

In Defense of Collective Farms:  
Collectivization and Decollectivization  
in the People's Republic of China

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The current regime in China has put in motion a program for rural economic development which has negated collective agriculture. Many Western social scientists have risen in defense of the new decollectivist policy, arguing that rural economic stagnation throughout the Maoist period was directly caused by agricultural collectives' ostensibly inherent inability to motivate labour. And these scholars accordingly contend that the improvements in peasant livelihood and the continual growth in agricultural output levels obtained under the new regime spring from a greater incentive to labour created by devolving production to the household within a market context. Departing from this model, it is maintained here that the rural economic successes achieved under the reforms are not the direct consequences of decollectivization. The reemergence of comparative-advantage specialization and trade, the channelling of surplus agricultural labour into productive off-farm employment, and the increased usage of modern agricultural inputs are the fundamental forces at work and are all compatible with collective agriculture. In fact, a system of collectives, rather than being a source of economic problems, seems to be a necessary condition for continued gains in agricultural production. The Maoist collective structure, through its accumulation fund and its unified management of labour, has provided an efficient framework for the large-scale development, maintenance, and utilization of water-control infrastructure necessary for productive paddy agriculture. Furthermore, the consolidation of land and the capacity for large capital investments within a collective framework can allow for the development of agricultural mechanization, thereby diverting surplus labour off the farm without jeopardizing agricultural production. An examination of peasant attitudes towards collectivization supports these claims. In such, household production per se, offering little, if any benefit, has set up a number of obstacles to sustained agricultural development. Households in the new decollectivized economy seem unable to develop new water-control infrastructure, let alone maintain existing facilities. Furthermore, the agricultural problems associated with the post-Mao fragmentation of land parcels is encouraging peasants in many areas of China to abandon agriculture altogether. All in all, it is hard to foresee continued growth in agricultural output in the absence of renewed collectivization. The Abandonment of the collective and the Emergence of the Household Responsibility System Since Deng Xiaoping's ascendance to power in 1978 there has been a dramatic about-face in rural economic policy away from a collectivist framework. By 1983 China's collectives had been almost universally dismantled and agricultural production devolved to the household. Procurement quotas have been handed to households in a system called the "contract responsibility system." Contracts are made between individual or household producers and the state, specifying the crops to be grown and the portion of the harvest to be sold to the state. The household may do with the surplus portion of the harvest what its members so choose, including retaining it for consumption, selling it to the state, and even disposing of it on the reemergent free

market (Croll 1988:79). In return for fulfilling its contract with the state, the state provides the household production unit with agricultural inputs such as fertilizer and insecticide at state price (Oi 1989:174; Siu 1989:278). In the shift towards household production, the collective agricultural means of production have been sold off for private ownership. The management rights to collective enterprises, fish ponds, fruit trees, and the like have been contracted out to the highest (individual and group) bidders and the private hiring of wage labour has emerged (Chan et al. 1984:270-73; Potter and Potter 1990:171; Hinton 1990:18-19). Agricultural land has been contracted out for terms of, most commonly, 15 years (Potter and Potter 1990:176; Vogel 1989:97; Croll 1988:79), although contracts of 30, 50, and more years have been made in some locations (Putterman 1985:77). To ensure fairness the land has been distributed in parcels of varying quality (Potter and Potter 1990:175-76; Hinton (1990:78). Of 272 households in twenty-eight provinces surveyed in late 1984, early 1985, the average household land allocation was 8.35 mu [1] distributed in 9.7 plots, while the national average number of plots per household may be as high as eleven (Watson 1989:402). At first numerous variants of the responsibility system were practiced. The proportion of collective land contracted out and the number and type of crops cultivated by individual households evolved over time at different paces in different locations (Hartford 1985). Yet these variants need not be discussed here since they almost universally evolved into a single type of system: by 1985 almost all villages contracted all agricultural production to the household in a system known as *da bao gan*. The village government no longer plays a formal administrative or managerial role in agriculture. Instead, its role is to facilitate the supply of production inputs, to help peasants access marketing outlets, and to provide management guidance to peasant producers (Croll 1988:84; Oi 1989:187-88). The abandonment of collective production is reflected clearly in changes in the composition of rural per capita income. Between 1978 and 1989, the proportion of income from household production increased from 26.8 to 82.2 percent (Statistical Yearbook of China 1986 1986:581; China Statistical Yearbook 1990 1991:Table 8.26). Improved Peasant Livelihood Following Decollectivization The stagnation of peasant livelihood under the collective system. Typical indicators of peasant livelihood are peasant grain rations and cash income. By official Chinese and international standards, as well as by local expectations, grain rations were persistently disappointing throughout the Maoist years. Official consumption standards in China under the collectives specified an average per capita of 43.3 jin [2] of unhusked rice per month (Oi 1989:32-33). The standards of international relief organizations specify that a per capita average of 45-51.5 jin per month is sufficient for subsistence (ibid.:Table 8). In his classic study of Kaixiangong village, located in the Yangzi delta region of Jiangsu province, Fei Xiaotong concluded that the 1956 average per capita distribution of 45.6 jin was enough to meet subsistence needs but left no margin of safety (Fei 1983:184-85). Local expectations in Guangdong's Huancheng commune were at the level of 50.0 jin per month (Siu 1989:114). By any of these standards, however, peasant consumption rarely, if ever, surpassed the level of subsistence (Huang 1990; Potter and Potter 1990; Oi 1989; Butler 1985). The experience of Huancheng, a wealthy commune by national standards, bears testimony to the suppression of grain rations throughout the collectivized years. For the commune as a whole between 1962 and 1982, average grain distributions fluctuated between 33.3 and 45.0--averaging 39.2--jin per month with no discernable upward trend (Siu 1989:Table

