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Intelligence Memorandum

Communist China: Economic Expansion In 1970

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CENTRAL INTELLIGENCE AGENCY Directorate of Intelligence February 1971

INTELLIGENCE MEMORANDUM

Communist China: Economic Expansion In 1970

Introduction

The economic development of Communist China has been interrupted by two political cataclysms — the Great Leap Forward (1958-60) and the Great Proletarian Cultural Revolution (1966-69). Both of these upheavals caused serious dislocations in economic planning, production, and investment. The damage caused by the Cultural Revolution, however, was much less severe and will leave fewer permanent scars on the economy.

This memorandum first summarizes the main economic aspects of the Cultural Revolution. It then reviews economic performance in Communist China in 1970, a year marked by the return to regularized planning and to the day-to-day problems of production. Finally, the memorandum briefly surveys major developments in the main sectors of the economy in 1970 and relates these developments to prospects for the newly announced Fourth Five-Year Plan (1971-75).

Note: This memorandum was prepared by the Office of Economic Research and coordinated within the Directorate of Intelligence.

Cultural Revolution in Retrospect

- 1. In retrospect, the main economic effect of the Cultural Revolution was the sharp decline in industrial production in 1967-68 when the Red Guards invaded factories, government offices, and research institutes. The shattering of much of the middle-level Party and governmental structure and the factional fighting -- which cost tens of thousands of lives -- led to shutdowns of major factories, rail lines, and docks and to serious local shortages of coal and electric power. Military production was by no means exempt from these dislocations, and the production of jet aircraft, tanks, and other military hardware also fell sharply. The economic effects of this decline in industrial output were softened by a bumper harvest in agriculture in 1967. The weather was unusually favorable, and the permissive policy toward private activity in agriculture was left undisturbed. Investment activity continued at a surprisingly high pace during the Cultural Revolution. Many important industrial and military projects were initiated, forwarded, or completed in this period.
- 2. The grassroots economic control apparatus remained intact during the Cultural Revolution. Factories, mines, and agricultural units continued to receive, and to adjust to, production quotas; grain continued to move into the cities; and wages continued to be disbursed through the financial mechanism. And when the sporadic interruptions to economic life threatened to become serious in major urban areas, the entrance of the Peoples Liberation Army (PLA) stiffened the sagging civilian control structure.

Situation at the Start of 1970

3. In general, even though political infighting still raged over the distribution of power in the new revolutionary committees, the start of 1970 saw the economy in a favorable position for a resumption of economic expansion. Prospects for sizable increases in industrial output were especially good since the expansion of productive capacity had continued amid the political turbulence of the Cultural Revolution. The level of industrial output in 1969 had been restored to

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the 1966 level, which meant that essentially all the new capacity added in 1967-69 plus any slack in capacity in 1966 was available to support an expansion of industrial production.

4. Similarly, in agriculture the prospects for expansion were good. Agriculture had been spared most of the extremes of the Cultural Revolution and continued to benefit from the "support agriculture" measures of the post-Leap Forward period. Inputs to agriculture from the industrial and foreign trade sectors continued to mount in the 1960s and by the end of 1969 were sizable, as illustrated below by the rapid rise in the supply of chemical fertilizers*:

	Million Tons			
	1960	1966	<u>1969</u>	
Domestic production	2.5	5.5	5.8	
Imports	1.0	2.5	4.1	
Total supply	3.5	8.0	9.9	

Industry as a Star Performer in 1970

5. In 1970, industrial production in Communist China rose by a substantial 15%-20%. The advance was across the board -- in basic fuels, in industrial equipment, and in military hardware. During the year, managers and workers felt renewed pressure to beat output quotas, to get new production facilities in operation, and to sponsor technological innovation. This pressure, although accompanied by radical political verbiage, never approached the frenetic levels of the Leap Forward. Political campaigns and political meetings continued as a fact of daily life but did not interfere with the return to regularized planning and the renewed attention to turning out more goods at every stage

^{*} Tonnages are in metric tons throughout this memorandum. The tonnages for chemical fertilizer in the tabulation are on the basis of product weight as opposed to nutrient equivalent weight.

