CHINA: THE NEXT DECADES

NECESSITY, POLICY AND OPPORTUNITY IN THE CHINESE COUNTRYSIDE

Frank Leeming

WORKING PAPER 91/9

SCHOOL OF GEOGRAPHY • UNIVERSITY OF LEEDS

Fourth Keele Geographical Symposium

China: the next decades

17 December, 1991

Working Paper 91/9

Necessity, policy and opportunity in the Chinese countryside

Frank Leeming

School of Geography, University of Leeds

The golden age

The countryside was for a few years the great success story of the Third Plenum reforms of 1978 onwards. The centrepiece of this success was the introduction of the responsibility and contract systems, which in effect awarded the status of family farmer to rural households which had previously been much more like employees of the brigades . This change in status, with its accompanying changes in the practical experience of the working day, capacity to take decisions, opportunities for diversification of production and so forth, was accompanied by farm price increases and, for some years, rising incomes for farmers (CSY 1990, 274). It also heralded a variety of other changes in the countryside, mostly very popular, such as the dissolution of the commune system with its union of economic management with administrative authority, the relaxation of planning control of cropping schemes year by year, and the abandonment of the principle of official compulsion to particular courses of action by farmers. Enrichment of the working people was now a proclaimed aim of the system. Most of these provisions now seem self-evidently rational, but most had been anathema to the operators of the previous Maoist systems.

The reforms in the countryside were broadly successful. Obligations such as the delivery of grain supplies to the state continued, but against higher prices and a much better-motivated peasant workforce. Various features of change previously introduced during the 1970s, particularly greatly improved supplies of fertilisers and various rational cultivation practices associated with learning from Dazhai, helped to support greatly increased outputs of grain. Grain outputs rose from 305 million tons in 1978 to 407 million tons

in 1984 (CSY 1990, 349). The former was the first such figure in Chinese history to rise above 300 million tons; the latter was a record figure not exceeded until 1990. Cotton output also reached a peak, still not exceeded, of 6.3 million tons (CSY 1990, 349). Yields per unit area greatly increased - of grain as a whole, by 45 per cent between 1978 and 1984; of wheat, by 61 per cent (CSY 1990, 355). Much of this improvement was said to depend upon improved motivation, and that apparently depended partly upon the peasant farmers' new sense of independence, with increased participation in farm work by young and old family members, partly upon the new capacity of the family to keep the fruits of its own hard work, rather than sharing them with others whose work might be thought less effective. The same rationales applied to household pig and poultry keeping (Leeming, 1985, 58-9). Outputs of pigs rose rapidly after 1978, by some 7 per cent per year in the period up to 1985 (CSY 1990, 360). One writer says that it was "erroneously believed that the grain problem had been solved" (Zhang Gengsheng, 1990, 66).

In fact 1984 was a turning-point. The bumper harvest of that year led to official anxiety about grain storage and more ambitious uses for grain. As a result the state, anxious to save money as always, especially in a year of tight credit, reversed the payment priorities in the official grain purchase system - henceforth, a higher price was to be paid for the first 70 per cent of purchases, and a lower basic price for the remaining 30 per cent (CCP 1989, K2; Oi, 1986a, 281). At the same time, the state gave up its monopoly of trade in grain. Grain quotas were now converted to contracts, with a clear undertaking (not always honoured by the state) that henceforth they were wholly voluntary. Quotas for pigs, fish and vegetables were also abolished. "No units whatsoever may set mandatory production

plans for the peasants" (CCP, 1985, K2).

The new rural concept

The specific motivation of the communist party in making these changes cannot be known, but there is evidence that they form part of a wider body of change promoted at that time, and hence were perhaps not simply a response to perceived over-production of grain in 1984. Other changes in the rural system in 1984-85 included a fresh approach to rural industries, now to be called "township enterprises" and much more wholeheartedly encouraged, and notice of implicit toleration of migration of rural labour to local towns, and by implication further afield as well. There was also an indication by the central authorities of adoption of a new concept for the rural economy itself - "larger-scale commodity production" (CCP 1984, K1), and "rural production ... transformed into a commodity economy" (CCP 1985, K1). To further this objective, "the gradual concentration of land among efficient families should be encouraged", and land contract periods should generally be longer - typically for more than 15 years (CCP 1984, K1). Other official documents of the same phase proposed more liberal regimes for employment of workers, peasant, industrial, commercial and transportation enterprises and households specialising in various kinds of production, including grain. At the same time the state started the policy of transferring the administration of rural counties from prefectures to cities, with the proclaimed aim of stimulating rural change and development. Clearly there was a rational policy underlying all these proposals - a policy for a countryside much less self-sufficient locally, much more

commercialised, much less ordered by the officials, and much more sympathetic to economic growth and perhaps economic adventure, than that of the first phase of reform.

On the basis of experience in the countryside up to that time, the communist party might reasonably have expected favourable peasant responses to most of the proposed changes, particularly since they proposed the lifting of restrictions rather than fresh obligations. But from 1985 onwards the previous rapid growth in grain and cotton outputs came to an end. These outputs have since fluctuated below or close to the high figures for 1984. Outputs of other kinds, such as pigs, have continued to increase, but at quite moderate rates. Meanwhile demand for rural produce has increased rapidly, not least because population has increased by some 90 millions since 1984 and the labour force by nearly as many; and a distinctly sour note has intruded into media discussions of rural development, and no less into comments by peasants and their spokesmen on the same issues. All is not well in the Chinese countryside.

Rural dissatisfaction

Problems in the grain system

The heart of the present rural malaise is a group of problems involved in grain production, especially state grain procurement. For these problems, there are several heads of discussion. It is worth noting at the outset that the state's "take" of grain is some 125 million tons all told (Grain Studies Group, 1990, 38). This is only about 31 per cent of total output, but of course dominates the commercial

market in grain. Most of the rest of Chinese grain is used by those who grow it.

One problem arises from the reversal of the state's payment system in 1985. It is argued that the result of this was to reduce farmers' incomes on average by about 10 per cent (Hou Zhemin and Zhang Qiguang, 1989, 38). The market price has tended since that time to rise against the state's fixed price - from 30 per cent higher in 1985 to figures close to double in 1988 (Wen Guifang, 1990, 50). This is no doubt one reason (some people argue, the main reason), for the subsequent failure of grain output to rise further until 1990, and then only under exceptional official and media pressure, and with the help of an exceptional price rise; but it is not the only one.

