, who are imperialists, help a people's state? Why do these countries do business with us and, supposing they might be willing to lend us money on terms of mutual benefit in the future, why would they do so? Because their capitalists want to make money and their bankers want to earn interest to extricate themselves from their own crisis—it is not a matter of helping the Chinese people."

He adds that many times in his life Sun Yat-sen asked the capitalist countries for aid, but was handsomely swindled every time.

However, this line of policy did not mean, as became clear soon, that China was embodied into an international system of socialist economy with the USSR and East European countries, and ready to accept a role in the international division of labour within the socialist bloc. At the Eighth Congress of the Chinese Communist Party in September, 1956, Chou En-lai introduced the draft for the Second Five-Year Plan. On that occasion, he rejected the contention that China should close her doors to foreign countries and should press forward her construction relying entirely on her own efforts, as well as the opinion of some members of the Party that "at a time when the USSR and the Eastern European countries are developing there is no need for China to possess a self-contained industrial system of her own," and he stressed the necessity of constructing "an independent industrial system." He gives very political reasons for this. "Because, internally it is necessary to make a rapid change in the long-term backwardness of the national economy, and internationally we can strengthen and defend the peaceful forces throughout the world by building powerful industries in China."² It may be inferred that at this controversy within the Party was centred on whether or not China should join COMECON. This controversy makes us reminiscent of the preceding controversy over the peculiar principles of the Communist Party evolved on the two occasions of its alliance with the Kuomintang in a United Front.

In July, 1960, the USSR took measures for the stopping of economic and technical aid. As far as the policy, this incident merely made the Chinese Communist leaders confirm again the relevance of their policy for an independent economic system. At the third session of the second National People's Congress of April, 1962, it was confirmed that "the first foundations have been laid for the construction of an independent, balanced, modern National Economy" by the development in the economic and cultural fields during the period of the Great Leap. In the following year the National People's Congress held in December solicited the people to strive for building "the self-sustained, balanced, modern National Economy" in the situation of the rupture of the Sino-Soviet talks in July and in the light of the trend of the National Economy in its development from stabilization to recovery. Further, China raised these questions as the task of developing nations at the second Afro-Asian Economic Conference held at Pyongyang in June,

² Report by Chou En-lai in *Hsin-hua Pan-yüeh-k'an* (New China Semimonthly), No. 20, 1956, p. 40.

1964, and at the third Conference, at Algiers, in the following year presented a prescription for this undertaking derived from China's experience and summarized under seven heads.

II. THE "SELF-SUSTAINED NATIONAL ECONOMY" OBSERVED IN THE POLICY OF THE GREAT LEAP

The seven points put before the Algiers Conference were as follows:³

- (1) All the privileges enjoyed by Imperialists in the country in question should be rendered void.
- (2) The people should have control of all key sectors of the economy and the state-operated enterprises should be strengthened and developed.
- (3) Democratic reform of society should be carried through, the political sense of the whole people developed, and the positive participation of the people to a higher level of production and construction encouraged. As the basis for this, a thoroughgoing land reform should be carried out, and markets created.
- (4) In socialist construction, the mutual relations between agriculture, light industry, and heavy industry should be accurately co-ordinated. Priority should be given to the development of agriculture and light industry.
- (5) Importance should be attached to the efficacy of investment, and a rational allocation of investment carried out. Not only should importance be attached to productive investment, but enterprises requiring small amounts of investment but yielding high returns should be constructed.
- (6) The funds required in construction should be supplied out of domestic accumulation.
- (7) Positive steps should be taken to develop the human stock in technology and the administration of the National Economy.

Points (1) to (3) are the pre-conditions for the points which follow, and define the basic line in state-building policy, that is, the relations of production. In other words, they define economic relations with the capitalist countries. Points (4) and (5) define actual policy in choice of industries and technique, and point (6) in capital accumulation, and this last embraces points (1) to (5). Point (7) refers to the technical aspect of point (6). Point (4) and those which follow it are concerned with the aspect of productive potential, and also imply a deviation from the Soviet formula in socialist construction and the new formation of a National Economy. The slogans of this policy were first proclaimed after the stopping of Soviet aid, but the original pattern of them is to be found in the factors leading to the introduction of the policy of the Great Leap which began as early as 1958, and in the aims embodied in it.

³ Report by Nan Han-chen in *Jen-min Jih-pao* (People's Daily), February 25, 1965.

1. *Background Factor of the Policy of the Great Leap*

As Professor Shigeru Ishikawa has already pointed out,⁴ the greatest internal problems in the Chinese economy since the success of socialist reconstruction have been the shortage of marketed foodstuffs and the problem of employment. The former signifies the shortage of the materials to reproduce the labour-force in industry, while the latter not only operates disadvantageously on the accumulation of capital funds itself, but also, in the form of surplus labour-force in the rural areas, has negative effects on the flow of food products into the markets.