10.5). The stagnation of Huancheng's grain rations occurred in spite of a general rise in grain output (*ibid.*: Table 10.4) and the fact that its yields were significantly above China's average as well as above average in its county of Xinhui (*ibid.*; Huang 1990:Table 11.1). In addition to the suppression of grain rations, peasant cash income also did not rise throughout the collectivized period, as reflected in data from Xinhui county and Chashan commune, both in Guangdong (see Siu 1981:Tables 8.3 and 9.1 and Potter and Potter 1990:Figure 10). Average per capita cash distributions in Kaixiangong, likewise, stagnated from a pre-reform peak of 119 yuan in 1966 to 114 yuan in 1978 (Fei 1983:200,202-03). Rising peasant income under the responsibility system. The recent restructuring of the Chinese rural economy has resulted in a significant rise in real rural income. In Chashan between 1979 and 1984 average per capita income grew 24.5 percent annually, significantly ahead of the annual inflation rate of 10 to 15 percent (Potter and Potter 1990:328). In China as a whole, controlling for inflation, rural per capita income rose by about 190 percent between 1978 and 1987 (Nee and Su 1990:5). Due to rising income in Guangdong, personal savings deposits in the Agricultural Bank of China and the Rural Credit Cooperative have grown significantly (Vogel 1989:169). According to Lardy (1985:49), the rise in income generated from agriculture is attributable to the "pure allocative efficiency gain" obtained through the restoration of comparative-advantage specialization and trade. In relatively industrialized rural areas, such as in Jiangsu, the rise in peasant income is most strongly associated with access to non-agricultural work (Veeck and Pannell 1989; Huang 1990:284; Huang Shu-min 1989:162). In accordance with Engel's Law that as real income rises the proportion of income spent on food and other necessities diminishes, the proportion of income spent on food in rural China declined between 1978 and 1989 from 67.7 to 54.1 percent and the proportion of peasant income spent on clothing between the same years fell from 12.7 to 8.3 percent (Statistical Yearbook of China 1986 1986:687; China Rural Statistics 1988 1989:Table 7.9; China Statistical Yearbook 1990 1991:Tables 8.29 and 8.30). Meanwhile, there has been a widespread boom in the construction of new housing (Potter and Potter 1990:327; Vogel 1989:169; Fei 1983:105; Huang 1990:246,256; Taylor 1988:756). Between 1978 and 1989 the proportion of peasant income spent on housing rose from 3.2 to 14.4 percent and the proportion of income spent on consumer goods from 6.6 to 12.2 percent (Statistics Yearbook of China 1986 1986:687; China Rural Statistics 1988 1989:Table 7.9; China Statistical Yearbook 1990 1991:Tables 8.29 and 8.30). The Research Program

It is clear that peasant livelihood suffered throughout the collectivized period and that significant improvements have followed its demise. But to what extent is collectivization the cause of the stagnation of peasant livelihood, and decollectivization the cause of the subsequent improvements? Arguments Made Against Agricultural Collectives It is commonly argued in the West that collectives, as such, were responsible for the suppression of peasant livelihood and that the recent economic improvements are the direct consequences of their dismantling. Victor Nee (1985,1986), Nee and Su Sijin (1990), Peter Nolan, (1988), Ezra Vogel (1989), and Andrew Watson (1983,1989), extrapolating the Maoist record, have argued that collective agriculture, conferred by scale are outweighed by the management problems inevitably created ostensibly inevitable product of large-scale farming "managerial diseconomies of scale." The argument is that on collective farms, unlike in factories, it is very difficult and expensive to supervise and accurately measure the quality of labour input. Since labour, therefore,