Grain is cheap - 100 kg of grain is cheaper than a bottle of good wine (Mao Yangqing and Tang Jianzhong, 1987, 24). Official grain prices are now nearly three times those of 1978, but many other prices, including other farm prices, have risen much more in the same period. Cheap grain is an aspect of national policy designed to help support the cities at the expense of the countryside; it is difficult to defend, but so far impossible to reform. Official price subsidies for the cities have risen from 1 billion yuan in 1978 to 37 billion in 1989 (CSY 1990, 224). A highly urbanised province like Heilongjiang finds this system difficult to tolerate (Wu Yunbo and others, 1990). However the official subsidy system is additional to the "subsidy" which low procurement prices squeeze out of the countryside. It is also on top of the use of outputs from rural township enterprises to subsidise grain-growing families in prosperous parts of the country such as south Jiangsu. This last is an important practice, called by the communist party "industry subsidising agriculture", but more accurately "rural subsidising urban". It is

interesting that details of this practice in local cases are no longer readily found in the literature, though they appeared as late as 1986 (Fuchuan Survey Group, Chinese Institute for Rural Science, 1986) - perhaps because the real form of this subsidy is now generally understood. However it remains commonplace, and has even suggested an adaptation at province level - that Guangdong, with its exceptional prosperity, but in recent years in deficit for grain, should invest money in low-yield farmland in hard-up Jiangxi, which would then be able to supply Guangdong with grain - of course at low prices (Huang Bingxin, 1989).

Prices, costs, deliveries

Grain is cheap, but the inputs which are necessary to produce it are not, or not perceived as such. The "scissors" of rural output prices versus manufactured input prices, having closed for some years in the early 1980s to the advantage of the countryside, are said now to have opened again to its disadvantage (Kong Xiangliang, 1990). This view is challenged by some writers (Wang Fu, 1990), but seems to prevail; one writer explains why the state's efforts to prevent continued rises in the price of fertiliser have been unsuccessful - he quotes price rises in transport and fertiliser inputs such as fuel (Feng Guoheng, 1990). The expense of farming is a constantly repeated complaint in many surveys of peasant opinion. In addition, supplies are often difficult to obtain. In the majority of provinces in 1989, supplies of chemical certiliser, other chemicals and plastic sheeting, fine-strain seeds, diesel and farm tools were

all in deficit, often to the extent of 20 or even 30 per cent (Beijing broadcast, 6 March 1989, translated in FBIS Daily Report, 13 March 1989). Assumption of general state control over these supplies has not been able to guarantee supplies. Oi (1986b) shows that local officials retain a great deal of discretionary control over rural supplies, and also that they can easily manipulate supplies to take advantage of "double-tracking" in prices - differences in price between official sales (cheap) and unofficial (dear). This kind of corrupt practice exists among local officials and their agents; and it is also said to exist at provincial level in around half the provinces (Li Delai, 1989). Other practises of which officials are accused in this field are less corrupt but even more offensive. Stories have appeared in the Chinese press about officials collecting grain for "contracts" by force from peasants' homes, or seizing pigs, cash and savings bonds from households where grain deliveries were in default (Liu Zifu and Wang Man, 1989, 59). Stories of this kind appear to come mainly from southern provinces, especially the group of inland provinces (Anhui, Jiangxi, Hunan, Hubei, Sichuan) which are expected to supply grain to more advanced and richer coastal provinces. It is true that peasants who do not deliver their contract grain may be selling the same grain for a higher price on the market, though not necessarily so. There is also the problem (from the grain agencies' point of view) that the province is bound to deliver a specified quantity of grain; if it cannot produce this from its own production, it must buy up grain from other sources in order to do so. But understandably this kind of manoeuvre is not favoured by the state, and cannot be considered valid except in the short term. Nor can it be welcome to Jiangxi to be committed to low-return grain production when the authorities know that industrial crops would pay

much better, and that in Guangdong grain is scarce because Guangdong land resources are being used for such things as local factories which pay much better than grain. This kind of argument arises from a good deal of resentment throughout the middle tier of inland agrarian provinces, from Jiangxi to Heilongjiang.

However the state itself, or rather its agencies the banks, is not innocent of exploitation in this field. Some purchasing agencies are accused of grading peasants' grain low at time of purchase, but higher at the time of delivery to the state, and pocketing the cash difference. When grain purchasing agencies have been short of cash they have "paid" for contract grain in the form of IOUs, in some places (centre and centre-west again), sometimes to the extent of 50 per cent. Needless to say this practice is greatly resented by peasants. It is also said that when purchasing agencies are short of cash this sometimes results from the previous misappropriation of grain-purchasing funds by the banks, for instance lending out these funds for profit. Meanwhile, individual provincial governments may introduce their own restrictions on the "free" marketing of grain which is surplus to contract, leading to smuggling by farmers or dealers - for instance from Hunan to Guangzhou where there is abundant free market custom (ibid, 60). Sometimes, however, provinces do not collect grain which is contracted due to lack of storage space; here too peasants are the losers.

Survey data puts some of this material into perspective (Wang Qiang and others, 1989). In 1987 the gross income per work-day for cereal cultivation was 6.5 yuan; but the same figure for business and service industries was 8.9 yuan, for industry 16.5 yuan, and for transportation, 20.5 yuan. At the same time there was a tendency for these ratios to develop to the disadvantage of agriculture (op cit,

51). The net output value of grain crops per hectare and net income after taxes for grain cultivation around 1989 were 1230 and 773 yuan respectively, but for economic crops an average 4665 and 3480 yuan (Wen Guifang, 1990). It is argued that where prices of inputs are moving upwards and faster than those for outputs, partly because of the failure of the price control systems, peasants have found in recent years that incomes per unit of grainland have actually fallen.