Basically, foodstuff products in the market depend on the grain surplus in the rural areas, i. e., on labour productivity, but they are also influenced by the government's policy of acquisition. This difficulty appeared immediately after the land reform in 1952, and at subsequent crises it has been partly overcome through institutional reforms.⁵ First, the unified purchase and supply policy for grain employed in November, 1953, deprived the peasant proprietor of free disposal of his produce. In its implementation the government bought up all products surplus to rural demand and consequently brought about a serious shortage of food in rural areas between September, 1954 and May, 1955. This was the occasion of the introduction of the *San-ting Cheng-ts'e* (three fixed policy) under which compulsory deliveries were pegged for three years. This meant a government concession to the peasants. The food shortages made Mao Tse-tung change Chinese policy in agriculture to rapid collectivization drastically, as opposed to the "gradualist policy" followed hitherto. Thus, in July, 1955, disregarding the Central Committee of the Party, he convened a conference of Provincial and City secretaries calling for speeding-up in collectivization. By 1956 the completion of collectivization in its main essentials implies a success in the promotion of grain acquisition under the initiative of co-operatives holding distributing rights and the mobilization of development potentials through organizing rural labour. However, it proved impossible to make a rapid increase in investment inputs in agriculture, and between the second half of 1956 and May, 1957, the government was obliged to put up with the trouble caused by these continuing shortages.⁶

On employment, as Professor Shigeru Ishikawa states, the annual average increase in working population was four million in the period of the First Five-Year Plan (1953-1957), five million in the Second Five-Year Plan, and seven million in the Third (revised) Five-Year Plan, but in contrast to this even during the period of the First Five-Year Plan, which proceeded comparatively smoothly, the modern industrial sector absorbed only 1.2 to 1.5 million workers.

⁴ Shigeru Ishikawa, "Chūgoku keizai no kaihatsu to shikō-sakugo" (The Development of the Chinese Economy and Trial and Error), *Sekai*, June, 1963.

⁵ Reitsu Kojima, "Grain Acquisition and Supply in China," *Contemporary China*, No. V, 1963.

⁶ *Jen-min Jih-pao*, August 9, 1957.

During 1956 and 1957 these two problems gradually came to be recognized by the Central Committee of the Chinese Communist Party. In other words, these years were a transitional period shifting towards a new line of policy, and/or a changing period in the realm of policy. For example, in 1957, on the production of tractors, the majority opinion called for a halt of production on the ground that the agricultural mechanization was increasing the surplus labour-force.⁷ In the latter half of 1957, Li Fu-ch'un, the Chief of the State Planning Commission, confessed that in drawing up the First Five-Year Plan there had been insufficient recognition of the following four points: "(1) There was a large population with a rapid increase; (2) the cultivated area was small although there was a large area of land—960 square kilometers; (3) the basis of economic structure was not well developed; and (4) natural resources were abundant."⁸ Further, Huang Ching, the planner responsible for agricultural mechanization, stated that "the high tide in construction in 1956 tested our economic forces and led us to recognize the complicated and difficult task of socialist construction in a large and densely populated country suffering from economic poverty and cultural backwardness and so for the first time we came to consider the special characteristic constituted by the fact that China has a large population and too little land,"⁹ and therefore the orientation in the construction of agriculture became predominant.

Two more motives were added on the occasion revising the policy facing these economic problems of the Central Committee known as the Great Leap. The first means the intensified class contradictions in China—the peasants' dissatisfaction with the proletariat. At the time of the "Hundred Flowers" movement in 1957, such dissatisfaction was expressed in the critical slogans as "Farmers eat too little; workers eat too much" and "Down with the unified purchase and supply policy." Against these criticisms, on the one hand, the Central Committee began an open attack to the right-wing among the intelligentsia in July. On the other hand, in September a widespread socialist education movement was introduced in the rural areas, appealing to them that the living standards of the peasantry were not lower than those of the workers, that the compulsory deliveries system was indispensable for socialist construction, and further that development of agricultural potentials on a grand-scale was necessary with actual local conditions. This led on to the movement for the large-scale construction of irrigation works, which was the prelude to the Great Leap. The second motive was related to the Soviet Union's China policy. This was the attitude adopted by the USSR in the course of the aid negotiations with China at the end of 1957 and also in the tension in the Taiwan Strait in 1958.¹⁰

7 Article by Ching Lin in *Chi-hua Ching-chi* (Planned Economy), No. 4, 1958, p. 24.

8 Article by Li Fu-ch'un in *T'ung-chi Kung-tso* (Statistical Work), No. 22, 1957.

9 Article by Huang Ching in *Hsin-hua Pan-yüeh-k'an*, No. 22, 1957.

10 For details, see A. L. Hsieh, *Communist China's Strategy in the Nuclear Era*, Englewood Cliffs, New Jersey, Prentice-Hall, 1962.

2. *The Characteristics of the Great Leap*

The policy of the Great Leap is set out in the report by Liu Shao-ch'i to the second session of the Eighth All-China Party Congress held in May, 1958. Regarding the characteristics of the policy in that report, in our approach to this issue, we have the following three points.

(i) The Development of Agricultural Production Goods Industries

The policy of the Great Leap passed through the following 8 steps:

(1) The large-scale irrigation works, and the organic fertilizer production movement, since the winter of 1957 to the spring of 1958; (2) labour shortage; (3) improvement of the tools used in waterworks, transportation and in agriculture (from December, 1957); (4) shortage of materials for industrial and agricultural tools; (5) the movement for small-scale local iron production (from August, 1958); (6) the introduction of the People's Communes; (7) the construction of medium- and small-scale factories over the whole industrial sectors (second half of 1958); and (8) the achievement of total organization in People's Communes and the reorganization of unsuitable industries (1959). As we can see from this course of development, the industries concerned in agricultural production played the leading role. The following two facts provide us with evidence:

First, in December, 1957, the slogan was devised that local industry should overtake agricultural production in total value produced by 1962 at the provincial level. When this slogan was realized in terms of planning, priority in local industry should be given to agricultural production goods

Table 1. PROPORTION OF HANDICRAFT INDUSTRIES OCCUPIED BY AGRICULTURAL PRODUCTION GOODS INDUSTRIES

Year		Unit of Measurement	Percentage
1945-1949	Chengtu City ¹	Operatives	1
	Nanking City ¹	Operatives	0.4
	Ocheng City ³	Operatives	3.3
	Peasant Households in Rural Part-time Handicraft Industries ¹	Peasant Households	2-3
1954	All China ²	Total Value Produced	5.88
1959 (year-end)	All China People's Communes ³	Unknown	55

Note: The figures for 1959 are for agricultural production goods industries. Those for other years are for industries producing agricultural tools, implements and machinery made of bamboo, wood, or iron.

