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# The role of collective mobilization in the divergent performance of the rural economies of China and India (1950–2005)

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## ABSTRACT

This paper argues that the divergent performance of the rural economies of China and India after 1950 was a product of the different capabilities of the Chinese and Indian governments to mobilize the labor force and financial resources of the rural population. By mobilizing unpaid labor and the financial resources of the villagers through mediation by the collectives (before 1984) and local administrations (from 1984 to the abolition of agricultural taxation and compulsory rural labor mobilization in 2006), the Chinese state developed rural infrastructure and the quality of the labor force at a pace and geographical scope that was far beyond its limited fiscal capacity. Efforts by the Indian state to establish rural organizations with similar mobilization capabilities failed due to the effective opposition of well-entrenched political and economic interests in the countryside. Unable to mobilize the labor and financial resources of the villagers, the Indian government relied primarily on its limited fiscal resources, which produced a much slower development of physical infrastructure and labor force quality. These are the primary reasons why China's rural economy developed much more rapidly than India's, which contributed significantly to the divergence of their national economies in the post-1950 era.

## KEYWORDS

China; India; rural development; collectivization; labor mobilization; taxation

## Introduction

The economic divergence of China and India in the post-1950 era has been one of the most intriguing puzzles of comparative and historical social sciences in recent decades. Since 1950, these two countries have comprised about one third of the total population and about half of the total rural population of the world. They were among the poorest countries in 1950. However, India's per-capita gross domestic product (GDP) had been consistently above China's since 1870. The former was 38 percent higher than the latter in 1950. In short, although both countries were poor, China was much poorer than India. This situation changed completely in the decades following Indian independence (1947) and the Chinese Revolution (1949). The gap was bridged for the first time in 1978 when China's per-capita GDP surpassed India's by

1.2 percent. China's per-capita GDP was more than twice India's in 2005 (The Maddison Project 2013).<sup>1</sup>

This paper focuses on the rural aspects of this difference. The rural population comprised more than three quarters of the total population in both countries until 1980, and about half of China's and three quarters of India's population were still living in the countryside in the early twenty-first century. Although the share of the urban economy increased continuously, the performance of the rural economy continued to significantly impact the performance of their national economies. In China, the share of agriculture in GDP was 50.5 percent in 1952, 30.1 percent in 1980 and 12.6 percent in 2005 (National Bureau of Statistics of China 2001, 2006). The share of Township and Village Enterprises (TVEs) in GDP was 5.77 percent in 1978, 13.5 percent in 1990 and 30.5 percent in 2000 (Chen 2006, 8). In India, the share of agriculture and allied services in GDP was 51.8 percent in 1950–1951, 35.3 percent in 1980–1981 and 19 percent in 2004–2005 (GOI-PC 2014). The share of rural manufacturing in the national domestic product was close to five percent between 1970 and 2000.<sup>2</sup>

The average annual growth rate of agricultural output was 4.57 percent in China and 2.93 percent in India between 1961 and 2002. The average annual growth rate of labor productivity in agriculture was 2.6 percent in China and 1.3 percent in India between 1961 and 2000 (Fan and Chan-Kang 2005, 139).<sup>3</sup> In China, the average annual growth rate of rural industry was 5.9 percent between 1962 and 1971, 23.5 percent between 1971 and 1978, and 20.5 percent between 1978 and 2004 (Bramall 2007, 23, 55). In India, the average annual growth rate of village industry was 8.3 percent between 1972 and 1991 and 2 percent between 1992 and 1998 (Sau 2005, 237–38). The average annual growth rate of gross value added of rural unorganized manufacturing enterprises was 4.1 percent between 1980 and 1995.<sup>4</sup> The share of manufacturing in total rural output did not grow much: 5.87 percent in 1970–1971, 9.16 percent in 1980–1981 and 8.13 percent in 2000–2001 (Chadha 2008, 346). In sum, China's rural economy developed much more rapidly than India's in the post-1950 era.