cannot be remunerated in accordance with its productive contribution, the argument runs, a narrow pay-scale--that is, an egalitarian distribution system--is inevitably utilized, discouraging hard work (pp.41-42, 52-53). In the Chinese case, the narrow workpoint spread between labourers widely differing in productive potential meant that all team members benefited more or less equally from an individual's work, thereby forming a disincentive for the most productive peasants to work hard (Nee 1985:178-80; Nee and Su 1990:8; Nolan 1988:43,58,204; Vogel 1989-92; Watson 1983:712). As Nee (1986) argues, egalitarianism, by bringing forth the classic free-rider dilemma, is at the heart of the problem with the agricultural collective: "if all eat from the same pot, then free riders cannot be kept from enjoying the fruits of the labor of more diligent and capable farmers" (p.190). Thus, "peasants remained household individualists, resulting in a persistent problem of suboptimal productivity gains and low growth rates" (p.189). From this perspective, given the inefficiency of scale and the problem of motivation inherent to the collective farm, the household is considered to be the ideal unit of agricultural production. Nee and Su (1990:22) write that: the causes of economic stagnation from 1956 to 1978 were inextricably linked to the issue of incentives...In this view even if state procurement prices for agriculture were set higher and the state somehow invested more in agriculture, the structure of property rights and incentives in the collective would still mitigate against entrepreneurship and therefore economic growth. Only by reinstating the household as the basic farming unit and introducing basic property rights, it is argued, can the fundamental problem of economic incentives intrinsic to the collective farm be overcome and rural economic development be achieved (Nee 1985:167; Nee 1986:185; Nee and Su 1990:11; Nolan 1988:43,79,113,203; Watson 1989:401-02). Therefore, like the writers of current Chinese state doctrine (see Liu et al. 1987:163; Ma 1990:194; Xue 1986:67-68; Du 1988:375), these Western scholars argue that the contract responsibility system has dovetailed with peasant preference. Nee (1985:185) concludes from his study of Yangbei village in southwest Fujian province that peasants naturally tend towards household farming. Since most peasants were convinced they could do better farming alone, there was "a virtual upsurge from below in favor of individual farming" (p.186). On the basis of this case study, Nee argues that so long as household agricultural labour power is sufficient to handle the complete agricultural cycle, which he maintains is the case for the overwhelming majority of China's households, peasants will prefer the household over the collective mode of production (p. 188). Watson (1983:712,1989:414), looking at the case of Anhui province, argues that the initial pressure for the adoption of the da bao gan system came from the peasants. Watson (1983:714) is convinced that state policy-makers accommodated the desires of the peasants by "reacting to and sanctioning developments that had already taken place." Similarly, Vogel (1989:95-96) argues that a groundswell for household farming pushed the system to its current status. The peasants, according to Vogel, consider the reforms to be a "second liberation": they have responded so enthusiastically to the new incentive structure that grain output has consistently increased despite a reduction in the amount of land devoted to its production (pp.87,93,167,170). Agricultural Collectives Take Undeserved Criticism Is it valid to argue, as the above reviewed apologists do, that large-scale farming is, on balance, harmful to agricultural production, that collective farms are inherently unable to adequately motivate labour, and that, therefore, China's peasants have embraced the new responsibility system with open arms? An examination of the impact collective

production had on agricultural production during the Maoist years as well as of peasant attitudes towards agricultural collectives suggests not. The failure of the collectives to benefit agriculture? In many parts of China the collectives had significantly benefited agricultural production. The recent trend of continually rising grain output levels originates in the early 1980s, but in the early 1970s after the chaos of the Cultural Revolution had largely subsided in the countryside (Hussain and Feuchtwang 1988:43-45). A "green revolution" in which improved seeds, chemical fertilizer, and electric irrigation pumps became increasingly used accounts significantly for the progress in grain production throughout the collectivized years (Aubert 1988:107). As Huang (1990:249) writes, With all the propagandistic hype on marketized family farming, it is easy to overlook in the national record the fact that crop yields advanced not just in the reform period of 1979 to 1984, but throughout the collectivized years, attaining a twofold to threefold increase by the late 1970s. In the relatively advanced areas of China grain production had reached a plateau before decollectivization. In Huancheng commune, rice yields had peaked in 1963 and 1977 (Siu 1989:340n11). Likewise, in Songjiang the peak in rice productivity was attained in 1979 (Huang 1990:241). Most of Jiangsu province, like Huancheng, obtained extremely high levels of grain output under the collectives through large-scale water conservation and field construction projects (Zweig 1983:889-90; Zweig 1985:145,149-50). [3] The collective framework was a structural factor which allowed this sustained growth in grain output (Huang 1990:225-35). It provided labour for state-coordinated water-control projects, such as the construction of irrigation and drainage ditches, and ensured the maintenance of these infrastructural facilities (ibid.; Hinton 1990:59). Under the collectives, about 10 percent of a peasant's labour contributions went to such projects. Moreover, the collective supplied modern inputs such as fertilizer and hybrid seeds and invested in major capital assets such as tractors and electric pumping stations (Huang 1990:233). It is clear that in many areas of China scale was of significant benefit to agricultural production. Peasant support for decollectivization? In contrast to the prevailing image of peasants responding enthusiastically to the break-up of the agricultural collective, there was, in fact, widespread peasant opposition to decollectivization. Where the collectives had significantly benefited agricultural production, the peasants seem to have recognized such benefits. Therefore, where the production of grain benefited from a well-developed large-scale infrastructure, the peasants were generally unwilling to farm on their own. Siu (1989) writes that Huancheng's production teams were slow to adopt the da bao gan system for this very reason. "At the heart of the matter was grain production. While most people welcomed the reforms, many were unwilling to bear responsibility individually for growing grain" (p.280). Moreover, with labour and technology both well-coordinated under collective grain production, many peasants could be freed from farming to engage in more profitable off-farm activities (ibid.:280-81). In this context it is easy to understand peasant resistance to the responsibility system. An individual from Xinhui county, in which Huancheng is located, says, "Everybody I know in Xinhui County dislikes the new policies. People practically go around saying 'Down with Deng Xiaoping'" (Chan et al. 1984:270n3). Since in Jiangsu province, like Huancheng, extremely high levels of grain output had been achieved under the collectives, peasants here, too, felt that as household units they would not be capable of equalling the grain output levels obtained under the collectives (Zweig 1983:889-90; Zweig 1985:145,149-