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of production. (The table presents several key economic series for 1952 and 1957-70.)

6. Production in the iron and steel industry advanced approximately as follows:

	Million Tons		
	1969	1970	
Pig iron	16	17-18	
Crude steel	13	14	
Finished steel	10	11	

Activity in this key industry continues to be affected by the lack of rolling and finishing capacity in relation to basic capacity. Even so, the expansion of basic capacity -- large new blast furnaces at Wu-han and elsewhere as well as new open hearth furnaces and oxygen converters at Pao-t'ou, Wu-han, Shanghai, and other sites -- continues in anticipation of long-term needs. The capacity of finishing mills also expanded in 1970, largely on the basis of equipment and technology furnished by Japan and Western Europe.

- 7. Coal production in 1970 was up from about 250 million to 300 million tons. The increase in production paralleled an increase in the demands of the major users -- the railroads and the steel, chemical, and electric power industries. Much of the added production came from newly opened or reopened small mines, many lying south of the Yangtze in what has historically been a coaldeficit area. Practically no mention has appeared in the Chinese press of construction of major new mines. This apparent absence of large-scale investment in major mines could be an important constraint on the continued expansion of this industry throughout the 1970s.
- 8. Electric power production jumped from 50 billion to 60 billion kilowatt hours in 1970. The overall capacity of this industry has run far ahead of consumption requirements in the last

Communist China: Key Economic Series

Item	<u>195</u> 2	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Population, mid-year (million persons)	570	641	657	673	686	698	709	723	738	755	772	789	806	824	843
Grain (million metric tons)	154	185	200	165	160	160	175- 180	175- 180	180- 185	190- 195	195- 200	210- 215	195- 200	200- 205	215~ 220
Steel (million metric tons)	1.35	5.35	8.0	10	13	8	8	9	10	11	12	10	12	13	14
Coal (million metric tons)	66.5	130.7	230	300	280	170	180	190	200	220	240	190	200	250	300
Electric power (billion kilowatt hours)	7.3	19.3	27.5	41.5	47	31	30	33	36	42	47	41	44	50	60
Crude oil (million metric tons)	0.44	1.46	2.06	3.7	4.6	4.5	5.0	5.5	6.9	8	10	10	11	14 .	17-18
Chemical fertilizers (million metric tons, product weight)															
Supply	0.4	1.9	3.0	3.1	3.5	2.4	3.1	4.9	4.7	6.8	8.0	8.3	8.8	9.9	11.8
Production	0.2	0.8	1.4	1.9	2.5	1.4	2.1	2.9	3.5	4.5	5.5	4.0	4.8	5.8	7.0
Imports	0.2	1.1	1.6	1.2	1.0	1.0	1.0	2.0	1.2	2.3	2.5	4.3	4.0	4.1	4.8
Trucks (thousand units)	0	7.5	16.0	19.4	15	1	14	16	26	34	47	34	31	66	75
Foreign trade (billion US \$)															
Total	1.89	2.03	3.74	4.26	3.97	3.02	2.68	2.77	3.22	3.85	4.20	3.86	3,71	3.86	4.2
Exports	0.88	1.60	1.91	2.20	1.94	1.52	1.53	1,57	1.75	2.00	2,17	1.92	1.89	2.02	2.1
Imports	1.01	1.43	1.83	2.06	2.03	1.50	1.15	1.20	1.47	1.86	2.03	1.94	1.82	1.84	2.1

decade. On the other hand, the location of major powerplants has not always dovetailed with the location of consumers' plants, and the absence of a national power grid prevents the efficient shifting of power to deficit locations. Thus shortages of electric power and breakdowns in the system of distribution continued to occur in 1970. Small local hydroelectric plants received a great deal of publicity in 1970; however, small plants still supply only a small share of China's electric power. A few large thermal plants are under construction. Thermal plants have the advantage of coming into operation more rapidly than hydro plants and of being easier to locate near the new industrial projects now under construction in scattered areas of the country. No major work in tying together the separate power grids is either under way or amounced for the future.