- Sources: 1. *Chin-tai Shou-kung-yeh-shih Tzu-liao* (Source Material for Handicraft in Modern Age), Volume 4, pp. 514, 545, 549, 552.
 2. Chao Yi-wen, *Hsin Chung-kuo ti Kung-yeh* (The Manufacturing Industries of New China), p. 101.
 3. *Jen-min Jih-pao*, January 27, 1960.

at *chuan ch'ü* and *hsien* level and below.¹¹ Again, at the First All-China Conference of Handicraft Industrial Co-operatives held in December, 1957, it was confirmed that the principal production in the handicraft industries was agricultural production goods.¹²

Second, the distribution of industries by Communes at the end of 1959, when the implementation of the Communes was almost complete, shows a remarkable increase of industry producing agricultural production goods in comparison with the preceding period of the Great Leap. This is shown in Table 1. We have no data for 1956 and 1957, but there is other evidence which indicated that there was no basic difference between these years and 1954.¹³

Thus, we may conclude that in the Great Leap there arose a sudden change in the activities of local and handicraft industries at *chuan ch'ü* level and below, and that the priority was given to the agricultural production goods industries. In respect to central state-enterprises and Province-enterprises, we find no marked change in the composition of industry but just proportional expansion.

(ii) Medium- and Small-Scale Factories in the Choice of Technique

The construction of medium- and small-scale industry in the choice of technique may realize an effective increase in employment and in production, nevertheless it is impossible to maintain a high rate of growth in the long range, as stated by Professors Maurice Dobb¹⁴ and Shigeru Ishikawa¹⁵ at the level of theory. And they concluded that China, which has a low capital-labour ratio, requires to be developed on a system of technique which is capable of international competition and of absorbing a large sum of labour. Construction of medium- and small-scale factories undertaken in 1958 was the first attempt to produce a Chinese type in the choice of scale in industry, being free from the Soviet type seen in the First Five-Year Plan.

We would add the following three supplementary points here. The first concerns the actual conditions surrounding economic construction in China. Since the Second World War industrial enterprises have been developing into gigantic scale as "multinational enterprises" in the capitalist countries, and gigantic factories in the socialist countries. Taking, for example, the case of the iron-smelting blast furnace, those built in the 1930's in the USSR were of 300-500 cubic meters, but in the 1950's 1,500 cubic meters has been

¹¹ For example, Report of Proceedings of the Conference for the Regulation of Local Industry in Hopei Province in *Chi-hua Ching-chi*, No. 6, 1958, p. 41, and Article by Chou Chia-chen and Feng Kung-chao in *Chi-hua Ching-chi*, No. 1, 1958.

¹² Article by Chia Tuo-fu and Pai Ju-ping in *Hsin-hua Pan-yüeh-k'an*, No. 22, 1957.

¹³ Reiitsu Kojima, "Jiritsu-teki minzoku keizai no kensetsu hōshin to nōgyō kikai, nōgu kōgyō" (Agricultural Machinery and Instrument Industry in the Development of a Self-sustaining National Economy), *Ajia keizai*, Vol. VII, No. 9, 1966, p. 48.

¹⁴ M. Dobb, *An Essay on Economic Growth and Planning*, London, Routledge and Kegan Paul, 1960.

¹⁵ Shigeru Ishikawa, "Shakai-shugi kōgyō-katei ni okeru gijutsu sentaku" (The Choice of Technique in the Process of Socialistic Industrialization), *Keizai kenkyū*, July, 1961.

popular. This is because the employment effect has been slight, and the period of capital turnover long. Second, during the First and Second Five-Year Plans in the USSR the main mechanical equipment was imported from the USA. In regard to the capital-labour and land-labour ratios the USSR was analogous to the USA, but not to China. The scale of enterprise and designs of equipment produced on the basis of different capital-labour and land-labour ratios must be adjusted to the real economic conditions of China. This is the important motive to push the deviation from the Soviet type of economic construction. Third, such handicraft methods, as represented by the *i'u-fa*, were adopted, which were already "museum pieces" in the capitalist countries. This led to the overproduction of medium- and small-scale industries, and caused failures. At the *chuan ch'ü* level and below, the main components of local industries were the agricultural goods production industries; factories of agricultural tools and fertilizers, together with the small-scale electric generating stations, iron and cement plants, and processing factories, for the purposes of local consumption. Their technical levels of development could be seen from the source of energy, the human or mechanized power employed in the production activities. Only a half of the *hsien* developed electric power by 1965, and the combustion engines were observed only in the irrigation works and scarcely in the local factories.¹⁶ As seen above, the Chinese construction of industries resulted in the choice of medium- and small-scale factories as the general level of industry was at the stage of handicraft industries which were based upon human power.

