PROSPECTS FOR AGRICULTURAL RECOVERY AND ECONOMIC REVIVAL IN COMMUNIST CHINA

By

Thomas T. Poleman

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The present depressed agricultural scene colors the entire economic situation in Mainland China. The drastic fall in farm output after 1958 resulted in near starvation conditions and was a prime factor behind the collapse of the Leap Forward in late 1960. Since then Peking has faced up to the problems posed by overpopulation and agrarian backwardness with considerable vigor, if always within the context of Communist dogma. Rural collectivism has been relaxed to stimulate peasant incentives, while priority within the economy has been shifted from development of heavy industry to activities "supporting agriculture."

Despite the fact that these moves contributed to some increase in farm production in 1961 and 1962--allowing the Communist leadership to enter 1963 in a mood of cautious optimism--I suggest here that there can be no simple and speedy solution to China's agrarian difficulties. Much more than the mere tolerance of "small freedoms" for the peasantry will be needed if production is to be raised to the point where the 1957 per capita consumption level can be restored and the stage set for sustained future increases that will keep ahead of the rate of population growth. A key lesson to be drawn from the experience of countries that have greatly augmented their farm output is that a close interdependence and complementarity exists among agricultural inputs. If increased supplies of chemical fertilizer are to yield maximum results, they must be accom-

panied by improved varieties of seed and improved farming practices, and vice-versa. And as fertilizer plants cannot be created overnight, neither can research and extension services (and above all the trained personnel to man them). Until a relatively strong infrastructure has been built up, technological transformation in agriculture must be a slow process. For China impressive gains cannot be expected for at least a decade even under the most favorable conditions--and there can be no assurance that the Communist leadership will not suddenly abandon its current reasonableness. During the intervening years the Malthusian dilemma will continue to be a real and present threat to the Mainland and will continue to exert its present brake on economic recovery. For industry in particular, the prospect is for a prolonged period of relative stagnation unless Mao and his colleagues back down from their current policy of self-reliance and seek technical and financial aid from abroad. In any event, a return to the growth rates achieved during the First Five-Year Plan (1953-57) is not likely during the foreseeable future.

1. Prelude to Disaster

The fundamental fact of economic life in China is the existence of a huge and growing population and a comparatively modest and technically backward agricultural base. During the early years of their rule (1949-57), the Chinese Communists were able (with exceptional success) to avoid a direct confrontation with this fact. Following the Soviet model, they inaugurated a program of accelerated industrialization, financing it to a large extent by siphoning off the meager rural "surplus." For this strategy to succeed, agricultural production has to be expanded at the same time that the rural sector received few additional inputs. Primarily because the regime could reap the benefits of a unique and one-time im-

provement--the restoration of peace and order in the war-torn countryside--larger harvests were in fact forthcoming. However, pacification also gave rise to a sharp increase in population, and the margin between agricultural production and minimum needs remained perilously thin.

It is doubtful whether the regime could have continued to ignore agriculture much longer under any circumstances, but the situation was abruptly brought to a climax by the failure of the Leap Forward. The rationale behind this extraordinary experiment has been examined elsewhere (1, p. 6). Suffice it to say that for the countryside the central underlying assumption was that China's underemployed rural masses could quickly be converted from an economic liability into an asset; that rationally employed they could go far toward making up for the capital inputs required by agriculture. If plausible in concept, in operation this idea became totally divorced from reality. The peasant was completely detached from his land under the commune system; traditional methods of cultivation were replaced by such ill-advised panaceas as deep plowing and close planting; and the vast number of irrigation and flood control works that were initiated were managed by Party zealots who were engineers only in name. The man-made damage that ensued was compounded by uncommonly poor weather in 1959-61.

Peking's reaction to the agricultural debacle has generally been, given the confines of Communist idealogy, to the point. The winter of 1960-61 saw the exhausting workpace of the Leap Forward eased, the first contracts let for massive grain imports from the West, and the commune system decentralized in an attempt to stimulate peasant initiative. Private plots and free rural markets were reintroduced, while the production team--the equivalent of the traditional village and containing some 20-30

households on the average--soon emerged as the key collective unit, with the rank-and-file given a greater voice in its management. Retrenchment and moderation became the economic watchwords. For the first time since Stalin's rise to power a major Communist regime set aside its all-out emphasis on heavy industry and gave priority to agriculture.