- 9. Activity in the petroleum industry in 1970 confirmed China's independence in this strategic branch of industry. Production rose from an estimated 14 million to 17-18 million tons. New fields were opened, new wells sunk, and new processing facilities placed in operation at every stage of production. China continued to master a broader range of intermediate and final products. Outside of a few chemical additives, China is now able to supply all the inputs to the petroleum industry from its own resources. Further technological advance, however, will continue to depend largely on the acquisition of foreign equipment and technology.
- 10. Imports of crude oil in 1970 were up to 500,000 tons, about 3% of total supply. These small imports are attributable to special political ties with suppliers, to the opportunity to use foreign currency balances, and/or to the desirability of obtaining special grades of crude oil. China appears to have the future potential to export growing amounts of crude oil to the nearby Japanese market.
- 11. Over the broad sweep of the machinery industry, a similar pattern of expanded production and improved technology prevailed in 1970. China turned out larger amounts and a wider variety of machine tools for industry, pumps and tractors for

agriculture, trucks for the construction sector, electronics for defense, locomotives and cars for the railroads, and ships for the merchant fleet. Perhaps typical of the increases is the rise in truck production from about 66,000 to 75,000 units, with the heavier and more complicated models accounting for a larger share of output than in The campaign for innovation and selfsufficiency in the machinery industry greatly exaggerated aspirations and achievements. In every major branch of machinery -- machine tools, transportation equipment, electronics, computers, and so on -- the Chinese rely on foreign suppliers for models which are larger, more complex, and more up-to-date than those available from domestic industry.

- 12. The production of military hardware advanced rapidly on all fronts in 1970 in concert with the general i justrial expansion. Military production, which had declined sharply in 1967-68, is now well beyond the pre-Cultural Revolution levels. Jet aircraft, submarines and other naval vessels, tanks, artillery, and small arms are being produced in greater quantities and at a higher technological level than ever before. Work on the testing and development of missiles, which apparently continued without interruption throughout the Cultural Revolution, is being steadily pressed. Large-scale production and widespread deployment of missiles remain a matter for the future.
- In 1970, light industry continued to live in a separate world from heavy and military indus-The lower priority of light industry is reflected in less construction, lower wages, and little access to foreign equipment. Nonetheless, light industry shared in the industrial advance of 1970. Increased textile production was reflected in an appreciable increase in the cotton cloth ration. China is starting to master synthetic textiles, which should help alleviate the clothing shortages in a few years. Much of the rest of light industry, which is characterized by local production, the use of simple equipment, and a large amount of female labor, benefited from the general restoration of regularized economic planning, the orderly supply of raw materials, and the emphasis on production.

The Industrial Advance in Perspective

14. Taken by itself, the 15%-20% rise in industrial output in 1970 over 1969 is impressive. Yet, since production in 1969 was only at the 1966 level, a comparison of 1970 with 1966 shows an average annual rate of growth of 4%. In the preceding period, 1957-66, industrial production grew at about 6% on the average, so that in perspective the industrial growth of the last few years is low by Chinese standards as well as mediocre by world standards. Furthermore, whereas Chinese industry realized considerable technological gains in 1970, it remained well behind the modern industrial nations in the design and technology of most of its heavy industrial output and capital plant and still further behind in light industry.

Agricultural Production at Record Level

15. The Chinese Communists claimed a record grain harvest for 1970, both in total amount and the yield per hectare. An analysis of weather conditions, inputs to agriculture, and agricultural policy supports the claim. A preliminary estimate of grain production in 1970 is 215 million-220 million tons, up 15 million tons from 1969 and 5 million tons above the bumper year of 1967. This level of production permitted an increase in per capita consumption of grain and some additions to food stocks. Imports of grain, which are designed to feed the large cities of the north and east and thus reduce the internal strains of procurement, amounted to the customary 5 million tons in 1970, as follows:

Supplier	Million Tons
Canada	2.1
Australia	2.5
France	0.5
Total	5.1

16. Success in agriculture in 1970 came from favorable weather, increased material inputs, and a permissive governmental policy. As to weather, the harvests were affected, as follows:

Early harvest

- Winter wheat -- mediocre -Early rice -- excellent
- Fall harvest
- -Late rice -- average -Corn, millet, and miscellaneous grains -- good.
- 17. Inputs of chemical fertilizer rose from 9.9 million tons to 11.8 million tons, divided between domestic production of 7.0 million tons and imports of 4.8 million. The increase in the nutrient equivalent was proportionately even higher. Water control projects were highlighted by major efforts in the Huai River Valley (between the Yangtze Basin and the North China Plain) and the Hai River Valley (in the North China Plain). Industry continued to supply agriculture with growing quantities of pumps, piping, tractors, pesticides, and general tools and equipment. In 1970 the regime hammered on a campaign to encourage production of fertilizer and equipment in local plants in order to reduce the calls on central resources and simultaneously to build up the industrial competence of outlying areas.
- 18. The government in 1970 continued its policy of permitting private plots, private livestock, private handicrafts, and private trade in the countryside. The regime seems persuaded that tampering with these institutions can reduce agricultural output as has been the case in the past. Moreover, the weakening of the Party and governmental control structure as the result of the Cultural Revolution has left the countryside in a better bargaining position. Tolerance of private activity by the regime seems a necessary price for cooperation, especially if the rural area is to

assume some of the costs of material inputs and social services now supplied by the center.

Continuation of Population Pressures

- 19. Since the near-famine period of 1360-61, China has had nine successive years of average to excellent weather in agriculture. In recent years, the food supply has kept up with population growth and the quantity, quality, and availability of nongrain foods seems to have been gradually rising. Total per capita caloric intake is about 2,000 per day, the same as the middle and late 1950s.
- In 1970 the food-population problem was 20. not at front stage in China, because of the record agricultural harvest and, possibly, because of the press of other political and economic problems. The weakened administrative structure was in much less advantageous a position to enforce a birth control campaign of later marriages, fewer children, and greater use of contraceptives. The existing birth control program ran along in low key in 1970 and almost certainly continued to have no appreciable effect on demographic rates. Nevertheless, the changing economic environment is exercising important demographic pressures. The higher level of education, the long-term trend toward urbanization of extensive new areas of China, the growing realization by villagers of the relation between an expanding population and a fixed amount of land -- those environmental factors conceivably are already pushing down growth rates. On the other hand, the sending of thousands of doctors and nurses to the countryside and the training of countless "barefoot doctors" -- young paramedicals who can treat minor ailments and screen the more serious ailments -- could lead to a reduction in mortality rates in the early 1970s. If the census figure of 583 million people in mid-1953 is accepted as the base and if an average annual growth rate of 2.2% is postulated, the population of Communist China at year-end 1970 was about 850 million people and was growing by nearly 20 million persons each year.

Transportation on the Upgrade

- 21. In 1970 the Chinese railroad system carried the increased volume of industrial and agricultural commodities with no appreciable strain. Since 1966, considerable rolling stock has been added and new construction has closed key gaps in the network and has pushed lines into remote areas. The most important railroad construction activity in 1970 was:
 - a. Completion of the 1,070-km line between Ch'eng-tu and K'un-ming, linking Szechwan and Yunnan Provinces.
 - b. Major construction on the 1,000-km line between Lo-yang and Lou-ti, which will provide a third north-south trunk-line in the interior.
 - c. Major construction on the 1,200-km east-west line between Wu-han and Ch'ung-ch'ing, the first rail line to unite Szechwan Province directly with the east.
- 22. In 1970 the Chinese continued the expansion and improvement of the road network, particularly in Sinkiang and Tibet and in the northeast border areas. The steady improvement of inland waterways continued. A great deal of publicity was given to the necessity of coordinating the various forms of transportation in order to speed transloading and forwarding. Presumably some of the large potential savings to be found in this area were realized in 1970 in the general atmosphere of speeding up economic activity; China's abundant resources of labor make this a feasible policy.