State purchases of grain

The state annually purchases about 125 million tons of grain, for supply to the cities, the army and other special needs, including disaster relief, and for export. This is about 31 per cent of total output, but of course represents the great bulk of grain entering trade; most of the rest of the crop is used by those who grow it. The state has long supplied cheap rationed grain to the cities. Both the "cheap" and the "rationed" status of this grain are under criticism. Against "cheap", it is argued that common-sense requires that urban populations pay more realistic prices for grain, if necessary with continued specific subsidy for the poor and very poor. It is argued that a range of ways exists in which prices can be gradually raised - for example, by making a special case for high-quality grains. Against "rationed", it is argued that the present allowances of grain per person in the cities are now unrealistic, because other kinds of food are now common. According to survey evidence, official grain is now available at an average rate of 48 kg per month, but actual consumption is substantially less - only 42 kg per month. Too much grain is being made available, in conditions where grain is scarce

and its consumption subsidised. In fact grain purchase accounts for only around 6 per cent of household expenses, suggesting that to allow the price of official grain to rise to the market price would not represent a great burden to urban households.* It is already the case that many households (23 per cent in the survey) trade in state grain for grain of higher quality at grain shops, and a much larger proportion (44 per cent) buy higher quality grain as well as state grain (Deng Yiming, 1991).

Investment

At the same time, official investment in agriculture is exceptionally low, and understandably the peasants are in no mood to pay for any substantial investment themselves. The state's investment in agriculture fell from 11.1 per cent in 1979 to 2.9 per cent in 1988, in spite of much talk to the contrary (Zhang Gengsheng, 1990, 66). Bank lending meanwhile was prone to channel more savings into urban construction, because the latter yields higher dividends - in Hubei, banks have set up more than 600 new rural branches since 1987; but less than 10 per cent of the rural funds collected have returned to agriculture (He Shaozi, 1990). In the case of Pudong in

---

* The state price for grain in 1988 was 0.504 yuan per kg; the market price 1.112 yuan, about 2.2 times the state price (Deng Yiming, 1991, 61).

Shanghai, this practice has actually been institutionalised with official blessing (Ho Ping, 1990, 47). Voices are from time to time raised to suggest that banks should finance agricultural improvements more freely, but even in the countryside the banks are more interested in township enterprises than farming. No doubt farmers as individuals are reluctant to take on debts, even for purposes of production - there is a good deal of anecdotal evidence that peasant communities are still unhappy with activities which may rank as business, rather than simple cultivation. Meanwhile collective investment in the countryside has weakened sharply in the 1980s, and very little local money goes to support agricultural production, even from township industries. According to some writers, agriculture is being run into the ground. "Basic conditions for agricultural production have a tendency of continuous deterioration" - in respect of land and water resources, in respect of both quantity per capita, and quality in terms of pollution levels. Financial investment remains scanty, as we have seen, but management and labour investment have also been quite limited; many peasants' management style is one of "plunderer" (Liang Xiufeng, 1989, 34). The irrigated area actually fell between 1980 and 1985 by nearly 2 per cent, and has still not regained its peak figure (Zhang Liuzhong, 1989). Whether due to relying upon "quick-fix" cultivation methods, or under an impression that "modern" methods are always superior, peasants in recent years have relied unduly upon chemical fertilisers rather than organics; in this and other ways the land is being stripped of fertility (Huang Bingxin, 1989).

Population and land resource

Enough has been said in the foregoing pages to demonstrate that all is not well with the institutions of the Chinese countryside, and that difficulties in the supply of food are due partly to man-made problems such as the low price of grain. There are however more far-reaching problems afoot, and these have to begin with the well-known condition of Chinese agriculture, that it maintains about 22 per cent of world population from around 7 per cent of the world's arable land.

Both halves of this forbidding equation are tending to deteriorate. In spite of the efforts of the central authorities, working very much against the grain of popular thinking, population in China continues to increase by about 16 millions a year (which is 160 million in a decade). The relevant indicators have now been stable for several years, but they are stable at levels which still generate population increase at a level which is difficult to handle. In addition, at the present time population increase has an aspect which is particularly important - the effects on the labour supply of the long phase of birth rates above 30 per thousand, from 1962 to 1971. These babies are now young adults, looking for jobs and planning to marry. In both capacities they are hard to assimilate.

Meanwhile the extent of Chinese arable land is falling, due to occupation by suburban housing and industrial development, rural house-building and township enterprises, excavation for coal and building materials, burials (increasingly), new transportation links like roads, bridges and airports, soil erosion and (in the far north) desertification. From a maximum of around 112 million hectares in 1957, the arable total has now fallen (1989) to around 96 million

hectares (People's Daily, 31 July, 1989)* - and although there is increasing official effort to protect arable land, it is obvious that this will be very difficult to do effectively. Jiangsu province alone lost 1.35 million hectares of arable land in the 32 years from 1956-1987 (Mao Yangqing and Tang Jianzhong, 1989) - more than 13,000 sq. km, adequate to produce (at average Jiangsu yields of 5 tons per hectare) 7 million tons of grain, enough to supply fully 17 million people. (It comes as a shock to realise that 17 million people is roughly one year's population increase.) When farmland is converted to other uses, such as local industry, a tax is charged, and local regulations may also require payments which represent the grain lost to the local unit. Local industry, which if successful can be very profitable, simply pays these charges if it must; this will satisfy the bureaucracy but will not protect good farmland from development.

The ratios between population and arable land figures are discouraging in the extreme. In the 1950s arable per person was around 1800 sq. metres per person, around 1400 in the 1960s, 1100 in the 1970s, and 1000 in the 1980s. It is now around 900 sq. metres (Mao Yangqing and Tang Jianzhong, 1989). On very favourable assumptions, the figure for year 2000 is bound to be lower than 800 sq. metres; some writers argue for a figure nearer to 650 sq. metres (Zhang Gengsheng, 1989, 39). Some of the arable lost to cultivation,

---

* Figures in discussion of the arable area are open to challenge. Both total arable area and losses of arable due to local building are now said (as a result of special surveys and studies of satellite data) to be greater than recorded, as a result of peasant and local official concealment in the official record.

in provinces like Jiangsu and Guangdong and near the cities, is of the highest quality; but of course some (in Shaanxi or Guizhou, for example) is very poor land indeed.

There is one special feature of the land problem which is a natural "bug" in the rural system. This is the problem of land contract distribution among families, when after eleven years of rapid change there are both national demographic development and changing household circumstances to evaluate. One important survey (Sun Zhonghua, 1990, 78) shows that since 1985, 65 per cent of villages have readjusted contracted land holdings, but that in these villages grain output had typically fallen some 3 per cent more than in villages where landholding had not been readjusted. There is real conflict between the interest of long-term landholding families in nurturing the soil and improving installations, and the need of new potential tenants for land. Typically, farming families who take up other activities, for instance local industry, do not part with their land, but farm it minimally or through family members who may well have no labour to spare - in this way good land goes effectively out of cultivation. Various surveys agree that families are reluctant to give up their land rights, whatever their practical circumstances, because these rights are regarded as a fundamental security.