The effect on output of these steps (together with that of somewhat better weather) defies quantification, as in fact does the size of the crops of the last few years. The following estimates, however, are probably indicative of the general course of the all-important grain harvest:

	Million metric tons
1957	185
1958	195-205
1959	175-185
1960	160-170
1961	165-175
1962	180-185

It is now clear that the low point was reached in 1960, that the worst privations were experienced during the following winter and spring, and that output since has increased somewhat. The gains have been slight, however, and to a large extent they have been offset by the continued rise in population. With a population that had grown by some 60 million persons during the intervening five years, China entered 1963 with a grain outturn per person that was about 10 percent below the already low "normal" level that obtained in 1957.

2. Prospects for Agriculture

In spite of the fact that the regime has taken the improvements of the last two years as evidence that the worst part of the agricultural crisis has been weathered and that it is justified in adopting a fairly optimistic attitude toward the future, there is little to suggest that

the immediate outlook for agriculture is favorable. To be sure, some further moderate revival seems likely given normal weather conditions; a more normal weather pattern over the next few years may induce an increase in grain production on the order of from 5 to 10 million tons. But the loss of crucial momentum during the last four unfavorable years has created a gap between population and food supplies of truly formidable proportions. Simply to restore grain output to a point where per capita consumption could be elevated to the 1957 level would require a production increase of about 20 million tons, and for this level to be maintained in subsequent years would require additional increases of about 4 million tons annually.

Two maladies decisively limit the ability of Chinese agriculture to bring forth the necessary increases. It remains, in the first place, technically backward; and it continues to be hamstrung by the institutional constraints of collectivism--the concessions of the past few years notwithstanding.

The importance of technical transformation in agriculture seems at last to be appreicated by Peking and since the 10th Plenary Session of the 8th Central Committee in September 1962 the regime has appeared to be thinking in terms of a modernization program of some 20-25 years duration. Moderation and comparative reasonableness are evident in both the gradualness implicit in the effort and in the apparent emphasis on research and extension activities and on production of chemical fertilizers. The question, however, is not whether such a program will bear fruit--the scope for improvement is so great that it could hardly avoid doing so--but whether increases of the magnitude required will be forthcoming quickly. It is believed that they will not be; this despite China's being

in a position to draw on and profit by the experiences of such Asian countries as Japan and Taiwan that have dramatically increased farm output in recent years.

The Japanese and Taiwanese cases point up two basic lessons regarding agricultural modernization. The most widely recognized, of course, is the prime importance of chemical fertilizers under Asian systems of intensive cultivation. The "agricultural miracles" in both countries were directly associated with increased use of fertilizers and in both countires the rate of fertilizer application far exceeds that of China (2, pp. 258-64):

	Kilograms of chemical fertilizer applied per planted hectare (in terms of nutrient content)
Mainland China (1962; author's estimate)	5
Taiwan (1960/61 crop year)	110
Japan (1960/61 crop year)	228

Frequently overlooked is a second lesson: that agricultural inputs are closely interdependent and that they must be developed in conjunction if they are to produce maximum results. Thus increased yields in Taiwan and Japan reflect not just the heavier use of chemical fertilizers but also the action of many other influences, including improved cultural practices, new fertility-responsive crop varieties, wider use of pesticides, and better control of water (3).

With respect to neither of these lessons is the immediate outlook for China promising. China's ability to produce chemical fertilizers is still extremely modest and undoubtedly has been affected by the current economic crisis and the dispute with the Soviet Union. The installed capacity claimed by Peking approximates only 3 million tons (most of it provided by the USSR), but during 1962 a combination of poor operating procedures, equipment breakdowns, and shortages of raw materials probably

kept output nearer 2 million tons. Up to now China has made little progress in construction of new fertilizer plants by its own efforts, although the regime has proclaimed a high priority for such works during the past several years. In 1959 and 1960 construction of 8 new plants was started, each with a capacity of about 100,000 tons. Completion of only two of these plants has thus far been reported and their construction time was nearly three years. Although the Chinese claim that all of the new plants are being built with domestically produced equipment, it is likely that some vital components still must be imported.

In view of the difficulties that the Chinese have experienced in implementing even this limited expansion program, substantial increases in fertilizer availability seem to be out of the question during the next few years. Some increase, to be sure, may be obtained through imports--the prospect is for up to 2 million tons to be imported in 1963--and from manure as the animal population recovers, but truly significant additions can only come from domestic chemical output. Fertilizer-response estimates for China rest on extremely spotty evidence; a ratio of between 2 and 3 tons of grain for each additional ton of chemical fertilizer (gross basis), however, is a widely used rule of thumb. On the basis of this ratio, to produce 2 million additional tons of grain each year, or half of the annual increment needed to keep pace with population growth, China would have to bring into production the equivalent of from 7 to 10 100,000 ton plants each year.[1/]

[1/] That the Chinese Communists themselves believe such a target would prove beyond their capabilities for many years is attested to by their proclaimed objective of elevating fertilizer production to 8 million tons in 10 years, presumably by 1972 (4). This goal apparently represents what Peking feels to be the best that can be got from the substantial effort recently announced, including conversion of at least 100 existing machine-building facilities to the manufacture of equipment for fertilizer plants.