(iii) Self-Development of the System of the Means of Production

The learning of foreign technology by a backward country passes through the following course: (a) the learning of the technology for operation and installation; (b) the learning of the technology of design; (c) the production of equipment at home based on domestic designs; and (d) the development of new designs oriented to actual domestic conditions. During the Great Leap new attempts at the first two were sustained by a movement for technological innovation which involved the entire Chinese people. In the modern industrial sector a movement for technological innovation aiming at stages (b) and (c) was developed.¹⁷ On the contrary, movements for technological innovation, developed in both 1954 and 1956, aimed at the learning of the technology of manipulating mechanical equipment introduced from the USSR and Eastern Europe.¹⁸ That is to say, they were at stage (a). Let us pick out some examples of new attempts at the stages (b) and (c).

Chemical Fertilizer Factories: The USSR supplied plant for the Chilin Nitrogenous Fertilizer Factory, and production began in October, 1956, while

¹⁶ *Asia News Services*, September 18, 1965.

¹⁷ Report by Nieh Jung-chern in *Hung-ch'i* (Red Flag), No. 9, 1958.

¹⁸ Reitsu Kojima, "Chügoku no gijutsu kakushin undō no rekishi" (The History of the Chinese Technical Innovation Movement), *Chügoku keizai kenkyū geppō*, No. 11, 1966.

in 1958 Chinese technologists designed the Chint'ang Fertilizer Factory, Ssuchuan Province, and equipment was introduced from Czechoslovakia. In the same year work was begun on factories at Wuching (Shanghai), Canton, Chinan, and elsewhere, which were designed by Chinese technologists and employed Chinese equipment. However, the construction of these factories was delayed by economic confusion, and it was 1964 before they were completed.

The Iron and Steel Industry: No. 1 Furnace, 1,513 cubic meters, of Bao Tou Factory, completed in 1959, is the first one designed by Chinese technologists. The equipment for ore dressing, sintering, and coke also was pressed forward at this time. However, work had not yet begun on Chinese production of high-grade equipment for steel manufacture, rolling mills, etc.

The Machine Tools Industry: By 1960 experimental production of large-scale, precision, automation, and other types of high-grade machine tools had started, some of them being employed in production lines.¹⁹ The volume of production also grew rapidly during this period, and the degree of dependence on imports declined to levels comparable with those of the USA and the USSR. This is shown in Figure 1. Since machine tools are the machines which produce equipment, they are an important index of independence in production. Table 2 shows the degree of production of equipment at home for the First Five-Year Plan period in some industries.

Table 2. MACHINE TOOLS, IRON AND STEEL PRODUCING EQUIPMENT, AND ELECTRICAL GENERATING EQUIPMENT MADE IN CHINA

Year	Machine Tools (Index Figures)	Iron and Steel Producing Equipment	Electrical Generating Equipment (Index Figures)
1957	100	negligible	100
1958	180		400
1959	250	205,000 tons	1,075
1960			1,650

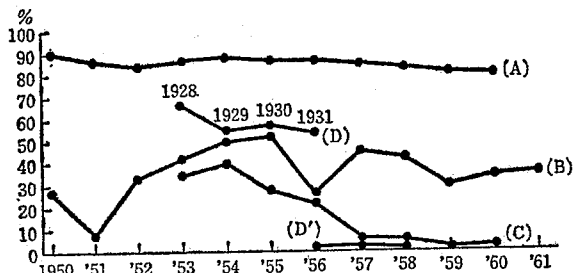
Sources: 1. For 1957-1958: *Wei-ta ti Shih-nien* (Ten Great Years).
2. For 1959 and 1960: Published figures.

From the above examination we can confirm that during the Great Leap China developed into the manufacture of equipment by imitated designs and national designs. The above three characteristics which are observed in the Great Leap imply, from the viewpoint of the reproduction structure, the formation of a National Economy.

The Chinese economy before the Great Leap had not formed a National

¹⁹ Reiitsu Kojima, "Chūgoku no kōsaku kikai kōgyō" (The Chinese Machine Tools Industry), in Shigeru Ishikawa ed., *Chūgoku keizai no chōki tembō* (The Long-term Prospects for the Chinese Economy), Vol. II, Tokyo, Institute of Asian Economic Affairs, 1966, p. 323-351.

Figure 1. COMPARISON OF DEGREES OF DEPENDENCE ON IMPORTS OF MACHINE TOOLS IN CHINA, USSR, INDIA, AND JAPAN



Notes: (A) India (B) Japan (C) China (D) USSR in the First Five-Year Plan period (D') USSR

Sources: For Japan: 1950-1955, Toshiaki Chokki, *Nihon no kōsaku kikai kōgyō no hatten katei no bunseki* (An Analysis of the Process of Development of the Japanese Machine Tools Industry), Tokyo, Nihon kōsaku kikai kōgyō kai, 1963, p. 185; 1956-1961 Nihon kōsaku kikai kōgyō kai, *Shōwa 38 nendo jigyō hōkokusho* (Report of Operations for 1963), Tokyo, 1963, p. 362.

For India: Nihon kikai kōgyō rengō kai, *Indo no kōsaku kikai kōgyō* (The Indian Machine Tools Industry), pp. 11, 32.

For USSR: A. Garanger, *Petite histoire d'une grande industrie*, 1961. (The figures were taken from the Japanese version of the book, 1963, pp. 85, 175.)

For China: R. Kojima, "Chūgoku no kōsaku kikai kōgyō" (The Chinese Machine Tools Industry), in Shigeru Ishikawa ed., *Chūgoku keizai no chōki tembō* (The Long-term Prospect for the Chinese Economy), Vol. II, Tokyo, Institute of Asian Economic Affairs, pp. 332-333.