50). Moreover, rural Jiangsu was also relatively well industrialized. In the late 1980s 20 percent of Jiangsu's rural labour force was employed in rural industry compared with about 8 percent for rural China as a whole (China Rural Statistics 1988 1989:Table 4; China Statistical Yearbook 1990 1991:Tables 4.15 and 9.2). Insofar as channels to off-farm employment are open to peasants, collectively organized grain production, by virtue of the efficiency of scale, allows the maximum number of peasants to leave farming while also maximizing grain output levels. Since in most of Jiangsu, as in Huancheng, the responsibility system was believed to directly threaten both grain production and the peasants' off-farm activities, there was tremendous peasant resistance to the household responsibility system. "When peasants were able to get rich by methods other than laboring in collective fields, we should not be surprised to find that they did not warmly welcome these new incentive systems" (Zweig 1985:161). Following the same pattern of resistance, Wanggongzhuang village in Shanxi province was standing to lose a lot by adopting the household responsibility system since many of its villagers were employed in rural industry and would be forced back into farming as a result of the new system. The local cadres successfully resisted dismantling the collective by hiding every time the county authorities came looking for them, thereby preserving the collective and allowing the maximum amount of labour to remain in the village factories (Hinton 1990:99). Hinton also relates the stories of two villages in Heilongjiang province which successfully resisted decollectivization for the same reasons (pp.104-105). Support from below for the responsibility system, on the other hand, seems to have been the norm only in relatively poor areas of China. Where off-farm opportunities were non-existent and infrastructural development and even rudimentary mechanization unsuccessful, the collective was a fetter on agricultural production, and the peasants, therefore, preferred to farm as households (Zweig 1983:892). The areas which Vogel and Watson cite in arguing that there occurred a groundswell of peasant support for decollectivization were all extremely backwards. The scenario in these areas therefore cannot be generalized in all of China. Vogel (1989:95) acknowledges that the areas he discusses are exceptionally poor yet does not elaborate on this point, apparently finding it inconsequential. And Watson's sole example of Anhui is portrayed elsewhere as only one of a handful of areas in China where the collective completely failed to benefit agricultural production in any way (see Zweig 1983:889 and Hinton 1990:49-50). The areas characterized by peasant opposition to decollectivization are not intended to be portrayed as representative of all of China's collectives. Rather, they are simply meant to indicate that collectives were indeed capable of improving agricultural production through achieving economies of scale and through large-scale infrastructural development and maintenance. Where this was the case, peasants realized that it was in their best interest to preserve a system of collective farming. The above findings seriously call into question the popular image of the state reacting to pressure from the mass of China's peasants to sanction household farming. Why, then, were the collectives systematically dismantled? The answer is that the policy of decollectivization was implemented in the same manner as the initial drive for collectivization and many other Maoist campaigns: it was forced irrespective of local conditions and peasant preference (Chan et al. 1984:269; Unger 1986:592; Hinton 1990:13). The tendency of the state to implement policy with "One stroke of the knife" remained steadfast despite the transition to a new regime (Zweig 1983:885; Hinton 1990:41,135,148). Cadres who opposed decollectivization have been branded "leftists"