Levels of consumption

Finally, where grain is directly involved, consumption itself is at fault. The standards for urban grain consumption were set in 1955, but great changes have taken place in eating habits since that time, with much greater consumption of meat, eggs and so forth. Standard allowances of grain are available to urban consumers at fixed

prices which are subsidised and low, but then allowances are generally more than is needed. As a result grain is often consumed without need, or wasted. At the same time some people use grain coupons corruptly; for instance restauranteurs illegally buy up fixed-price grain to process into high-price items such as pastries (Chen Xiaoping, 1990).

Some authors (Mao Yangqing and Tang Jianzhong, 1989) particularly criticise wasteful use of grain - too much eating, too many banquets; too much conversion to grain spirit - as in 1988, for 5 million tons of spirit, 12 million tons of grain; and spirit output is growing at around 10 per cent per annum. Beer output, 6.4 million tons in 1989, was only 0.4 million tons in 1978 (CSY 1990, 434). There were already 813 breweries and some 50,000 distilleries (many of them very poor in quality) in 1989. In addition, some writers criticise the use of good arable land for tobacco - around 1.5 million hectares (Zhao Guangyao, 1989). Strength is lent to alcohol and tobacco outputs by the practice of taxation of them by local governments, giving the latter a vested interest in them.

Diversification

To what extent have farmers who are discouraged by the low prices and high costs of grain turned to diversified outputs such as poultry, cash crops, pork and so forth? These kinds of production are not officially regulated, nor their prices controlled; they would appear to be obvious places for farmers to put their operational

capital and their labour.

Official information on these kinds of production is not abundant, and they have not attracted much commentary in the journals, but it is possible to put some materials together. "Sidelines" are treated as part of "agriculture", but they are differently defined for different purposes; if all kinds of "sideline" are considered, including "sideline" grain crops, the national average figure for these outputs comes to 60 per cent of agricultural gross output. This classification includes the four main kinds of non-farming production (forestry, fisheries, animals and "sidelines" so called - collecting, hunting and household-run industry) plus vegetables, orchards and plantations and green fertiliser or forage, plus "sideline products" under both "grown" and "industrial crops". Total gross value in 1989 is given as 392 billion yuan. Table 1 gives the breakdown of this figure in terms of percentages of gross agricultural output (653 billion yuan). (In terms of percentages of all gross rural outputs, including local industry, building, transportation and commerce - in all, 1448 billion yuan (CSY 1990, 317), the proportion for sidelines is of course much smaller - 26.9 per cent.)

Table 1 "Sidelines" of various kinds in Chinese agriculture, 1989

	Percentages of gross agricultural output
Animal husbandry	27.6
Vegetables, melons; orchards (tea, mulberry, fruits); forage and green manure; others	12.7
Collecting, hunting, household industry	5.4
Fisheries	5.4
Grain and other crop "sidelines"	4.7
Forestry	4.3
Totals	60.1

Source: CSY 1990, 319. For total rural outputs, ibid, 317.

It is possible to investigate some of these kinds of production a little further. Table 2 gives figures for growth in several important kinds of output for 1983-89, with 1978 figures added for the sake of comparison.

Table 2 "Sideline" outputs in rural China, 1978; 1983-89

	1978	1983	1984	1985	1986	1987	1988	1989
Pigs (millions)	2	14	19	36	44	48	47	49
Fowls (millions)	40	225	305	400	484	516	588	581
Eggs (thou.tons)	45	330	445	900	1220	1250	1500	1446
Vegetables (sown area mill. mu)	56		65	71	80	84	90	94

Sources: Pigs, fowls, eggs - 1978 and 1983, SYC 1985, 476; 1984 and 1985, SYC 1986, 471; 1986, 1987, CSY 1988, 636; 1988, 1989, CSY 1990, 598.

Vegetables: 1984 and 1985, CSY 1986, 142; 1986 and 1987, CSY 1988, 211; 1988 and 1989, CSY 1990, 348.

The broad implications of the figures in Table 2 are clear: that expansion of outputs of pigs, fowls and eggs was much more rapid in the phase 1983 to 1985 than since 1985 - for pigs in 1983-85, 79 per cent per year, as against 9 per cent per year in 1985-89. For pigs and eggs the year of maximum percentage increase was 1985; for fowls, 1984; for vegetables in terms of sown area, 1986.* It appears that the general wisdom on the subject of sideline outputs is not mistaken: since 1985, these have increased only gradually and sometimes fitfully. For whatever reason, not only grain outputs, but these alternative and much more profitable outputs have also faltered since 1985.

The reasons for this weakness appear to be very mixed. Pork production has experienced a series of crises since 1985, whose origins are in part interference with demand and supply by the authorities, particularly provincial authorities, and in part difficulties with supplies and prices of feed grains (Aubert, 1990, 25). Pigs, like grain, may now cost more to bring to market than the market price. It is argued (Wang Ping and Song Qing, 1990) that the heart of these difficulties is the supply and price of grain, which brings the story back to the problems of grain output. More generally, it is argued that although sale prices of "sideline" outputs have risen in the past few years, net incomes have increased

---

* Figures exist for values of vegetable outputs, but not for quantities. By value, 1985 was the year of maximum growth in vegetable production. Figures of sown area have been preferred to those for value because of the effects of inflation, especially in 1988 and 1989.

only marginally because prices of inputs have increased still more (Ma Guolin, 1990, 64) - and this agrees with common report in the countryside. It is particularly interesting that sales of sideline products per peasant household increased only marginally between 1984 and 1989 - pork hardly at all, poultry by around 13 per cent; silkworm coccoons around 16 per cent; eggs registered a slight fall. Fish and milk sales more than doubled, but in five years even that growth is not strong (CSY 1990, 369; SYC 1986, 165). This suggests what some authors have commented upon: the persistence of small-scale sideline production (as in traditional times) against large-scale demand (as in modern times in the world at large). Conformably with this, slaughter rates in China are much more akin to those in traditional times, than to those adopted by modern battery farmers. It is argued that mass demand must be catered for by mass supply (Xia Jinhu and Wu Jianmin, 1987). But this argument is bound to run up against the peasant prejudice against "business" farming, at least in the short run. It is perhaps revealing that it was produced, in the article mentioned, from as untraditional a place as Harbin in the north-east, where modern methods were said to have resolved persistent shortages of eggs.