Economy as an organic entity in spite of the political unification in 1949 and the smooth progress of economic construction during the period of the First Five-Year Plan. This appeared first in the uncombined condition of the two great sectors of the National Economy, industry and agriculture, and second in the gap between the modern industrial sector introduced from the USSR and Eastern Europe and the indigenous handicraft industries sector. The former was due to the extremely scarce supply of production goods from the industrial sector. Table I shows this. This is also illustrated by the following two facts. Within local state-operated industries in all parts of China the production of agricultural production goods in 1954 showed 4% of total value produced.²⁰ Second, the horse-drawn agricultural implements imported from the USSR during the First Five-Year Plan period were not accepted except in part of North China in spite of government efforts.²¹ The latter point is clear from the pronouncements of the planners. Hsüeh Mu-ch'iao, the Deputy-Chief of the State Planning Commission and Head of the State Statistical

²⁰ Article by Hsiang Chuo in *Chi-hua Ching-chi*, No. 11, 1955.

²¹ Reitsu Kojima, "Jiritsu-teki minzoku keizai no kensetsu hōshin to nōgyō kikai, nōgu kōgyō," *Ajia keizai*, Vol. VII, No. 9, 1966, pp. 62-64.

Bureau spoke as follows.²² "When the First Five-Year Plan was drawn up, we first considered the 156 items which the USSR had provided in the form of aid, and in accordance with these we gave suitable consideration to other construction works, and lastly we considered industrial and agricultural production and the living of the people. This was inevitable at this time because we lacked experience, were unable to calculate the national income and to make balance tables of the National Economy, but if we repeat this in the future it will lead to errors."

The first characteristic point—the importance attached to the industries producing agricultural production goods—was indeed found only in local industries at the handicraft stage of production, but it did aim in the direction of promoting the division of labour between industry and agriculture. That is to say, it sought to change the condition of one-way flow of goods from agriculture to industry. The second point—the choice of medium and small scale—aimed at deepening the division of labour and promoting co-operative working between the agricultural and handicraft industries sectors and the modern industrial sector by starting up local industries. The third point intended to set the producers' goods sector into the National Economy, reducing the exchange between the two sectors via foreign markets.

In sum, the Great Leap, in the author's opinion, is a step towards the building-up of self-sustained National Economy depending upon a well-established relation between agriculture and industry, and abolishing dependence on major capital goods on foreign countries. In my terminology, it is an original pattern in developing a self-sustained type and integrated National Economy.

III. ECONOMIC RECESSION AND THE DEVELOPMENT OF THE SELF-SUSTAINED NATIONAL ECONOMY

What changes might have taken place in the three aspects of the National Economy through such events as the setback of the Great Leap and the repudiation of the Soviet Union's economic and technical agreements in July, 1960?

(i) Selection of Industry

As a result of the decline in food production in 1959 and 1960 the problem of solving the shortage of marketed foodstuffs changed into that of solving national starvation itself. In May, 1961, it was announced that some tractor factories and 14 factories producing agricultural machinery of various kinds were to be enlarged or constructed.²³ On chemical fertilizers, the enlargement of the Chilin and Talién factories and the construction of the factories at Wuching (Shanghai), Canton, Kaifeng, Chinan, and elsewhere which had been once stopped was expedited. At the Tenth Conference of

²² Article by Hsüeh Mu-ch'iao in *Asia News Services*, August 8, 1957.

²³ *Jen-min Jih-pao*, May 27, 1961.

Central Committee of the Chinese Communist Party in September, 1962, it was confirmed that the National Economy was to be reorganized with agricultural production as the centre. It was also about this time that many modern machine factories already existing in China were converted to repair and spare-parts factories for agricultural machinery. By March, 1962, more than 300 factories over the whole China had been switched to agricultural machinery parts factories:²⁴ 42 factories in Shensi Province,²⁵ more than 140 factories in Honan Province,²⁶ and 24 factories in Hopei Province²⁷ about the same time. In other words, in the modern industrial sector, too, a selection of industry was carried out with priority given to the agricultural production goods industries.

In the handicraft industries sector the selection of industry of the Great Leap period was continued unchanged,²⁸ and further to this the machine power was introduced into this sector.

As a result of this kind of selection the agricultural production goods industries have shown the most rapid increase, as shown in Table 3. This promotes still further the mutual exchanges between the agricultural and industrial sectors.

(ii) Choice of Technique

This may be summarized under two heads—the weeding out of the medium- and small-scale enterprises in the heavy industries, and the improvement of the technology in the agricultural producers' goods industries and consumers' goods industries, the transition from manual to mechanical power. Heavy industry was weeded out powerfully in 1959 and 1960, and from the second half of 1960 this was applied to all Chinese industries.²⁹ However, with the growing importance accorded to agriculture since January, 1961, the total medium- and small-scale factories in the agricultural production goods industries came on to the stage with new technological conditions. On chemical fertilizers, small ammonium bicarbonate and fused phosphate fertilizer factories with an annual production of between 2,000 and 20,000 tons were constructed in all parts of China. In 1966 such factories would have amounted to 200–300 over China as a whole.³⁰ It is said that the volume of nitrogenous fertilizer production from small-scale factories amounts to 11% of the total production.³¹ We have already noted the small-scale factories concerned with agricultural machinery. After 1964, in particular, semi-mechanized agricultural

²⁴ *Ta-kung-pao*, March 10, 1962.

²⁵ *Jen-min Jih-pao*, October 30, 1962.

²⁶ *Jen-min Jih-pao*, January 6, 1963.

²⁷ *Jen-min Jih-pao*, March 27, 1963.