and severely criticized. For opposing the responsibility system on the grounds that it would damage agricultural production, the former first party secretary of Jiangsu was forced by state leaders in 1981 to make a public self-criticism for his "leftist errors" (Zweig 1983:890; Zweig 1985:145-46). Thus, in an endeavor to avoid the political liability of wearing the leftist tag, cadres have pushed the new policy with vigor, frequently against the will of the peasants (Chan et al 1984:269-70; Unger 1986:592-93). The teams in Huancheng which had early on resisted decollectivization had all been pushed to adopt da bao gan by late 1983 (Siu 1989:276,280). Shanxi's Long Bow village, which also initially resisted the responsibility system, likewise ultimately caved in to pressure from above (Hinton 1990:25,148). The inevitability of egalitarianism? Simply put, the case that collectives are inherently unable to link reward to work so as to motivate labour has no logical or empirical foundation. Egalitarian distribution was an explicit component of Maoist policy, not the inevitable consequence of collectivization. As Putterman (1985) argues, egalitarianism and collectivism do not necessarily go together. With the use of work-metering methods well attuned to labour contribution, there seems to be no reason why collectives cannot provide adequate work incentives (pp.64-65). The Household Responsibility System Takes Undeserved Credit Is it valid to argue, as the Western apologists also does, that post-Mao rural economic development is directly linked to the system of household production? An analysis of the nature of the post-Mao rural economic transformations suggests not. The rising rates of productive employment in the countryside, a rise in the productivity of agriculture, and the concomitant increases in peasant income stem not from household responsibility per se, but rather from the processes of agricultural diversification and specialization, increased supply and application of modern agricultural inputs, rural industrialization, and the opening up of other non-agricultural opportunities. Therefore, popular images notwithstanding, the responsibility system cannot take direct credit for the post-Mao improvements in agricultural production and peasant livelihood, and the rural economic successes of the reform period are not necessarily incompatible with a collective mode of production. Improvements in agriculture. The state is no longer emphasizing self-sufficient grain production, but is instead encouraging the "all-round development of agriculture" (Ma 1990:189; Liu et al. 1987:156; Croll 1988:81). In the reforming of agriculture, one of the first measures taken by the state was to increase procurement prices, which had the effect of making agriculture no longer a money-losing endeavor (Potter and Potter 1990:332; Siu 1989:279; Oi 1989:157-59; Butler 1985:111). According to Watson (1989:393), agricultural procurement prices increased on average 47.7 percent between 1978 and 1983. Due to the price rises, peasants sold unprecedented amounts of grain to the state, creating a glut of rice which the state had no way of properly storing. Thus, the state first reduced grain procurement quotas, next allowed other crops and even cash to be substituted for grain quotas, then allowed cash to be used for paying the grain tax, and finally in 1985 abandoned the old unified grain procurement and supply system altogether (Potter and Potter 1990:332; Chan et al. 1984:271; Siu 1989:274; Huang 1990:196; Vogel 1989:108,167; Oi 1989:157-59,172-74; Croll 1988:84; Hinton 1990:76). As a result, cropping portfolios have diversified to better suit local conditions and maximize profit. Patterns of specialization and trade have thus emerged. Lardy (1985:48-49) shows how the restoration of comparative-advantage cropping and increasing inter-regional trade has been a boon to the rural economy of central coastal

Fujian. Between 1976 and 1981 the production of sugarcane more than tripled and refined sugar exports increased by a factor of more than seven. This area became an importer of grain, as in pre-Liberation times, and also saw average per capita consumption of grain increase well above the level endured throughout the Maoist years. A similar pattern of specialization has emerged in Guangdong. Throughout much of Guangdong as a whole, more land has become dedicated in orchards (Chan et al 1984:263; Siu 1989:274). In Guangdong's Chashan township (formerly commune), between 1979 and 1985 the acreage devoted to fruit trees more than doubled, that devoted to vegetable production quadrupled, while the acreage under rice fell by 13 percent. Overall, the value of Chashan's agricultural production, controlling for inflation, increased by 71 percent between the same years (Potter and Potter 1990:332). Fruit output in Guangdong as a whole increased by 833.3 percent between 1978 and 1987 (Vogel 1989:Table A.3), compared to 153.9 percent for China as a whole (China Statistical Yearbook 1990 1991:Table 9.30). Also in Guangdong, the proportion of land under grain crops fell between 1980 and 1989 from 80.5 to 71.5 percent, and the proportion under vegetables, green feed, and green manure more than doubled from 6.1 to 12.6 percent (China Rural Statistics 1988 1989:Table 3,4; China Statistical Yearbook 1990 1991:Tables 9.26 and 9.27). Guangdong has also become host to areas specializing in sugar cane. The combination of a tremendous rise in the procurement price of sugar cane plus the policy of substituting grain quotas with other crops has encouraged the widespread cultivation of sugar cane in those parts of Guangdong where it is very well suited. Guangdong is now producing more sugar than any other province in China (China Rural Statistics 1988 1989:Table 10.7). Given the price differentials between rice and sugar cane, substituting sugar cane for rice in Guangdong's Huancheng in the mid-1980s yielded 190 yuan per mu as opposed to rice's 90 yuan per mu (Siu 1989:279). As a result of its specializations, overall rice production in Guangdong has fallen to the point where the province began importing rice from Hunan, Hubei, and Guangxi provinces (Siu 1989:275; Vogel 1989:167). The shift away from grain-based cropping systems is reflected clearly in national data. For China as a whole the proportion of sown acreage devoted to grain crops fell from 80.1 percent in 1980 to 76.6 percent in 1989, and was replaced almost completely by industrial crops (Statistical Yearbook of China 1986 1986:138; China Rural Statistics 1988 1989:Table 3.4; China Statistical Yearbook 1990 1991:Tables 9.26 and 9.27). In terms of the value of grain crops as a proportion of crop farming's total output value, the fall was more dramatic, declining during the same years from 72.6 to 59.8 percent (China Rural Statistics 1988 1989:Tables 2.10 and 2.12; China Statistical Yearbook 1990 1991:Table 9.8). Moreover, in line with the "all-round development of agriculture" policy, crop farming as a whole has become a less valuable component of agriculture, while sidelines, forestry, animal husbandry, and fishery have all taken on a larger proportional share of agriculture's gross output value (China Rural Statistics 1988 1989:Table 2.9; China Statistical Yearbook 1990 1991:Tables 9.6 and 9.9). Despite the reduction in acreage devoted to grain, total grain output in China has grown consistently, peaking in 1984, 1987, and 1989 (China Statistical Yearbook 1990 1991:Table 9.30). [4] The increasingly widespread supply and application of modern inputs has been a critical factor in the national rise in grain output. In such, the rise in grain output levels has occurred independently of the shift to household production. Fertilizer was generally scarce throughout the Maoist years and has become more widely