The dominant approach in the literature toward the two countries' economic development views private enterprise and free market as the twin pillars of successful development. This approach takes the degree of incentives provided to private enterprise as a leading factor behind the differential economic performance of different countries. As long as the private entrepreneurs have clearly defined and well-protected property rights, they are believed to be capable of generating sustained economic growth. Free markets are suggested to provide these agents the space to realize their creative potential. Capital and labor mobility allows the entrepreneurs and workers to maximize their profits and wages. The most industrious and creative agents get the highest rewards within this system, and vice versa. According to mainstream scholarship, the primary task of the state

<sup>1</sup>According to International Monetary Fund and United Nations data, the gap between the growth rates of GDP per capita of the two countries after 1950 was greater than these estimates (see Nayyar 2008, 4; Popov 2014, 79–81).

<sup>2</sup>The author's calculations are based on Chadha (2008, 346) and Sivasubramonian (2000, 640–41).

<sup>3</sup>These figures are based on the statistics of the Food and Agriculture Organization of the United Nations (FAO). Since the FAO's database starts with the year 1961, comparative data is only available for the post-1961 period. Chinese agriculture was at its lowest level in 1961 as a result of the collapse of the Great Leap Forward campaign. Therefore, this data might at first seem to exaggerate China's overall performance. However, the decadal breakdown provided by Fan and Chan-Kang (2005, 139) shows that China's agricultural performance was consistently higher than India's between 1965 (when Chinese agriculture fully recovered) and the early 2000s.

<sup>4</sup>Author's calculation based on Bhalla (2003, 7).

in economic development is to promote this sort of environment. Hence, the state should protect private ownership of the means of production. State intervention in the market has to be kept to a minimum and restricted mostly to the prevention of over-monopolization of the economy (Bhagwati 2010; Friedman 2005, 183–210; Gilley 2005, 19–52; Huang 2008; Huang and Khanna 2005, 161–79; Lin 1988, 1992; Nolan 1988; Qin 2005).

As Ashwani Saith (1996, 30) aptly notes, 'in reading the Chinese development experience, the outsider cannot but be struck by the casual or even dismissive disdain with which the Chinese analysts and policy makers now regard the achievements under the commune system'. In order to fit the China–India story to their theoretical framework, mainstream scholars take a similar road. They refrain from problematizing the comparative trajectory of the rural economies of China and India before the early 1980s. At times and in places where they broach this issue, they assert that both economies were equally illiberal and performed equally badly in that period (Bhagwati 2010; Friedman 2005, 192; Gilley 2005, 24–25; Qin 2005, 74, 81). They suggest that economic liberalization brought China to the path of long-term growth and prosperity. This is presented as the reason for the widening gap between the economies of China and India. As the explanation goes, the Indian government became aware of the necessity of economic liberalization and therefore launched similar reforms in 1991, which finally brought the country into a serious economic race with China (Bhagwati 2010; Huang and Khanna 2005).

This paper aims to provide an alternative explanation to mainstream scholarship on the divergent performances of rural economies of India and China. I argue that the different capacity to mobilize the labor force and financial resources of the rural population is the key reason for China's superior performance. I will show that the two economies suffered from similarly dismal levels of financial resources, physical infrastructure, and labor force quality by 1950, but that China was able to greatly outpace India in developing these resources because of effective state intervention following the rural collectivization in the mid-1950s. The legacy of state-led labor and financial mobilization in the countryside remained strong even after the decollectivization of agriculture in the early 1980s and up until the abolition of agricultural taxation and compulsory labor mobilization in 2006. As a result, the Chinese state was able to develop physical infrastructure and quality of labor force at a rapid pace far beyond what its (initially) limited fiscal power might achieve under a non-collective system. In contrast, efforts by the Indian state to establish rural organizations with similar mobilization capabilities failed due to the effective opposition of well-entrenched class interests in the countryside. In the absence of the mobilization of labor and financial resources of the rural population, the Indian government relied primarily on its limited fiscal resources, which produced a much slower development of physical infrastructure and labor force quality.