²⁸ Article by Li Cheng-tuan and Tsuo Chun-tai in *Hung-ch'i*, No. 8, 1961. Report by Chen I-fan in *Ta-kung-pao*, October 27, 1963.

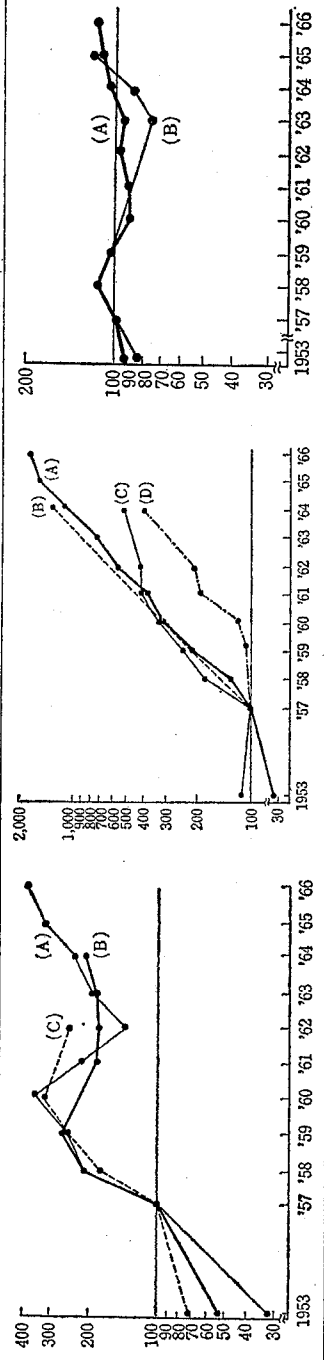
²⁹ Article by Li Cheng-tuan and Tsuo Chun-tai in *Hung-ch'i*, No. 8, 1961.

³⁰ Reiitsu Kojima, “Muki kagaku kōgyō” (The Inorganic Chemical Industry) in *Chūgoku keizai no chōki tembō*, Vol. II, p. 290. And *Asia News Services*, October 14, 1966.

³¹ *Asia News Services*, December 10, 1965.

Table 3. DEVELOPMENT OF THE THREE SECTORS (REPRESENTATIVE EXAMPLES)

	I. Capital Goods			II. Capital Goods for Agriculture				III. Consumer's Goods	
	(A)	(B)	(C)	(A)	(B)	(C)	(D)	(A)	(B)
	Crude Steel (1000 t)	Coal (Mill. t)	Machine Tools (1000)	Chemical Fertilizers (Standard Output) (1000 t)	Powered Machinery for Irrigation & Drainage (1000 HP)	Tractors (1000)	Medium- & Small-Scale Agricultural Machinery & Implements (Mill.)	Grains (Mill. t)	Cotton (Mill. m)
1953	1,774	69.7	20.5	226		2.72		156.9	4,690
1957	5,350	130.7	28	631	560	24.6	250	185.0	5,000
1958	11,080	270.2	50	811		45.3	480	200~220	5,700
1959	13,350	347.8	70	1,333		59.0	273	190~200	
1960	18,450		90	2,000		79.0	300	150~190	
1961	11,000~12,000	245.0		(2,400)		99.0	490	160~185	
1962	7,000~8,000	240.0	70	(3,570)		100.0	570	180~185	
1963	10,000~11,000	250.0		(4,500)				182	4,010
1964	12,000~13,000	275.0		(7,000)	7,280	124.0	1,000	200	4,210~4,600
1965	17,000			(10,000)				200~210	5,890~6,080
1966	20,400			(11,000)				210~220	