Some increases in output may of course be expected to accrue from such complementary inputs as better water control, pesticides, and improved crop varieties, but the magnitude of these gains will probably be modest for some years. It took Japan and Taiwan more than 50 years to build up the technology and the scientific understanding that underpins the productivity of their agricultural sectors. Although China is in a position to take over and profit from much of this knoweldge immediately, to apply it to local conditions will be a time-consuming and complex task, one that will involve patient observation and testing for a number of years. It is also a task that China is poorly equipped to undertake. For as industry took preference over agriculture in the regime's early investment and training programs, so China now finds itself with probably fewer than 1,000 competent agricultural scientists. Until they begin to be joined by others, perhaps in 3 to 5 years, they can do little more than lay the foundation for future gains.

One other factor contributes to the pessimistic short-run outlook for agricultural recovery on the Mainland. That Communism can lay no claim to success in the agricultural field has long been obvious, but evidence is mounting that the depressing effects of collectivism on peasant incentives are especially damaging under the production systems of the tropics, particularly when rice is the key crop. Compared with field agriculture in the temperate zone, where the demand for labor and decision-making is concentrated at planting and harvest time, the garden-type year-round cultivation of the tropics offers an abundance of opportunities for man-induced failure. What effect, if any, the recent decentralization of controls will have on this fact in rural China it is not possible to say. But it is worth noting that refugees reaching Hong Kong report that most of the new-found zeal of the 1962 season was directed by the peasants

to their private plots and not to the collectively cultivated land and that the greater part of the recent increase in food supplies is most likely attributable to private, not collective, production.

3. Implications for General Economic Revival

Agriculture has historically been the key sector of the Chinese economy. But today, in view of Peking's current (and from the economic point of view, irrational) policy of self-reliance, it is as never before the pivotal component; and the unfavorable outlook for agriculture darkens the prospect for any broad economic revival. Not until the population is better fed can over-all recovery be contemplated, and it is the farm sector that must also supply most of the raw materials required by light industry and most of the exports needed to finance imports of essential capital goods. Given the long-range nature of the agricultural problem, a continuation of the go-it-alone policy would imply slow and difficult progress in the industrial sector during at least the next decade. It is possible that industrial output could be increased sharply for 1 or 2 years simply by putting idle capacity to work, but an attempt to start a program of substantial development in industry would be checked by weaknesses in agriculture.

It is valid, however, to question whether the prospect of a prolonged period of industrial stannation would be acceptable to a regime which is determined to obtain world power status for China in the quickest possible time. Peking's international political status derives chiefly from the "modern" sector of its economy (with which about 15 percent of the population is identified), not the semi-subsistence rural sector which makes up the bulk of the population. This "modern" sector is largely a product of the First Five-Year Plan and of the technical and material assistance received from the Bloc during that period. The sector is now developed

to the point where it can satisfy most of China's crude industrial needs (e.g., cement and steel rails). In order to progress further, it must broaden its technological capabilities by extensive efforts in research and development and by complementing the present output of heavy industry with greater variety and higher quality of products. The Chinese could probably accelerate this type of development in isolation from the problems that now exist in agriculture provided the regime were willing to seek renewed technical and financial aid from abroad.

But a revival of large-scale aid from the Soviet Bloc would imply a smoothing over of the Sino-Soviet dispute, whereas a turn to non-Bloc countries for assistance would require the subordination of political goals for trade with Japan and a willingness to supply technical data to foreign businessmen, to accept non-Communist technicians in China, and to send Chinese personnel outside the Bloc for training. Concessions to neither the Bloc nor the West would be palatable to the inordinately proud and confident group of men that makes up the Chinese Communist leadership, but during the decade or so that will be required to build up a strong agricultural infrastructure for China, the prospect is for either industrial stagnation or a heavier diet of ideological crow.

Some years ago Mao-Tse-tung said: "We cannot talk principles on an empty stomach." The fate of 700 million people hinges on his feelings today.

CITATIONS

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