Domestic and Foreign Trade

23. The strong rise in domestic trade in 1970 was a reflection of the general advance in industrial and agricultural production. In addition to improvements in the diet and the supply of textiles, "daily use" items, such as kitchen utensils, household goods, and medicines, were

more plentiful as were baseline consumer durables, such as bicycles, radios, wristwatches, and sewing machines. Official reports from various urban areas and counties tell of increases of 20%-30% in domestic trade. Even though these claims are inflated, the economy can be credited with an appreciable increase in domestic trade in 1970.

24. Foreign trade rose by 10% in 1970 to a total volume of \$4.25 billion. Whereas industrial production had recovered its 1966 level in 1969, foreign trade recovered only in 1970, as shown by the following tabulation on exports and imports:

	Billion US \$							
	1966	1967	1968	1969	1970			
Exports	2.17	1.92	1.89	2.02	2.15			
Imports	2.03	1.94	1.82	1.84	2 10			
Total	4.20	3.86	3.71	3.86	25			

25. The most striking feature of China's foreign trade in 1970 was the sharp increase in trade with its number one trading partner, Japan -- from a volume of \$654 million in 1969 to \$840 million in 1970. This increase was concentrated on the import side, imports from Japan climbing from \$415 million to \$605 million while exports were holding even at about \$240 million. Imports from Japan in 1970 were divided as follows:

	Million US \$
Chemicals (mainly fertilizer)	145
Manufactures (featuring steel products)	320
Machinery and transport equipment Crude materials and	120
miscellaneous	20
Total	605

- The increase in trade with Japan illustrates the dominant characteristic of China's foreign trade -- that is, the fundamental dependence on Japan and Western Europe for modern plant and equipment, advanced industrial products (such as alloy steels), and industrial technology. If the current regularization of economic planning and administration continues into the new plan period, China may take further advantage of Free World expertise by increasing the number of foreign technicians admitted to China. Japan, because of geographical and cultural propinquity, would appear to have the advantage over Western Europe in this respect. Sino-Soviet trade, which once aggregated \$2 billion, was well under \$100 million in both 1969 and 1970. China's imports from the Communist world consist largely of ordinary industrial materials, equipment, and spare parts. China now depends very little on other Communist countries for support in economic modernization.
- 27. A second main feature of China's foreign trade is the annual import of about 5 million tons of Free World grain, starting in 1961. As noted earlier in this memorandum, this feature continued in 1970. A third feature of China's trade is the earning of Free World foreign exchange through the provisioning of Hong Kong and the use of Hong Kong as an entrepot. Hong Kong trade earnings, including entrepot trade, remained at about the \$450 million level in 1970.

New Guidance for Education

28. China's colleges and universities, which had been shut down from mid-1966 to mid-1970, began to gradually re-open in the fall of 1970 under revolutionary management. The college course is to be shortened to two or three years, with only a handful of students to go further. Emphasis continues on mathematics, science, and engineering interspersed with generous doses of "Mao thought". Work experience is to be dovetailed with study, and factories and research institutes are to be attached to universities to give students practical training. The rehabilitated faculty is to drop its academic airs and face up to the revolutionary requirements of political struggle and manual labor. And students with work experience

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and proper class background are to get precedence in admission over students of academic and bourgeois origin.

- 29. The hiatus in education during the Cultural Revolution appears to have had no adverse economic effects in the short run. China already had two million people with some form of higher level education and many of these were not being employed in jobs suitable to their education. Training and apprenticeship seem to have continued for the several hundred bright younger men who must ultimately replace the aging group of top-level scientists and administrators.
- It is unlikely that the long-run impact on production of the disruption of education can ever be clearly distinguished, let alone quantified. If the Maoist educational reforms do take hold, the overall results will not necessarily be had for economic development. Several of the reforms -such as the insistence on practical classroom examples and on stints in factories and communes -could be beneficial to economic discipline and productive efficiency. The reduction of the length of formal instruction for physicians, engineers, and other professionals is paralleled by a similar trend in the United States today. ancient tradition of Chinese education -- that the scholar's hand is never toughened by manual labor -is incompatible with the regime's insistence on "revolutionary consciousness" and its strategy for economic development. The persistence of this tradition is in large measure responsible for the widespread disillusion among China's educated youth whose schooling prepared them for academic or whitecollar careers.