- Notes: 1. For I-(A): The figures for 1965 and 1966 may be overestimates.
 2. For II-(A): (1) Figures have been calculated for standard outputs of nitrogen as ammonium sulphate, potassium as potassium chloride, and phosphorus as superphosphate; (2) The figures in parentheses are not definite because of insufficient grounds for estimation.
 3. For II-(B) and II-(C): In 1964, figures are for 'quantities held.'
- Sources: 1. Figures given in bold letters are official figures.
 2. For I-(A): 1961-1962 *Far Eastern Economic Review*, Dec. 26, 1963; 1963 Statement by Po I-po reported by A. L. Strong in the *Asahi jōnaru*, March 7, 1965; 1964 Conversation between Chou En-lai and E. Snow in the *Asahi jōnaru*, March 7, 1965. Snow also said that foreign observers in Peking estimate at 13,000-15,000 tons; 1965 *Tekkō handobukku—Chūkyō* (Iron and Steel Handbook—Communist China), Tokyo, Nippon tekkō remmei, 1967; 1966 According to *Asian News Services*, Oct. 3, 1966, it is said that production between Jan.-Aug., 1966 was 20% over the same period in the previous year. This figure is obtained by applying the given percentages.
 3. For I-(B): 1961-1963 ECAFE, *Economic Survey of Asia and the Far East*, 1964; 1964 Toshio Maeda, *Chūkyō no keizairyoku* (The Economic Potential of Communist China), Tokyo, Kajima kenkyūsho shuppankai, 1965.
 4. For I-(C): 1959-1960 *Chūgoku sangyō bōeki sōran* (Guide to China's Industries and Foreign Trade), Tokyo, Asian News Services, 1963, p. 142; 1962 Article by Ch'en Kuang-chün in *Pei-ching Chou-pao*, Feb. 2, 1965.
 5. For II-(A): 1959-1960 *Chūgoku sangyō bōeki sōran*, p. 242; 1961-1965 Calculated by R. Kojima. For methods of estimation, see R. Kojima, "Muki kagaku kogyō (The Inorganic Chemical Industry)" in *Chūgoku keizai no chōki tembō* (The Long-term Prospects for China's Economy), Vol. II, Tokyo, Institute of Asian Economic Affairs, 1966, p. 282; 1966 *Asian News Services*, June 15, 1966, reported that figure for Jan.-May of that year exceeded planned production by 500,000 tons. Figures have been calculated on the assumption that planned production was based on previous year's results and the Jan.-May increase has been spread over the whole year.
 6. For II-(B): 1959 *Jen-min Jih-pao*, Jan. 14, 1961; 1964 Report by Chou En-lai in *Jen-min Jih-pao*, Dec. 31, 1964.
 7. For II-(C): 1959 *Jen-min Jih-pao*, Feb. 16, 1960; 1960 *Jen-min Jih-pao*, Jan. 14, 1961; 1961 Article by Ch'en Kuang-chün in *Jen-min Chung-kuo*, No. 4, 1962; 1962 Article by Wang Kuang-wei in *Ching-chi Yen-chiu*, No. 3, 1963; 1964 Report by Chou En-lai in *Jen-min Jih-pao*, Dec. 31, 1964.
 8. For II-(D): Calculated by R. Kojima. For definitions and methods of estimation, see Kojima, "Jiritsu-teki minzoku keizai no kensetsu hōshin to nōgyō kikai, nōgu kōgyō" (Agricultural Machinery and Instruments Industry in the Development of a Self-Sustaining National Economy), *Ajia keizai*, Vol. VII, No. 9 (Sept., 1966), p. 54.
 9. For III-(A): 1958-1962 Report by Michael Freeberne in *Current Scene*, Dec. 23, 1963; 1963-1964 Conversation between Chou and Snow in *Asahi jōnaru*, March 7, 1965; 1966 *Jen-min Jih-pao*, Dec. 3, 1966.
 10. For III-(B): 1963-1965 Calculated in relation to the harvest of raw cotton in the previous year by means of the formula:

$$Y_t = 1207 + 0.014X_{t-1} \quad r^2 = 0.914$$
 where Y_t is cotton cloth; X_t is raw cotton; and t is 1950-1958.

implements came to be standardized and produced in large quantities. It is reported that in 1966 two-thirds of the total value of agricultural machinery production was produced in local medium- and small-scale factories.³² This has been sustained by the introduction of electric power to the rural areas. Small electrical generating stations (of a few hundred kilowatts to a few thousand kilowatts) are once again being built in many parts of China.³³ As a result of the spread of electrification mechanical power has begun to be introduced into the agricultural produce processing factories in the slack season.

In the cities, on the other hand, medium- and small-scale partitioned factories specializing in spare-parts, assemblage, repair, production, etc., have begun to be built in contrast to the Soviet type of gigantic integrated factories. This partition formula began in 1964 in three machine tools factories in Shen Yang,³⁴ and the adoption of this formula is now commonly accepted, not only in the machine tools industry but also in the other industries. With this change in the system of production the handicraft co-operatives in the cities were organized into chains, and undertook subcontract work for the modern factories.³⁵ Until that time the ties between modern factories and handicraft industries in the same city had been very weak. Thus we can say as follows. In the period of the Great Leap the policy of constructing medium- and small-scale factories with handicraft operation was most prevalent in all industrial sectors. In the readjustment period, however, the policy was adopted in the agricultural production goods and consumers' goods industries of constructing medium- and small-scale factories with rudimentary mechanical power, and, in the cities, of constructing medium- and small-scale partitioned factories as opposed to the Soviet-type giant integrated factories.

(iii) Independence of the Production Goods System and the Technological System

After the stoppage of the Soviet aid, it seems, there arose a new idea of attaining independence in such production objects as fuels, materials, and the technological system, in addition to the attaining of independence in production means. The results of domestic production of mechanical equipment began to be published from about 1964. The 12,000-ton press, large-scale fertilizer installation, vinylon plant, and twenty-stage medium-type analogue computer are examples. It is not clear, however, to what extent the gap left by the withdrawal of the USSR had been filled. As regards fuels the self-sufficiency in petroleum has been attained, and as regards materials the technology of special alloy steel was firmly established. In particular,

³² *Jen-min Jih-pao*, October 18, 1966.

³³ Article by Huang Ching-ya in *Jen-min Jih-pao*, September 12, 1963. And *Asia News Services*, November 15, 1965.

³⁴ Article by Teng Cha-ming in *Ching-chi Yen-chiu*, No. 3, 1965, p. 20.

³⁵ For the city of Lü Ta, *Jen-min Jih-pao*, February 25, 1962. For Shanghai, *Jen-min Jih-pao*, November 9, 1964. For Canton, *Jen-min Jih-pao*, February 23, 1965.

the latter has made it possible to maintain the normal production of urea plant, automobiles, and tractors.³⁶

What is to be noted in the above is that in some industries development has started in designs suited to the economic and natural conditions of China. A design revolution, centred on the machinery industry, was developed from November, 1964, while at the Design Conference held in December, 1965, it was decided to attach importance to agricultural and mining machinery.³⁷ This would mean a transition from imitation of foreign designs to the development of new designs suited to domestic conditions. This represents the development from the chrysalis of introduced foreign technology which characterized the preceding period, and is the final stage, (d).

