2

ISSUES AND PROSPECTS

In 1975 China formulated a 1985 foodgrain[1] production target of 400 million metric tons. At the time it implied an ambitious but conceivable growth rate of 3.5 percent per year. Foodgrain production stalled at about the 1975 level for the following two years, and although 1978 registered a 7-8 percent increase (see Table 1), the implied growth rate for target fulfillment within the remaining seven years had risen to about 4 percent per year.[2] A preliminary 1979 figure of 315 million metric tons has been released.[3] This figure represents a healthy increase over a good 1978 harvest but falls somewhat short of the required rate for target attainment. It is quite possible, of course, that the preliminary figure is an underestimate.[4] But it would have to be a record underestimate, with the subsequent adjustment surpassing even 1978's upward revision of about 10 million metric tons, to bring the required growth rate for reaching 400 million metric tons by 1985 back to 3.5 percent per year. (According to the State Statistical Bureau final figure [332.115 million tons], the preliminary figure was in fact a record underestimate. The required growth rate for 1985 target fulfillment is now 3.2 percent. Fulfillment must now be considered a serious possibility, but would still represent a remarkable achievement.)

High sustained growth rates in output are far more difficult to attain in developing agriculture than in the industrial or service sectors. From the vantage of 1978's final estimate or 1979's preliminary figure, realization of the implied expansion rate would not only represent a truly significant achievement for the People's Republic, but for any major producer of grain.[5] During the spring and summer of 1979, there was little reference to the 1985 target, but it was not explicitly revised with the new wave of economic conservatism as were the steel target and a variety of capital construction projects. In late September 1979, Zhang Pinghua[6] reaffirmed the target and went on to disclose that of Mainland China's 29 provinces, municipalities, and autonomous regions, 18 declared that they would be able to fulfill their individual 1985 targets, 3 indicated that they would have difficulty doing so, and 8 promised overfulfillment. It is therefore useful to investigate how close the Chinese might come to achieving the goal and how the additional 95 million metric tons of production would be allocated.

China's long-term foodgrain production growth rate averages 2.5-2.6 percent per year (1952-78) and is a good deal lower if the base year chosen is 1957, just before one of the worst nationwide agricultural failures in Chinese history. The rate can be made to appear higher by using 1949, the year of the Communist Party's ascension to power before full recovery from World War II and the Chinese Civil War; and the rate has clearly

Table 1—Two approximations of a consistent "official" foodgrain output series, 1949-78

Date	Approximation A	Approximation B	Weather Conditions
1949	111	111	bad
1950	130	130	n.a.
1952	161	161	good
1953	164	164	average
1954	166	166	bad
1955	180	180	good
1956	188	188	bad
1957	191	191	average
1958	206	205 [a]	good
1959	171	184 [a]	average
1960	156	146	bad
1961	168	156 [b]	bad
1962	180	170	good
1963	190	183	average
1964	194	200	good
1965	194	194	average
1966	215	220	bad
1967	225	231–233	good
1968	210	[a]	average
1969	215	[a]	average
1970	243	243	good
1971	246	246	average
1972	240	240	bad
1973	266	261–266	average
1974	275	275	good
1975	284	283–285 [b]	average
1976	285	286 [c]	bad
1977	285	283 [c]	bad
1978		305 [c]	bad

Table 1—(Continued)

Sources: Approximation A: Robert Michael Field and James A. Kilpatrick, "Chinese Grain Production: An Interpretation of the Data," *China Quarterly*, June 1978, pp. 372-3.

Approximation B: Bruce Stone, *A Review of Chinese Agricultural Statistics*, Research Report 16 (Washington, D.C.: International Food Policy Research Institute, forthcoming).

Weather Conditions: Leo A. Orleans, "Soviet Perceptions of China's Economic Development," in U.S. Congress, Joint Economic Committee, *Chinese Economy Post-Mao*, vol. I (Washington, D.C., U.S. Government Printing Office, 1978), p. 147; Edwin F. Jones, "The Emerging Pattern of China's Economic Revolution," in U.S. Congress, Joint Economic Committee, *An Economic Profile of Mainland China* (New York: Praeger, 1970), p. 93.

Notes: Approximation A was an attempt to compensate for changes in the official Chinese definition of foodgrains. It is based on the authors' conclusion that 1964 was the first year since 1955 that soybeans were included in foodgrain output statistics released by the Chinese government and that since 1970 tubers have been included at a fifth rather than a fourth of their natural weight. The series relies primarily on adjustments of figures appearing in Chinese publications, broadcast transcripts and oral statements by Chinese officials. They are supplemented by estimates prepared by the authors and other scholars.