Township enterprises

Diversified outputs were worth 392 billion yuan to the Chinese countryside in 1989, but local industries - township enterprises as they are now called - were worth much more - 482 billion yuan. Meanwhile grain outputs were worth only 220 billion yuan (CSY 1990, 319).

Township enterprises are collective in ownership and management; on the one hand they enjoy the stability, privilege and relative invulnerability of the collective sector, but on the other the flexibility and capacity to do unorthodox deals of the private sector. Typically, township enterprises are factories which employ local labour which is surplus to need on the land (this is one of their many functions in official thinking), and which are owned and managed by towns or even villages. They enjoy local official support which is fortified by payment of fees of various kinds into official kitties by the enterprises. In 1989, after some contraction, there were 1.5 million such enterprises in villages and towns, mostly factories, employing 47 million people with gross output value 482 billion yuan (CSY 1990, 382). Factory work in these conditions is preferred by many country people, especially women, to work on the land; and there is evidence of constructive relationships (not always in orthodox forms) between local factory managements and state industry, for instance for supplies of fuel, materials or parts. Even more important, the township enterprises are often able to take root in crevices in the industrial system which are overlooked by the state factories and the state planning organisation which governs them. Industrial incomes, even in the rural enterprises, are typically at least double those which can be made on the land; and in addition, as explained earlier, the official grain system is now deeply dependent upon rural industry to subsidise grain outputs at source which without subsidy would be hopelessly uneconomic.

In spite of occasional dog-fights with left-wing reactionaries (who dislike the "village capitalist" ethos of the enterprises) or with right-wing innovators (who dislike their collective base) and state industries (which dislike competition for supplies and markets),

the township enterprises are now deeply dug into the rural systems, especially in prosperous provinces; indeed it is not too much to say that the present rural systems could in many cases not survive without them. They have the prestige of their official connections but the freedom of their detachment from many of the obligations imposed by the state; they are capitalism, so to speak, with a communist-party face. They must be reckoned the most powerful of the new waves of opportunity now sweeping through rural China, and as the figures given earlier in this section suggest, they are significant competitors with both grain farming and the diversified farm sector. The most forceful critics of the township enterprise system are those who claim that the momentum of their expansion is exhausted, or becoming so; but this claim seems to be very much exaggerated, especially as applied to inland provinces.

Surplus labour and the move to town

From 1956 until 1978, the problem of surplus labour was practically not discussed in the Chinese media. Maoist thinking did not willingly recognise the possibility of this category in a planned economy. In addition, Maoist policy envisaged the continued intensification of the local agrarian economies, and even increased local supplies of labour in the farms through the "sending down" of young urban people to the communes. But by 1951 it was officially recognised that between one-third and one-half of rural labour was surplus to rural need in many - perhaps most - areas, and schemes of

diversification of the rural production systems were being proposed as the most important solvent of these difficulties. By 1984 this thinking had deepened to the point of identifying rural industry as the most promising form of diversification, and widened to the point of proposing radical changes in the rural production and social systems.

> "As the theme of dividing labour among the people of different trades continues to develop in the rural areas, more and more people will give up farming and take up forestry, animal husbandry and fishing production instead; a still greater number of people will become the workers of small industrial plants or join the service trades in small towns."
>
> (CCP 1984, K7)

The same circular also provides for migration to towns -

> "In 1984 all provinces ... may carry out pilot projects in certain towns where peasants who are engaged in industrial production, commercial work and service trades are allowed to settle, as long as they can take care of their grain ration."
>
> (ibid, K8)

For all its cautious wording, it is this text which represented the new possibility of rural-to-urban migration.

The orthodox and approved model for re-engagement of surplus labour is li tu bu li xiang - to leave the land but not the countryside; and some tens of millions of workers have done just that since 1984 -

in that year around 6 million township enterprises employed some 52 million people;* in 1989 around 19 million town and village enterprises of all kinds (including individual businesses) employed around 94 million people (CSY 1990, 386, 387). About half of these are in village or town-owned enterprises; the rest in getihu (individual) enterprises. But a similar number of rural workers have left the countryside as well as the land, and migrated in search of work either to towns beyond commuting distance, or to places, including the great cities, which are distant from their places of origin in the countryside. In 1989 a writer in the People's Daily considered that this migration involved more than 50 million people (Shu Yu, 1989).

Where labour is surplus on the land, it may be thought helpful that so many workers are leaving it, whether for local jobs or not. But this is not necessarily the case. In a survey of 1989, covering rural units in 23 counties in 10 provinces and relating to various years during the past decade, about one-quarter of migrants fell within the 35-49 age-group, in which rural men are almost bound to be heads of households (Wu Huailian, 1989). This cannot well help with agricultural production. In prosperous provinces like Jiangsu, hundreds of thousands of peasants are leaving the land to take industrial jobs - one writer complains that agriculture is becoming an occupation of the aged. This is one obvious cause for the fall in sown area in many provinces in recent years and the national fall in sown area of

---

* Both figures having risen sharply since 1978 - from 1.5 million and 28 millions (ibid).

3.5 per cent from 1978 to 1988 (of grain, 8.7 per cent) (CSY 1990, 342). And indeed labour may be less "surplus" on Chinese farms than statistics suggest; the characteristic farming system, developed not only under the Maoists but during at least the past 400 years in which population has been growing towards present densities, is essentially an intensive one which uses labour virtually as a free good, and which is likely to need reconstruction if labour becomes scarce in the household.

Motives for migration

A number of analyses of the motives for leaving the land have been published in China; it is worth reviewing one of the most revealing.

Jie Shusen and Chen Bing (1990) propose several "direct" causes. One is the scarcity of arable land and the extent of concealed unemployment in the rural communities: the average agricultural worker, they say, is employed less than 100 days out of the year. The township enterprises, say these authors, are no longer able to absorb all the rural labour which is seeking alternative employment. A second is the social rigidity which results from the allocation of contracts, especially for fifteen or more years. The problem is that people who no longer use their land (having taken jobs, say, in township enterprises) do not relinquish it for reallocation; and meanwhile youngsters have grown up who already need land and cannot get it. A third reason is said to be the operation of the "scissors" - the high costs and low returns in agriculture. These authors explain in this way the disappearance of the "grain specialist households" which were a prominent feature

of media accounts of the countryside in 1984 and 1985 - in a county in Fujian, Yongtai, there were 32 such households in 1984, but in 1987, only one; and that household lost nearly 3000 yuan on its 5 hectares of grain land in 1987. Able households can find better things to do than grow grain. A fourth argument takes its origin from low investment and the sense of indifference to the future of agriculture and rural resource.