available only since the late 1970s. Between 1978 and 1986, the application of chemical fertilizers per unit of land in China increased by 126.6 percent (Huang 1990:Table 11.6). In Anhui's Yingjian commune, fertilizer application increased by a factor of four and rice yields commensurately jumped 131.4 percent between 1978 and 1982 (Hinton 1990:58). When I asked the peasants for specific reasons why their yields went up they all said "the incentive to work provided by the contract." But when I countered with the suggestion that hard work alone could hardly quadruple yields on any piece of land they all said, "Of course, we bought more fertilizer" (ibid.:62). The municipality of Shanghai by 1979-80 stood apart from the rest of China in that it had reached the outer limits in returns obtainable from continued increases in chemical fertilizer application (Huang 1990:250). For this reason, rice yields had levelled off before the reforms and stagnated thereafter. In China as a whole, however, there was still tremendous opportunity to benefit from increased chemical fertilizer application. According to Huang (1990:250-51) and Hinton (1990:63), the usage of modern inputs such as chemical fertilizer and insecticide is the most significant explanatory variable for all growth in grain output. Greater inputs of fertilizer, combined with good weather in 1979 to 1984, almost guaranteed sustained growth in those areas, so whether and to what extent the introduction of the household-responsibility system in farming made a real difference is hard to fathom. Since crop yields had advanced nationwide earlier under collective farming and declined in the advanced areas under household responsibility, the burden of proof, it seems to me, lies with those who insist that the new incentive structure contributed decisively to increased yields. (Huang 1990:283) Moreover, the massive water-works construction projects of the Great Leap Forward and the year-to-year construction and maintenance which took place within the collective framework also contributed to the high yields achieved in the post-Mao period (Hinton 1990:60). However, as will be shown below, the current system is patently unable to ensure infrastructural upkeep, not to mention further infrastructural development. More rational employment patterns. While agriculture has most definitely become more profitable, other significant and beneficial forces affecting peasant livelihood have been rural industrialization and a rise in other off-farm employment opportunities. A shift in the rural employment structure away from a concentration in farming has been necessary due to the long-standing population problem rendering the bulk of the rural labour force surplus to agricultural production. According to numerous Chinese studies, between 30 and 40 percent of China's rural labourers are surplus to agricultural production (Taylor 1988:736-37). In densely populated Guangdong the figure is on the order of 60 percent (Potter and Potter 1990:166). A research group under Fei Xiaotong found that in 1981 65 percent of the labour force in Kaixiangong village was surplus to the needs of farming (Fei 1983:226). In Taigu county, also in Jiangsu, the figure was 56.8 percent (Taylor 1988:752). However, when all activities were considered, the figure for surplus labour fell in Taigu to 31 percent and in Kaixiangong to 27.3 percent (ibid.; Fei 1983:227). It is quite clear that rural industrialization and increasing employment in other off-farm activities has been a welcome boon to peasant livelihood in China. Investment in rural factories comes mainly from two sources: from urban state factories, in the form of commissioned processing arrangements, and from foreign investors, in the form of joint venture arrangements. In contrast to the Maoist denunciation and severance of links between rural and urban enterprises, these "horizontal linkages" have been greatly encouraged under the reforms (Du 1988:376-77;