Approximation B is based exclusively on Chinese materials and differs, principally in the 1960s, from those used to derive the Field and Kilpatrick series owing to the author's provisional adoption of the recent statement attributed to a Chinese government official that the definition of foodgrains and the grain equivalent weight of tubers were changed in, respectively, 1958 and 1963. Both series are presented since the dates need to be verified. Not only are these dates a source of some ambiguity, but there is now some question whether all soybeans or only those consumed directly are included. There is also a small chance that the tuber ratio has been changed back to one fourth of their natural weight (see note e). Finally, Chinese officials have told members of a Japanese delegation that whatever the aggregative conventions adopted by the government, definitions used by local units in reporting output varied between localities and were sometimes changed, suggesting that establishment of a truly consistent series will necessitate a recomputation of adjusted local reports. It will be complicated and difficult if not impossible to construct such a series.

Foodgrains include paddy rice, wheat, coarse grains, tubers (valued at one fifth of their natural weight), and soybeans; for coarse grain definition see footnote 1.

[a] The official figures for 1958 and 1959 are particularly unreliable. Popular consensus has it that massive overreporting on the part of local administrative cadres during those years vastly inflated compilations at the State Statistical Bureau. These compilations may not now be completely correctable, although various more conservative official series were published after the original estimates appeared. The figures included are based on the last of these more conservative series, although it is not a particularly reliable series for other years.

No official national aggregate figures have been published for 1968-69.

[b] Based on preliminary estimates: unambiguously final official estimates have not been made available.

[c] A definitional question has again arisen over the 1978 output figures first published by the State Statistical Bureau in June 1979. The 1977 figure may also be implicated since it appeared in the same State Statistical Bureau publication. The included 1976 figure, which was based on an increment over 1977 output appearing in a September 1979 publication, may be as well. An official news release in late September quoted the included 1978 figure along with figures for 1949 and 1952. But the latter two coincide with official foodgrain figures for those years, including all soybeans and tubers valued at one-fourth of their natural weight. In 1978 and 1979, however, the current definition (including all soybeans and tubers valued at a fifth of their natural weight) was reportedly confirmed by Chinese officials to at least two independent foreign delegations. Moreover, statements made to a Japanese delegation indicate that not all soybeans, but only those consumed directly, are included in official foodgrain statistics although an American delegation was reportedly told that all soybeans were included. The assumptions here are merely convenient ones: that the exclusion of soybeans used in oil and bean cake production is, at most, relatively recent (perhaps accounting for the difference between the final 1977 figure published in mid-1978 and the State Statistical Bureau figure published in mid-1979); and that the comparison with the 1949 and 1952 figures, which include all soybeans and value tubers at one-fourth their natural weight was one of expediency. Statistics may not be available for a recomputation of "foodgrain" soybeans or the Chinese may now accept that early official production figures were minor underestimates anyway, more or less offsetting the bias introduced by additional incongruity. Current figures may also be underreported, though no doubt to a lesser extent. If soybeans used to produce such things as cooking oil and bean cakes have indeed been excluded, then to establish rough consistency in Approximation B it is only necessary to add about 3 million metric tons to the included State Statistical Bureau estimates for 1977 and to the 1978 figure (though probably not 1976). But the question, unfortunately, remains open.

been higher for shorter periods, even if we are careful to take peak-to-peak (1971-75: 3.8 percent per year) or trough-to-trough (1968-77: 3.1-3.5 percent per year) readings. But the 1978-85 implied rate of growth has been exceeded no more than once in the last three decades for a period of comparable length (1960-68: 3.8-5.0 percent per year), and although this is a trough-to-trough reading, the 1960 trough was so low (production probably did not exceed the 1952 level) as to render comparison with 1978-85 quite spurious.[7]

In order to exceed historical average rates of growth in domestically produced foodgrain supply, China must do one or more of the following: increase the rate of growth of input application and absorption in foodgrain production; increase markedly the quality of these inputs; improve significantly the efficiency of allocation or manner of combining these inputs; or utilize technical innovations to effect a major upward shift in the production function. It can be demonstrated that China, owing to technical developments and policy adjustments, may be in a position to improve on past performance in each of these categories of change. Yet the changes themselves present problems which may eventually increase the risk of production stagnation. Although nonpolemicists must perhaps remain skeptical that the 1985 foodgrain production goal will be achieved, the Chinese are currently in a rather favorable position to put together several years of better-than-average agricultural growth in the face of declining rates of population increase.