Jie and Chen (1990) also make allowance for more general moves towards urbanisation of the rural population. The facts are that until the 1980s, migration to town had been practically impossible since 1958; but that meanwhile, Chinese individuals and families have been no less interested in this kind of migration than those elsewhere in the Third World - and indeed in Europe. In the wide-ranging survey reported by Wu Huailian (1989) which has already been quoted, favoured motives for migration (74) were first, that farm incomes were too low; and secondly, a group of motives some of which also depended on poor returns from farming ("costs of farming too high"), but others of which related to inclination ("do not wish to farm", "lacking skill for farming", "wish to see the world").

The "new countryside" - losses and gains

The directives of 1984 and 1985 which have been quoted envisaged countrysides tied closely to local towns and cities both by administrative bonds and through business links. Rural production systems were to be enlarged, stabilised, professionalised and commercialised; the self-sufficient small farm was to be marginalised,

and the intensification model which had provided for the continuing increases in Chinese population since Ming times was to give way to a scheme of rural management tailored not to an ever-growing rural labour supply, but to the relatively finite data of resource, informed increasingly by science.

A good deal of water has flowed down the Yangzi since 1985, but the communist party has not discarded these ideals, though they are now proclaimed less confidently, and official commentary is much more preoccupied with practical matters like getting grain output moving again. In this phase "Commodity production has made fairly great development, the export-oriented economy has started in coastal areas, and market mechanism has performed within a certain range ... (but) since 1985, the rural reform and the production of major farm products have both stagnated ... " (Lu Wen, 1990, 50. Lu is a member of the Rural Development Research Centre of the State Council). Present rural policy is beseiged by privatisers on the one hand (especially before the June 4 disaster) and "old system" (Maoist) believers on the other (ibid, 51-2). Contrary to both, "We must persist in deepening the rural reform along the path ... of socialism" (ibid, 52). Policy should "continue to readjust the industrial structure of rural areas, transfer rural labour, gradually readjust the distribution of national income between industry and agriculture and between rural and urban areas, reform the relationship between rural and urban areas, encourage rural and urban areas to help each other ... and at the same time, it should combine rural reform and rural development, vigorously develop agricultural production, develop a diversified economy, township enterprises, small towns ... educational undertakings and science and technology in rural areas" (ibid, 52-3).

What is gained and what lost, in the formulations of 1985?

On the side of loss, it seems more than likely that the new rural policy contributed to the failure of agricultural output to grow after 1985, partly by inviting intelligent and enterprising farmers to leave the land, partly by loss of arable land to other activities such as rural industry, partly by promoting the notion that other kinds of livelihood could easily be substituted for farming, even in the countryside. Labour was certainly very much in surplus in the countrysides of the early years of reform, and becoming more so as the 1962-71 cohort reached working age; but the customary farm practices are based on a dense labour supply; it is not clear that they can yield equally well without it. Withdrawal of labour from farming in 1958 was one of the things which led the Great Leap into disaster. When family farming was re-established by the reformers in the early 1980s, labour input on the land increased dramatically and so did surplus. It has already been shown that a significant proportion of long-distance migrants (to say nothing of those taking on local industrial jobs) are men in middle life, who were almost certainly heads of family households in the countryside. Notoriously, when a family gives up regular farming, it does not usually hand over its contracted land for re-distribution, it is usually taken on by local relatives who may well have little or no labour to spare. In these ways, grain output particularly is bound to have suffered from the new concept of the commercial countryside.

In the mid-1980s, specialist grain households, cultivating upwards of 3 hectares of land, were supposed to assume much of the burden of the grain contracts, with the help of intelligent support

(pesticides, fertilisers) from the state organs . These have virtually disappeared in subsequent years, due apparently to high costs and poor reliability of supplies. It is now evident from survey material that operating expenses per hectare are higher where the area farmed is larger, partly because yields are higher for smaller farms, but also because costs are higher for large. The difference is more than 100 per cent. Meanwhile income per day's work is higher on the larger farms, also by about 100 per cent (Wang Qiang and others, 1989, Part ii, 49). Both halves of this information suggest that where labour is abundant and land scarce, large holdings should be avoided. According to this argument, the Chinese countryside cannot well afford so extensive and abrupt a relocation of surplus labour as that of the past five or six years. It would seem rational to make a parallel case for the problems of creating jobs for so many people so suddenly in either the small towns or the cities.

It is tempting to say that what has been gained in the same phase and within the same policy has been most of all the township enterprises. It has already been shown that apart from households (703 billion yuan in 1989), township and village enterprises produce the highest proportion of total income in the countryside (482 billion yuan in 1989 - CSY 1990, 379). But per person (CSY 1990, 107), rural secondary industry produces around 10,100 yuan gross per person employed, rural primary industry only around 2,200 yuan (CSY 1990, 379, 107). An enthusiast writes, "For many years, the Chinese peasants have never been able to cast off the cloak of poverty, mainly caused by the separation of city and countryside and the limitations of small-scale peasant economy. Suddenly, a new face has come to their rescue, allowing the peasants to find a broader way out of poverty towards prosperity ... during 1988, peasants

derived as much as 96.75 billion yuan of wage incomes from township enterprises ..." (Su Bei,1990, 35). "By 1989 the development of township enterprise had absorbed 92 million surplus rural workers, and the gross value of township enterprise output had increased to 60 per cent of the gross value of output in rural society - up from 31 per cent in 1978 (Chen Yaobang and Mu Gongqian, 1990, 74). The township enterprises (whether collectively owned and managed or individual businesses) are by any standards the great success story of the "second phase of reform" - whether by successful calculation in the communist party, or by happy accident of policy.

Opportunity, policy, necessity

In terms of the language introduced in the title of this paper, the policy of the new rural concept has introduced a group of major new opportunities in the form of rural industry, and has contributed to depression in the farm economy which surely represents bungled opportunity.

Much of the current Chinese analysis of the problems of the countryside centres around this bungle, and particularly around the cheap and rationed supplies for the cities, whose cost (as has been shown) is a serious burden on public revenue, and whose administration is a major cause of general disaffection and indifference to production in the countryside.