Vogel 1989:120,321; Nee and Su 1990:9-10; Huang 1990:253-59). In Guangdong, given its proximity to Hong Kong, rural industrial development has been stimulated to a significant extent by joint venture export processing arrangements made with investors from Hong Kong (Potter and Potter 1990:316-17; Vogel 1989:68-69). Rural industrialization in China as a whole, then, can be viewed as a top-down process, as equipment and contracts "trickle down" from urban investors (Huang 1990:265). The rapid process of rural industrialization in China is reflected in national data. For China as a whole, between 1980 and 1989 the value of agriculture as a proportion of total gross rural output diminished from 68.9 to 45.1 percent while the proportional output value of rural industry more than doubled, increasing from 19.5 to 40.7 percent (China Rural Statistics 1988 1989:Tables 2.2-2.7; China Statistical Yearbook 1990 1991:Tables 9.4 and 9.5). Between 1978 and 1989 the proportion of rural labour employed in agriculture declined from 89.7 to 79.2 percent while the industrial work force increased from 5.7 to 8.0 percent of the total rural labour force (China Rural Statistics 1988 1989:Table 8.4; China Statistical Yearbook 1990 1991:Tables 4.15 and 9.2). It is clear that rural industrialization is to a significant extent responsible for improving peasant livelihood (Huang 1990:245). Employment in other non-agricultural occupations has also shown a significant rise. There has been growing employment in commerce, reflecting the emergence of a rural petty bourgeoisie which lives off the nascent "capitalist" sector (Potter and Potter 1990:330). Moreover, newly created wealth has increased the demand for construction, both of housing and of physical non-agricultural infrastructure such as roads and bridges, resulting in a rise in employment in construction (Vogel 1989:173,179,220,222; Siu 1989:276; Woon 1990:151). Employment in transportation has also surged to facilitate the nascent commercialization and construction boom (Vogel 1989:169,222,261,297; Siu 1989:276). Between 1978 and 1989 the proportion of China's rural labour force employed in commerce, construction, and transportation each respectively increased by a factor of about five, albeit from a low base (China Rural Statistics 1988 1989:Table 8.4; China Statistical Yearbook 1990 1991:Tables 4.15 and 9.1). Changes in the national composition of income reflect the shift away from agriculture. Between 1978 and 1989, the proportion of China's rural per capita income deriving from agricultural production diminished from 85.0 to 61.8 percent, while the proportion deriving from non-agricultural sources increased from 7.0 to 28.0 percent (Statistical Yearbook of China 1986 1986:583; China Statistical Yearbook 1990 1991:Table 8.26). As Potter and Potter (1990:335) put it, "Land was clearly of less economic importance than factory work or commerce to peasant households." It has been widely noted that farming has in many areas become a part-time activity or a sideline (Huang 1990:245,256; Hinton 1990:172; Veeck and Pannell 1988:290-91; Oi 1989:195; Croll 1988:81). The shift away from agriculture is significantly related to a rise in migration both from villages to small towns and between villages. The share of urban jobs assigned to rural labour increased from 9.9 to 21.0 percent between 1982 and 1986 (Taylor 1988:Table 3). This has been facilitated by a loosening up of the Maoist cellular rural structure, as the system of grain rationing has gone the way of the collective (Vogel 1989:110). [5] In 1985 a new household registration status termed "town citizens responsible for their own rice" was established (Siu 1990:72; Taylor 1988:759; Potter and Potter 1990:311). Despite increasing employment outside the village, the peasants still generally prefer to hold on to their land for security (ibid.:760; Siu 1989:285; Oi

1989:192,195; Veeck and Pannell 1989:290-91; Hinton 1990:172). Thus a process of "tiered migration" has ensued as labourers from poorer areas have been hired into more prosperous villages to cultivate the land, tend to the fish ponds, work in local enterprises, and so on, thus freeing the local "worker-peasants" to work outside the village (Siu 1990:75-76,80; Potter and Potter 1990:174,176,322-23,330,335; Chan et al. 1984:271-73; Vogel 1989:168,179; Huang Shu-min 1989:193; Woon 1990:157; Du 1988:378). The intensity of cropping has been adjusted to reflect the shift in the pattern of labour utilization. During the Maoist years cropping was extremely intensive across the board because almost the entire labour force was forced into farming (Huang 1990:245,319). Now that the agricultural labour force has shrunk due to the shift to more profitable non-farming activities, cropping has become significantly less labour intensive. Between 1979 and 1985, the average number of standard labour days expended per unit of land diminished by 22.1 percent for rice, 23.3 percent for sugarcane, 29.2 percent for cotton, 38.7 percent for rapeseed, and 52.7 percent for wheat (Taylor 1988:Table 6). Jiangsu province's Songjiang county is a case in point: due to the movement of labour into off-farm jobs, the sown area devoted to double-cropped rice dropped significantly (Huang 1990:243). Problems Associated with the Household Responsibility System Not only was breaking up the collective not necessary to obtain improvements to agricultural productivity and peasant livelihood, but a return to the collective mode of agricultural production may, in fact, be the only way to correct the problems which have emerged under the household responsibility system. The fragmentation of land. As was seen, the ability of collectives to develop, maintain, and utilize a large-scale water-control infrastructure and the conviction among the peasantry that grain production under the collective is, for this reason, more efficient than that under the household, together shed doubt upon claims that scale is of no benefit in agriculture. Areas in Guangdong, Jiangsu, Shanxi, and Heilongjiang provinces practicing rice and wheat farming alike had, in fact, started mechanizing under the collectives. However, with the distribution of farm land, as was seen earlier, into an average of perhaps eleven plots per household, scale and mechanization have been systematically eliminated (Potter and Potter 1990:175-76,335; Zweig 1985:153; Hinton 1990:14,15,44,63,99,104-5). The fragmentation of land under the responsibility system is widely cited as a fundamental barrier to long-term agricultural development. Previously consisting of large, consolidated tracts of land, the Chinese countryside is now characterized by what Hinton (1990:14-16) calls "noodle land." Borders between land parcels automatically reduce the amount of sown acreage by about 5 percent (ibid.:65). Moreover, time is wasted travelling between the fields, which, given their small size, are now difficult to cultivate with tractors (Potter and Potter 1990:175-76; Hinton 1990:14-17,63-65; Taylor 1988:761). The disregard for efficiency in agriculture is also reflected in the reemergence of graves in the middle of fields as ancestor worship and geomancy are practiced with renewed enthusiasm (Huang Shu-min 1989:159; Hinton 1990:72,80). With rural industrialization and the opening up of off-farm employment opportunities, households with contract land have either abandoned farming altogether or have left the elderly, the weak, and children to fulfill the household contract while the most productive labourers have taken on outside work (Siu 1989:276; Huang 1990:245,256; Vogel 1989:168; Oi 1989:195; Taylor 1988:760; Hinton 1990:78,113,172). This predicament derives in part from the fact that the initial land distributions were made with scant regard for the capacity of each household to farm.

