

Y. Y. KUEH, *Agricultural Instability in China, 1931-1991 – Weather, Technology and Institutions*. (Studies on Contemporary China). Oxford: Clarendon Press, 1995. 412 pages, £ 48.—. ISBN 0-19-828777-1

The author analyses the causes of instability in agriculture and harvests over a period of 60 years. Severe climatic disturbances – floods and droughts – occurred during the period 1931-1991; technological changes were introduced, mainly chemical fertilizers, improved seeds, extended irrigation, drainage and improved flood control.

There were also deep-going political crises which influenced farming activities: the Japanese invasion, civil war, communist agrarian reform, and after 1956 repeated changes in communist farm policies – the big leap forward, grain requisition ("confiscatory farm procurement"), forced formation of people's communes, decollectivization, introduction of the responsibility system on the basis of peasant households and state promotion of agriculture. That Kueh has undertaken a huge task is evident. An astonishing amount of data is presented, though there are also some gaps.

Kueh has analysed all data with a sophisticated method which he describes in detail. He has established his own instability index. Kueh also makes specific reference to the missing data and explains the difficulties arising, *inter alia*, from the variety of ecological conditions.

Weather disturbances as well as institutional issues (landlordism, high tenancy rates) have been at the root of peasant uprisings. Thus, one aim of agricultural policies must be the stabilization of production. The communist leaders of present-day China are well aware of the key position of agriculture for all development efforts.

In the brief part I the author reviews the causes of instability, mainly unreliable weather, technological changes (acceptance of which largely depends upon the peasants' economic and social status!), institutions and the attitude of the peasants toward change. Fluctuations in major grain-producing countries are also reviewed so as to permit comparison. Five periods of post-revolutionary agrarian policy are defined: 1949-52 – land reform; 1953-57 – collectivization drive; 1958-60 – Communization; 1961-65 – readjustment; 1966-76 – cultural revolution; 1977-90s – post-Mao reforms. To a certain extent and for a limited period the coercive approach (commune formation and cultural revolution) have contributed to harvest stability.

Part II analyses diachronically agricultural instability over the whole period of 60 years, dealing with the institutional changes according to partial periods and by comparison of partial periods. E.g. during collectivization

zation (1952-58) the instability index declined considerably compared with 1931-37. Kueh concludes that collectivization was "an 'institutional hedge' against agricultural fluctuations" (p. 48). This is true on a high aggregative level, not for every smaller region. Decollectivisation coincided (1978-84) with unstable yields in certain years, but also with severe weather disturbances, whose "influences are difficult to estimate" (p. 59). Generally, the years 1978-84 were "associated with rather dramatic upsurges in yield and output as a result of increased and widespread application of chemical fertilizers and new seed hybrids" (p. 103) and price incentives. Northern China experienced improved crop stability, while two main southern rice-provinces faced heavy floods in 1980 and 1981, which destabilized the total harvest. In the long run, also due to collective primary accumulation, China has improved its irrigation and drainage infrastructure and flood prevention technology, thereby enhancing stability. But "the weather – not behavioural factors – provides the best (if not a total) explanation of observed agricultural fluctuations" (p. 61).

Collectivized rural control as against the market economy of the 30s plus improved technology largely ended the earlier strong fluctuations of grain-sown area in northern China. Centrally provided relief grain helped to stop rural emigration without resorting to force. "This has probably been the most visible long-run change in the North China plain." (p. 86) The influence of the weather has declined due to "institutional and technological hedges" (p. 88). Kueh is ambivalent about the influence of decollectivization on the "accelerated output growth in 1982-84". On the other hand, the big leap forward led to a harvest failure in 1959-61, covering almost all regions: "Clearly the notorious Great Leap Forward strategy and the concomitant institutional upheavals are implicated in the 1959-61 disasters ... The ... period 1970-77 was characterized by quite steady rates of increase, while the latter period, 1978-84, was associated with rather dramatic upsurges in yield and output as a result of increased and widespread applications of chemical fertilizers and new seed hybrids" (p. 103).

Collective coercion and mobilization helped to stabilize grain production, but improved flood control, irrigation and drainage also contributed to that effect. Major weather anomalies, however, often remain beyond human control.

Part III deals with the major causes of instability, of which the political and institutional are not easily quantified. This part confirms the earlier findings by comparing inter alia three different periods of communist agrarian policy: 1952-58: the remunerative approach; 1970-77: the coercive approach; 1978-84: the decollectivization drive. The frequent changes

in policies had little impact on the variations in annual yield; the influence of weather and technology was paramount. But "the disastrous 1959-61 episode was more than a matter of weather disturbance" (p. 133). Generally, the influence of weather will continue to diminish. Instability will now be more dependent on government policy, which affects incentives and economic behaviour of the peasantry. Such general findings can be contradicted by some extraordinary disturbances, e.g. extremely favorable weather brought a bumper harvest in 1966, a year of "intensified rural 'class struggle', advocated by Mao" (p. 148). "Nevertheless, at the national level it is difficult, if not impossible, exactly to isolate, in quantitative terms, the weather-caused yield-losses from the possible implications of policy influence." (p. 163)

Part IV analyses the influence of rainfall and tries to identify the non-weather factors of the harvest disaster and "total chaos in rural China" in the early 1960s. Kueh does, however, confess that "many ... observations ... are highly speculative" (p. 204) due to the lack of provincial grain yield data. As everybody knows today, the great leap forward with its enormous grain output targets – a doubling from 1958 to 1959, based on exaggerated success reports – was a flop in every respect, both in farming and in "village steel production", and led to terrible suffering and mass migration of the rural population. Confiscatory grain procurement forced the peasants to contract the area sown and, thus, had effects over a longer period.

The last part deals with the implications of the findings in a new institutional setting after "the Document of January 1, 1984, effectively sealed the fate of rural collectives" (p. 235). Commercialization of farm production might again increase instability (though on a much higher output level!). But Kueh finds a stabilizing trend for the period 1985-90. Improved income and living standards have made peasants less vulnerable to policy demands. Thus, given much less state control, both weather and government price-policy will influence the peasants' decisions and the grain harvests. "Wrong" price-signals can now have equally disastrous effects ("in nature, though not necessarily in scale", p. 281) as the old highly centralized system with its physical control. If, however, the government learns from experience how to use the price-instrument, in future the awkward effects might become marginal.

In conclusion the author says that collectivization combined with restrictions on rural outmigration compelled the peasants to protect themselves against adverse weather by all available means and to struggle for better harvests. In spite of final decollectivization after 1985, the yield fluctuations were quite small. Improved irrigation and drainage, higher

fertilizer inputs etc. worked for higher stability. This implies a declining influence of the weather. With a higher level of food security in the 1980s, the peasants are less subject to state extortion, more free to maximize their income by shifting to non-grain production (if prices are favorable), which might lead to more instability of the basic grain-crop.

Kueh's study offers many insights into Chinese agricultural policies and the natural conditions of farming. The methods used are interesting and very sophisticated, the wealth of data impressive. The author clearly presents his methods as also the gaps, which caution him against simplifying conclusions.

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