Total demand for grain, it is clear, exceeds total supply. In recent years, demand has been increasing by 10-15 million tons per year; net imports are now around 8 million tons annually.

Peasants lack motivation for producing grain for sale, and most of this lack of motivation relates to high costs or low returns or both. The "scissors" of price are unfavourable - and in addition, peasants' social burdens (taxes and various charges) are too high - around 15 per cent of income. Chinese peasants are still poor. It is now argued that cheap rationed grain for the urban consumer has become an anachronism, except for limited social groups (Grain Support Group, 1990). Even without price reform in urban grain, it is argued, the state's "take" of Chinese grain could be reduced by the 12 or 13 per cent - realistically possibly as much as 20 per cent - which represents state grain entitlements not consumed by ordinary families (Deng Yiming, 1991) - but this would be only around 25 million tons annually, a useful saving but not one which would transform the system. It must be remembered that some four-fifths of the state's "take" of grain (around 100 million tons) will be consumed in the cities in one way or another, whether the supplies are cheap or dear, rationed or unrationed. It seems evident that reform of the state's procurement system (or even its virtual abolition) would be a sensible move in social and economic policy, perhaps one which is already overdue, given its role in creating disaffection in the countryside - but not a solution to the chronic problems of mismatch between grain demand and supply. The scale of these problems, and the tendency of demand to grow quite steadily, at a rate of about 3.7 per cent annually, demand stronger measures. Here is the long arm of necessity - the provision of day-to-day food for the vast and still growing population, plus clothing, housing and jobs. China is not initially poor in resource; in arable land and coal (both central to most resource inventories) it is very rich. What is discouraging is the disproportion of

excessive demand to reasonable supply in China's resource experience. Abandonment of the cheap urban food policy, however limited a contribution, would seem to be itself a necessity. Much more appears to be being lost in the countryside through low motivation than is gained in the cities from subsidy; and some of what is needed in the countryside seems to depend directly upon grain outputs. Furthermore, in recognising the constraints imposed by population and population growth, thinking about the countryside must applaud the present regime's good intentions, and even its flawed performance, in the field of birth control. Most of the discussions in the Chinese literature are now adopting a very gloomy view of the population's relations with its resource base - whether arable land, energy or even water.

Can grain output be raised, perhaps within the forthcoming decade, to 500 million tons? This figure would correspond to a population total close to 1300 millions, which is now being foreshadowed by some writers (Zhou Yixing, 1991, 15). To do so must involve changes in the production systems which are much more wide-ranging and much more long-term than changes to the distribution system. One writer (ibid, 1991) proposes four central inputs which relate to bigger grain outputs - fixed investments, financial support, credits and fertiliser supplies. Arguing from long-term trends in the production system, he believes that the output of 500 million tons of grain will require (compared with the 400 million tons of the present), 92 per cent more fixed investments, 276 per cent more financial support, 325 per cent more farm credits, and 78 per cent more fertiliser. He does not discuss either his categories of input or his figures in detail, but these seem to be rational orders of magnitude for a 25 per cent increase in grain output during the

forthcoming decade, which is what has to be aimed for. We know that the achievements of the past forty years, in raising grain output from 200 million tons to 300 million between 1958 and 1978, and from 300 million to 400 million between 1979 and 1984, were made with depressingly low inputs from the state or other public bodies. What is argued for here, in effect, is a radical restructuring of Chinese finance to the advantage of the countryside. This might almost be called the last opportunity to do this and make a success of it; it might also be called the final necessity.

References

Aubert, Claude, 1990. "The agricultural crisis in China at the end of the 1980s", in Delman, Jørgen and others (eds) 1990, 16-37.

CCP 1984. "The CCP Central Committee's Circular on Rural Work in 1984" (1 January 1984). Translated in FBIS Daily Report, 13 June 1984, K1-K11.

CCP 1985. "Ten policies of the CPC Central Committee and the State Council for further invigorating the rural economy", (1 January 1985). Translated in FBIS Daily Report, 25 March 1985, K1-K9.

Chen Xiaoping, 1990. "Shaanxi province's excess urban grain rations", Shaanxi Ribao (Shaanxi Daily), 18 April 1990, translated in JPRS China Report, 26 June 1990.

Chen Yaobang and Mu Gongqian, 1990. "The strategic significance of developing township enterprises". Zhongguo Keji Luntan (Forum in Science and Technology in China, 1990/2, 1-4,) translated in JPRS China Report, 11 July 1990, 73-76.

Christiansen, Flemming, 1990. See Delman, Jørgen.

CSY 1990. China Statistical Yearbook, 1990, prepared by the PRC State Statistical Bureau. English Edition, China Statistical Information and Consultancy Service Centre and University of Illinois, Chicago, 1990.

SCY is Statistical Yearbook of China, an earlier title in the same series.

Delman, Jørgen, 1990. with Christiansen, Flemming and Østergaard, Clemens Stubbe, Remaking peasant China, Aarhus University Press, Aarhus.

Deng Yiming, 1991. (of the Rural Development Research Institute of the Chinese Academy of Social Sciences) "A tentative plan for the reform of the grain marketing system and the analysis of the investigation of citizens' support", Zhongguo nongcun jingji (China's rural economy), 1991/4, 10-15; translated in JPRS China Report, 23 August 1991, 59-65.

Du Xiaoyan, 1990. "The trend of sharply declining arable land in China has radically changed - net loss during 1989 not exceeding 5 million mu". Jingji Cankao (Economic Reference), 6 January 1990, translated in JPRS China Report, 7 March 1990, 54.

Feng Guoheng, 1990. "Why have prices remained high after monopoly control over agricultural supplies was instituted?", Jiage lilun yu Shijian (Price: theory and practice), 1990/7, 51-2, translated in JPRS China Report, 25 October 1990, 56-57.

Fuchuan Survey Group, Chinese Institute of Rural Science, 1986. "Peasants' motivation for grain production", Nongye jingji wenti (Problems of agricultural economy), 1986/8, 30-33.

Grain Studies Group, 1990. Grain Studies Group of the Ministry of Agriculture's Economic Policy Research Centre. "Prices and the purchase system for grain", Nongye jingji wenti (Problems of agricultural economy), 1990/2, 7-11, 37; translated in JPRS China Report, 13 April 1990, 38-42.

He Shaozi, 1990. "Thoughts about the problem of increasing financial investment in agriculture", Hubei Ribao, 24 January 1990, translated in JPRS China Report, 20 March 1990, 64-65.