Economic Planning Back in Fashion

31. The winding down of the Cultural Revolution in 1969 permitted the resumption of regularized economic planning in 1970. Indirect evidence of the resumption of planning included the return to more orderly international trading relationships and the appearance of more economic directives and economic claims in the government press. Direct evidence was the announcement by Chou Enlai -- in connection with National Day last

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October -- that a new Fourth Five-Year Plan was to cover the years 1971 to 1975; Chou exhorted the Chinese people to make the last year of the old plan (1966-70) a strong foundation for the launching of the new plan.

In the same anniversary address, Chou noted that a National People's Congress would be held in the near future. This Congress would be the normal forum for the presentation and acceptance of the new five-year plan. The economics of the plan seem simple enough -- continuation of the expansion of output and capacity of the economy in an atmosphere of hard work, ambitious economic goals, and the priority of defense industries. The politics of the plan, however, seem to be among the factors delaying the holding of the Congress. Political infighting continues in China and a final balance has not been struck between moderates and radicals. civilians and military, and centrists and provincials. Time is on the side of the economic bureaucrats, yet many short-run issues still must be resolved:

- -- whether the current permissive policy toward private activity in agriculture should be continued, leaned against, or disowned.
- -- whether the buildup in industrial output and capacity should proceed under moderate pressure or under a full "leap forward" head of steam.
- -- whether material incentives to urban workers should be given greater or lesser play.
- -- whether the large-scale manufacture and widespread deployment of missiles and other advanced weapons systems should be pushed in the next five years even if it requires a screwing down of living standards.

Three Shadows

- This memorandum presents a generally favorable appraisal of Communist China's economic position at year-end 1970 and its prospects for comtinued expansion in 1971-75. The optimistic tone must be qualified, however, in three major respects. First, in spite of some striking industrial and technological advances, China may be falling further behind the modern industrial nations. Average industrial growth has been at an unspectacular rate of 4% in the last few years, and the industrial base is still small for a nation of 850 million people. The concentration of China's scarce scientific resources on nuclear/missile projects and the interruption of education during the Cultural Revolution are among the factors that hamper China in the worldwide technological race.
- 34. Second, the Chinese have benefited from a string of nine straight years of average to excellent weather in agriculture. Two or three consecutive years of unfavorable weather could eliminate China's narrow margin for economic growth; this is especially true since the regime probably will not undertake any birth control program that could stem the tide of population growth in the next five years.
- 35. Finally, any return to radical economic policies by the leadership could revive the economic stresses experienced during the Leap Forward and the Cultural Revolution and could lead to further loss of ground in the struggle to modernize the Chinese economy in a rapidly changing international environment.

Conclusions

- 36. Communist China achieved record levels of industrial and agricultural production in 1970. The rise in industrial output of 15%-20%, while impressive in comparison with 1969, represents only a 4% annual average rate of growth in relation to 1966. Production of military items advanced across the board in 1970. Agricultural production benefited from generally favorable weather and from record inputs of chemical fertilizer. The transportation system in 1970 was able to handle the increased volume of agricultural and industrial goods without appreciable strain.
- 37. A sharp jump in imports from Japan featured China's foreign trade in 1970. The total volume of trade returned to the 1966 level, having dropped 10% during the Cultural Revolution. Eighty percent of China's trade continued to be with the Free World. This trade enables China to acquire modern equipment, materials, and technology from Japan and Western Europe.
- 38. The resumption of regularized economic planning was an important development of 1970. Chou En-lai announced a Fourth Five-Year Economic Plan for 1971-75, and managers and workers felt the pressure to make 1970 a good base year from which to launch the new plan.
- 39. Prospects of continued economic expansion under the new plan are good. Construction of new civilian and military production facilities continued during the Cultural Revolution at a surprising pace, and much new capacity is presently coming on stream. An expansion is likely in the flow of Free World equipment and technology, and the regime may be more amenable to the presence of Free World technicians within China. Of course, two or three years of unfavorable weather in agriculture or a return to radical economic policies could rapidly jeopardize these prospects. And, although China is currently making progress, it may be falling even further behind in the world-wide technological race.