Further, from the viewpoint of the technology, they may be regarded as being directed to the formation of an independent system of technology in China. In general, goods are produced through the following processes:

$$\text{Natural science} \rightarrow \text{Technology} \left(\begin{array}{l} \text{patents} \\ \text{know-how} \end{array} \right) \rightarrow \left\{ \begin{array}{l} \text{Production means} \\ \text{Production objects} \end{array} \right\} \rightarrow \text{Finished product.}$$

There are no rights of ownership in regard to natural science, but such rights exist in the technology and the processes which follow it, and these rights become the object of commercial exchange. The introduction of means of production is accompanied by the introduction of technology. This means that independence in production means is impossible without independence in the technology. As one will never know when and under what international conditions the importation of equipment might be stopped, the normal production cannot be maintained if production is entirely dependent on foreign markets. This is the view leading to the conclusion that it is also necessary to possess the technology which produces production means. This is probably an inevitable idea if China considers that her economy should not be at the mercy of any other countries under the condition that monopolies of technology exist in the capitalist countries and, on the other hand, that monopolies by the state itself also exist among the socialist countries. In concrete terms, this is the line of policy which aims at breaking free not only from the imperialist countries but also from the USSR.

From the above examination it may be concluded as regards the theoretical aspect of the formulae for socialist construction that the Chinese-type formula, which has broken away from the Soviet formula and has appeared in the policy of the Great Leap, has been continued and developed even after the dislocation of the Great Leap and the stoppage of Soviet aid. Looking at it from the viewpoint of economic structure, we may say that construction along the Chinese line of policy is oriented towards forming a National Economy which will not be subject to influence not only by the capitalist economy, but also by the Soviet economy. Nan Han-chen's points (4) to (7) which we introduced at the beginning of Section II refer to the

³⁶ *Jen-min Jih-pao*, January 7, 1963.

³⁷ *Jen-min Jih-pao*, December 22, 1965.

content of the above.

IV. A CONCLUSION

It has been established that the Chinese-type construction formula was sought out and devised to solve China's specific economic problems. But is there any prospect of solving these specific economic problems, considering the economic construction up to 1966? In spite of a three- or four-years stable development of food production it would seem that the marketed grain has not yet recovered the 1958 level (53 million tons). This is to be inferred from the following facts: the production brigade is the basic unit of accounting in the People's Communes and concessions are being made to the peasants on the distribution side; foodstuffs of up to 5 million tons have been imported annually not for the purpose of supplementing a shortage of foodstuffs but for a shortage of marketed foodstuffs. (It is thought that part of these imports is being stored as provision against bad harvests and for other purposes.) As for the employment problem, it is thought even worse than it was in 1957. We can have knowledge of this from the fact that in spite of the increase of nearly 100 million population since the end of First Five-Year Plan period present production levels have only recovered the maximum levels of the pre-readjustment period. Then, will China once again ask for food aid from the USSR or other countries, or will she ask for capital aid to solve the employment problem? This may perhaps be connected with the results of the "Great Cultural Revolution." The answer may be negative. The construction formula which will be adopted for a long time hereafter will probably be directed to the development of agricultural production goods industries and of medium- and small-scale factories aiming at employment and a quick capital turnover—a policy which will solve the two problems simultaneously.

It has emerged in the course of the Great Cultural Revolution that there have been great policy controversies among the policy-makers of the Chinese Communist Party for the past several years. If one reads carefully the Twenty-Three Articles for the Socialist Education Movement (January, 1965), said to have been written by Mao Tse-tung, and the Liu Shao-ch'i self-criticism, one can perceive that there was a serious conflict of views between them over the policy of the Great Leap. At the Central Working Conference held at the beginning of 1962, the year in which economic recession was worst, in an atmosphere in which "some performed the *Tan-kan-feng* (advocating restraint of the collective economy and the promotion of individualism in the economy), and some negated the "Three Red Flags," Liu Shao-ch'i made no protest when Teng Hsiao-p'ing proposed the *Chi-jen-t'ien* ('Responsibility-fields') system of Anhui Province (perhaps a system which would have provided for the outright distribution of land among the peasants, and would have negated collectivization itself).³⁸ That is to say, Liu Shao-ch'i gave a

³⁸ *Mainichi Shimbun*, January 28, 1967.

passive indication of his doubts regarding the worth of the very ideals enshrined in the "Three Red Flags." Considering that the policy for the People's Communes, as we have noted above, was essential for the formation of a National Economy, it transpires that the question of what to do about the People's Communes was fated to provoke serious policy controversies. The two groups of the policy-makers engaging in these controversies were: those who were devoted to discovering how they should continue and develop, even after the breakdown of the Great Leap, the Chinese-type formula which was once agreed upon by them, and those who, regarding the Chinese type as wrong, sought out another way (perhaps like that of before 1957).

The Asian countries which were in the early stage of development, as China was, diverged in 1958 in two directions as regards how they might attain the economic independence which would ensure their political independence. One led to the economic construction which depended on foreign aid, adopted in India, Indonesia, and other countries where the national bourgeoisie are the wielders of political authority, and the other to those independent from foreign countries adopted by China, North Viet-Nam, and North Korea, where the workers and peasants are the wielders of political authority. China's experience tells us that although aid from the USSR built the foundations of China's heavy industry, even this was not sufficient to solve the specific economic problems inherent in China and in the end it proved necessary to seek out some way other than that provided by the ready-made formula. About the same time two other socialist countries started to grope for new ways to follow. Will it prove possible for the countries in the first group, which are depending on foreign aid as their principal source of funds for domestic economic construction and are receiving a large volume of aid in the form of foodstuffs, to solve specific problems similar to those of China?