The fact that China is supporting one-fifth to one-fourth of the world's population on 7-8 percent of the world's cultivated land suggests to many Westerners the pessimistic theories of Thomas Malthus and marginal labor products diminishing to zero. Yet over the last three decades as a whole, China has been able to increase foodgrain output, albeit by a slim margin, in excess of population growth and seems in a strong position to continue and even intensify this process, all within the context of a development plan that has emphasized agriculture to a far lesser extent than its press reports would indicate. Moreover, the chronic peak-period labor shortages of Chinese agriculture, documented as early as the 1920s by Buck,[8] have been accentuated, due in particular to overlapping peak demands of multiple cropping and China's labor-intensive agricultural strategy.[9]

Virtually no Western observers doubt that the People's Republic's immense population of over one billion[10] will be capable of absorbing 400 million metric tons of foodgrains in 1985, particularly when population growth is taken into consideration. But a closer examination of China's demand for grain may shed light on the extent and timing of changes in China's international purchase plans (should future production levels actually turn out to be unexpectedly high or low) and on prospects for demand progress beyond the 400-million-metric-ton mark.

FOOTNOTES

[1] Foodgrains include rice; wheat; coarse grains; green, yellow, and black soybeans (probably all soybeans but perhaps only those used directly for consumption); and tubers (valued at one-fifth their natural weight). Coarse grains include millet, sorghum, corn, barley, buckwheat, mung beans, oats, proso-millet, small beans, green beans, and broad beans.

[2] For output figures see the official series in Bruce Stone, "A Review of Chinese Agricultural Statistics," International Food Policy Research Institute, Washington, D.C. June 13, 1979, Table 2. See also two approximations of consistent series in Table 1 below.

[3] U.S., Foreign Broadcast Information Service (FBIS), *People's Republic of China: Daily Report*, December 31, 1979, p. L12. "Rich Harvests," *Beijing Review*, January 14, 1980, p. 3. The State Statistical Bureau (SSB) final figure (332.115 million metric tons) is from Xinhua [New China] News Agency, news bulletin, April 30, 1980.

[4] Chinese economists share the belief that initial estimates are consistently below the true output figures because they are deliberately underestimated by local, county, and provincial governments. They also believe that the final estimates based upon state purchase information are underestimated, although not by as much. Conversation with Wu Chuan-chun, deputy director of the Institute of Geography, Academica Sinica, Beijing, January 25, 1979.

[5] This point was first made on the basis of a 1978 estimate of about 290 million metric tons with an implied growth rate of 4.8 percent per year by Robert F. Dernberger and David Fasenfest, "China's Post-Mao Economic Future," in U.S. Congress, Joint Economic Committee, *Chinese Economy Post-Mao*, vol. 1 (Washington, D.C.: U.S. Government Printing Office, 1978), pp. 3-47.

[6] Xinhua, news bulletin, September 27, 1979, p. 19; FBIS, *PRC*, September 28, 1979, pp. L9-L15.

[7] These growth rates were calculated from Table 1.

[8] John Lossing Buck, *Chinese Farm Economy* (Chicago: University of Chicago Press, 1930).

[9] This argument is developed in Shigeru Ishikawa, "China's Food and Agriculture: A Turning Point," *Food Policy* 2 (May 1977): 98-9, where it is pointed out that the current labor utilization rate in Chinese model communes far exceeds that of China in earlier periods and concurrent rates in other Asian countries. However, this is due in part to the differences between the valuation of labor by the individual and by the state, which results in both overemployment and a neglect of collective activities in favor of private sideline and leisure activities (see Thomas B. Wiens, "The Evolution of Policy and Capabilities in China's Agricultural Technology," in U.S. Congress, Joint Economic Committee, *Chinese Economy Post-Mao*, vol. 1 (Washington, D.C.: U.S. Government Printing Office, 1978) p. 674. Also see Ishikawa, "Prospects for the Chinese Economy in the 1980s," Tokyo, March 12, 1979. (Mimeographed.)

[10] A recent estimate by John Aird, the United States's foremost expert on the Chinese population, places the midyear 1979 figure at 1.017 billion (see Stone, "A Review of Statistics,"; Table 1). As of year-end 1979 even the Chinese were occasionally quoted as referring to their population as over a billion. (Xinhua quoted by the *Japan Times* [Tokyo], December 29, 1979).