This paper is inspired by and contributes to a large body of scholarship on rural development in China and India. A growing literature challenging the mainstream narrative has been produced by scholars from mainland China – such as Wen (2005, 2013), He (2006a, 2006b, 2006c, 2007, 2012a, 2012b) and Lao (2006, 2008) – and elsewhere – such as Saith (1996, 2000, 2008, 2012), Bramall (2000, 2007, 2009), Kueh (2008, 116–36), Patnaik (1995, 1998), Raj (1983) and Byres (2012). By showing the methodological weaknesses of mainstream scholarship, Xu's (2012, 2017) recent quantitative analyses of the collective era sources of agricultural growth in China after 1978 significantly contributed to the critical scholarship.

Nevertheless, this paper differs from these works in important respects. For instance, Raj (1983) mistakenly claims that the terms of trade improved in favor of agriculture faster in China than in India before 1980. Considering that Raj wrote one of the pioneering studies identifying the absence of agricultural taxation as a major structural weakness of the Indian economy (GOI-MOF 1972), his failure to identify the state's extractive capacity (through taxes or price mechanisms) as an important factor behind China's lead over India is striking. Many studies stress the capacity of the Chinese state to extract resources from the countryside to finance urban industrial development but do not pay enough attention to the fact that the same mechanism also worked in favor of rural development (Hung 2016, 43–51; Kong and He 2009; Wen 2005, 2013). Through a more dynamic and multi-directional approach to rural–urban resource transfers (Karshenas 1993, 2004; Saith 1996, 31–32), this work emphasizes that a significant part of the extracted resources was used to spur rural development. Some studies significantly underestimate the strength of the collective legacy. For example, Patnaik and Natrajan (2000, 3425) claim that rural labor mobilization in China almost totally ceased after the mid-1980s. As we shall see below, this claim does not hold true. Bramall (2000, 2007, 2009) defines rural China's collective legacy with reference to the achievements of the collective economy and the continuation of local government control over the rural industry since the early 1980s. This paper goes beyond Bramall's work by investigating the state-led labor and financial mobilization as a significant part of the collective legacy in rural China in the 1990s and early 2000s.

Most works in the above-mentioned scholarship do not systematically compare China and India. Utsa Patnaik's work (1995, 1998) focuses mostly on agriculture and does not pay much attention to rural industry. Patnaik does not discuss the Indian government's rural mobilization efforts and their failure. The comparisons of Byres (2012) are valuable but their scope is limited to intersectoral resource flows before 1980. Although a growing literature compares Chinese and Indian development, only a small minority gives credit to China's collective-era performance. Even within this minority, most studies adopt a very selective approach. For instance, Pranab Bardhan (2010) acknowledges China's lead over India before 1978 in terms of developing infrastructure and labor force quality, but ignores China's superior economic performance in the same period.

Within China–India comparisons, Ashwani Saith's works provide the closest parallel to (and the strongest inspiration of) this paper. As a scholar engaged in field research in both countries for decades, Saith has made original contributions to the literature. Countering both the 'urban bias' argument and the studies underestimating the Indian governments' rural development ambitions, Saith shows that the Indian development policy 'walked on two legs': while prioritizing urban heavy industry it did not neglect agriculture and rural industry (Saith 1996, 32; 2000, 22–24). Through a careful analysis of different class alignments and resulting variations of state capacity to mobilize labor and financial resources, Saith (2008) contrasts China's 'mass mobilization mode of transformation' in the Mao era (and its historical legacies) and the Indian government's failure in acquiring a similar transformative capacity. This paper adopts Saith's framework and expands upon it in two directions. Firstly, inspired from Saith's (2012) comparison of 'labor accumulation' in the Chinese collectives and the implementation of the National Rural Employment Guarantee Scheme in India since the mid-2000s, I compare the two countries' labor mobilization record in the entire post-1950 period. This paper shows that between the mid-1950s

and mid-2000s China consistently maintained a much higher labor mobilization capacity than India. In other words, compared to both 'statist India' and 'neoliberal India', not only 'collectivist China' but also/even 'liberalized China' has a much more successful record in terms of mobilizing surplus rural labor. Secondly, based on the empirical evidence of strong extractive capacities of local administrations in rural China up until the mid-2000s, this paper shows that China significantly outpaced India in rural financial mobilization for over a half century.