According to a Chinese study cited by Watson (1989:398), land distributions were made according to farming ability for only 0.4 percent of the households surveyed. Infrastructural degradation. The decay of the agricultural infrastructure has also been observed (Huang 1990:247; Hinton 1990:114). The difficulty of repairing, maintaining, and even utilizing village irrigation facilities is arguably insurmountable under a smallholding system such as currently exists (Chan et al. 1984:282; Unger 1986:604-5). For China as a whole, state direct investments in agricultural infrastructure declined from 11.5 percent in 1978 to 4 percent in 1985-87 (Hinton 1990:145). [6] In roughly the same period the investment of peasant labour in rural capital construction declined by more than 75 percent (ibid.). With the collective accumulation fund now largely inert, newly created wealth is being used overwhelmingly for nonproductive investments in housing and consumer goods, rather than for productive investments in infrastructure (ibid.:23-24,138,161; Watson 1989:408-9). Rising agricultural output from comparative-advantage specialization and from increasing input usage has naturally brought forth immediate results. Sustained improvements after this initial surge, however, will be more difficult to achieve in the absence of methods to overcome the above described problems (Hinton 1990:63). According to Huang (1990:196-97,247-48), the voluntary reconsolidation of land fragments and reinstatement of collective farming in 1987-88 in Hebei's Shajing brigade, outside Beijing, represents the peasants' response to the problems of scale and infrastructure and points the likely direction of future change to come elsewhere in China. It should be clear that the household responsibility system per se, far from solving the problems of the Maoist years, has been of little benefit and possibly much harm. The benefits obtained from the increased usage of modern agricultural inputs will soon reach their limits, necessitating the adoption of a more efficient mode of production where scale can be achieved and mechanization and infrastructure developed and maintained.

Summary It is the belief of several prominent Western social scientists that the rural economic problems of the Maoist period derive fundamentally from collectivization. And likewise, the application of material incentives--through reinstating the household as the basic production unit, restructuring property rights, and unleashing the market mechanism--is believed to be the fundamental force behind China's rural economic development. The findings presented here, in contrast, suggest that improvements in peasant livelihood and the continual rise in total agricultural output do not derive from household responsibility per se. Agricultural diversification and comparative-advantage specialization, the increased supply and application of modern inputs, rural industrializations, and the shift to other off-farm occupations offer more explanatory leverage than does the ostensibly greater incentive to labor. There seems to be no reason why collectives cannot benefit peasant livelihood by engaging in market activity and by acting as the basic unit of accounting, production, and decision-making with respect to grain farming. Thus, it was unnecessary to decollectivize to have these rural economic successes brought to fruition. Collective agricultural production offers many benefits which, unfortunately, have been obscured by those who insist on ascribing to it all the rural economic problems of the Maoist years. The scapegoating of collective farms also obscures the significant problems farmers now face with respect to scale infrastructural development, maintenance, and utilization, which in many cases could all have been avoided by retaining collective farms as basic units of agricultural production.

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## Notes

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1. 1 mu = 1/15 hectare.

2. 1 jin = 1/2 kg.

3. In most cases, peasant grain rations did not rise commensurately with growth in grain output because of explosive population growth (Potter and Potter 1990) and an imperious state grain procurement policy (Oi 1989).

4. Hinton (1990:22-23,137,141-42) throws doubt upon the Chinese figures, arguing that the 1984 peak is actually the result of grain from collective reserves being distributed to peasants upon decollectivization, sold to the state, and recorded as harvested grain. He also argues that the 1987 peak was merely the planned, not the actual production, figure. Of course, Hinton is unable to substantiate his hypotheses. Therefore, in the absence of more reliable data it seems prudent to suspend outright disbelief in the Chinese figure.

5. Under the Maoist household registration system, each member of the Chinese population was registered as either worker or peasant, and immobilized to his or her respective city or village. Workers received household grain books which guaranteed a fixed amount of consumption grain to be available for purchase as state-run grain shops. Peasant, however, received their grain rations from the production teams in which they were registered (Oi 1989:30-32).

6. Unfortunately, Hinton does not specify what these figures are a percentage of, and his data are not easily accessible since his source is an unpublished manuscript.