Ho Ping, 1990. "Funds for Pudong development simultaneously raised in five ways", Hong Kong, Wen Wei Po, 3 August 1990, translated in JPRS China Report, 31 August 1990, 46-48.

Hou Zhemin and Zhang Qiguang, 1989. "Peasants - government - agricultural problems", Jingji Zhoubao (Economic Weekly), 21 May 1989, translated in JPRS China Report, 19 July 1989, 37-40.

Huang Bingxin, 1989. "Analysis of current grain supply and demand", Zhougguo nongcun jingji (China's rural economy), 1989/12, 22-26; translated in JPRS China Report, 9 April 1990, 58-61.

Jie Shusen and Chen Bing, 1990. "Exploring the crux of the problem and solutions to the rural population flow", Renkou Yanjiu (Population Research), 1990/5, 7-13, translated in JPRS China Report, 16 January 1991, 54-60.

Kong Xiangliang, 1990. "Barriers to increased agricultural investment", Nongye jingji wenti (Problems of agricultural economy), 1990/12, 8-11, translated in JPRS China Report, 3 March 1990, 37-40.

Leeming, Frank, 1985. Rural China Today, Longmans, London.

Li Delai, 1989. "Where has the chamical fertiliser gone?", Jingji Ribao (Economic Daily), 22 February 1989, translated in FBIS Daily Report, 6 March 1989, 48-49.

Liang Xiufeng, 1989. "Reconsidering China's agricultural problems", Zhonggue nongcun jingji (Chinese rural economy), 21 April 1989, 3-10, translated in JPRS China Report, 8 August 1989, 31-38.

Lin Zifu and Wang Man, 1989. "Some thoughts following the completion of the 1978 grain procurement task", Nongmin Ribao (Peasants' Daily), 31 March 1989, translated in FBIS Daily Report, 17 April 1989, 58-61.

Lu Wen, 1989. "Deeper rural reform along a socialist path", Nongye jingji wenti, (Problems of agricultural economy), 1989/11, 3-5, translated in JPRS China Report, 5 March 1990, 50-53.

Ma Guolin, 1990. "Characteristics of peasant income and an analysis of the earnings gap", Zhongguo nongcun jingji (China's rural economy), 1990/9, 34-40, translated in JPRS China Report, 16 January 1991, 63-68.

Mao Yangqing and Tang Jianzhong, 1989. "Anxiety over grain", Jingji Guanli (Economic Management) 1989/7, 22-26.

Oi, Jean C. 1986a "Peasant grain marketing and state procurement: China's grain contracting system", China Quarterly, 106, 272-290.

ibid, 1986b "Peasant households between plan and market", Modern China 12(2), 230-251.

Østergaard, Clemens Stubbs. See Delman, Jørgen and others (eds.) 1990.

Shu Yu, 1989. "One in 20 of China's people is on the move", People's Daily, 26 February 1989.

Sun Zhonghua, 1990. (Rural Survey Office, Rural Development Research Centre, State Council). "A glimpse of grain production from 1984 to 1988 - A survey of the grain output of 13,000 peasant households in 155 villages". Zhongguo nongcun jingji (Chinese rural economy) 1990/3, 16-24; translated in JPRS China Report, 26 June 1990, 73-79.

SYC - see CSY 1990.

Wang Fu, 1990. "The scissors differential on agricultural and industrial products is not yet widened", Jingji Cankao (Economic Reference), 20 March 1990, 4; translated in JPRS China Report, 7 May 1990, 56-58.

Wang Lianzheng and Yan Kalin, 1990. Interview with Vice-Minister for Agriculture, Wang Lianzheng, for Jingji Ribao (Economic Daily, 19 June 1990, translated in JPRS China Report, 11 July 1990, 98-101.

Wang Ping and Song Qing, 1990. "On the necessity and feasibility of smoothing out the price priorities between pigs and grain", Jingji Yanjiu (Economic Research), 1990/5, 78-80, translated in JPRS China Report, 28 September 1990, 47-50.

Wang Qiang and others, 1989. Rural Survey Office and Rural Development Centre of the State Council, "Rural reform and development - Report on analysis of data for the 1987 National Rural Survey", Part 1, Nongye jingji wenti (Problems of agricultural economy), 1989/3, 52-57, 42; translated in JPRS China Report, 26 June 1989, 48-55; Part 2, Nongye jingji wenti, 1989/4, 40-45, translated in ibid, 31 July 1989, 46-53.

Wen Guifang, 1989. "Fundamental ways for solving the grain problem", Nongye jingji wenti (Problems of agricultural economy), 1989/12, 13-17, translated in JPRS China Report, 9 April 1990, 49-55

Wu Huailian, 1989. "The tidal wave of peasants leaving the land in the 1980s", Renkou xuekan (Demography), 1989/5, 41-49, reprinted in People's University Materials centre, Renkouxue (Demography), 1989/6, 71-79.

Wu Yunbo and others, 1990. "Study of remedies to reduce grain business losses in Heilongjiang province", Zhongguo nongcun jingji (China's rural economy), 1990/5, 20-27, translated in JPRS China Report, 17 August 1990, 46-53.

Xia Jinhu and Wu Jianmin, 1987. "The root cause of pork shortage lies in the incompatibility between small-scale production and large demand", Beijing broadcast, 16 December 1987, translated in FBIS Daily Report, 18 December 1987, 16-18.

Zhang Gengsheng, 1989. "Vigorously increase overall agricultural production capacity", Jingji Ribao (Economic Daily), 30 November 1988, translated in JPRS China Report, 23 February 1989, 39-40.

ibid, 1990. "Views on making a breakthrough in agricultural stagnation", Nongmin Ribao (Peasants' Daily), 24 January 1990, translated in JPRS China Report, 20 March 1990, 65-69.

Zhang Liuzheng, 1989. "How to deal with the food problem under inflation", Zhongguo jingji tizhi gaige (China's economic structure reform), 1989/3, 29-32, translated in JPRS China Report, 26 June 1989, 56-60.

Zhao Guangyao, 1989. "Defects of overproduction of cigarettes and wines", Jingji Ribao (Economic Daily), 6 May 1989, translated in JPRS China Report, 26 June 1989, 59-60.

Zhou Yixing, 1991. "Increase of grain output in the forthcoming decade, and investment in agriculture". Nongye jingji wenti (Problems of agricultural economy), 1991/1, 15-18.