This paper consists of five sections. After this introduction, the second section compares the degree of (il)liberalism, government spending and foreign assistance in the two countries, which raise important questions to address about China's comparative success. The third section investigates the divergence of the labor and financial mobilization capacities of the Chinese and Indian states. The fourth section focuses on the economic outcomes of their divergent mobilization capacities. The conclusion summarizes the main arguments of this paper.

### **The degree of economic (il)liberalism, government spending and foreign assistance**

Contrary to assumptions made by mainstream scholarship, Chinese and Indian rural economies were radically different before and after 1978. Private ownership of the means of production was absent in rural China after the mid-1950s. Private household plots comprised only five to seven percent of the collective arable landholdings (Lu 1992, 103; Zweig 1989, 179–80). Rural collectives firmly controlled agricultural and industrial production. The Chinese government also monopolized rural trade. Rural open markets were severely restricted until the late 1970s (Luo 2008, 117–34; Zhang 2005, 82, 118, 211, 249).

Mainstream scholarship attributes much of the agricultural productivity gains between 1978 and 1984 to the transition to the Household Responsibility System (HRS; Bruce and Li 2009; Friedman, Pickowicz, and Selden 2007; Lin 1988, 1992; Perkins and Yusuf 1984; Selden 1993).<sup>5</sup> However, only 14.4 percent of the farming units were consolidated under the HRS at the end of 1980. By the end of 1981, the national average rate of HRS adoption reached 50 percent. In other words, Chinese agriculture was still half-collective as late as early 1982. This rate increased to 78.2 percent in December 1982 and 98.3 percent in December 1983 (Chung 2000, 64–65). Furthermore, rather than completely privatizing agriculture, the HRS realized the transition to a semi-collective/semi-private agrarian structure. Local administrations at the village level and above have continued to be the sole owners of farmland until today. Similarly, collective ownership and management of rural industries was the norm until the early 1980s and remained strong despite continuous private-sector growth in the next two decades. The share of enterprises run by the

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<sup>5</sup>Some mainstream scholars acknowledge the infrastructural and labor force quality gains of the pre-reform rural China, but they insist on denying the economic achievements of the period. For instance, Huang, Rozelle, and Otsuka (2004, 12) claim that although these 'positive aspects ... should not be ignored', 'it is mostly correct to say that China's agricultural development was mostly a failure as of the 1970s'. Although both field surveys (Bramall 1995; Huang 1990, 222–51; Putterman 1989, 1993) and quantitative analyses (Xu 2012, 2017) show no significant productivity difference between household and collective farms between 1978 and 1984, Huang, Lin, and Rozelle (2000, 5) claim that productivity increase in that period 'was primarily a result of institutional innovations, particularly the rural household responsibility system'.

village and township administrations in total rural industrial output was 54 percent in 1997 and 40 percent in 2000.<sup>6</sup>

Moreover, capital mobility was very limited in rural China until the early 1980s. Even industries in remote and less-developed areas bringing low returns were generally protected until the 1990s (Andreas 2008; Bramall 2007; Zhan 2013). Restrictions on labor migration were still considerable in the 1990s (Huang 2014, 27–28). As we will see below, the use of compulsory labor in rural infrastructure works and state extraction of agricultural production continued until the mid-2000s.

The Indian (rural) economy was very different from its Chinese counterpart. The share of the private sector in India's GDP never dropped below 75 percent after 1950 (Nagaraj 2006, 2552). The private sector's share in agricultural output and employment was close to 100 percent (Nagaraj 1991, 1003; Sakthivel and Joddar 2006, 2109; Sivasubramonian 2000, 615). After independence, the Indian government curbed the excesses of absentee landlordism through peaceful land reforms, which included the payment of generous compensations for the confiscated landholdings (GOI-MOAI 1976, 49–55), but the power of the medium and large landowners remained intact. The Green Revolution of the 1960s and 1970s further strengthened their economic and political power (Frankel 2005; Kohli 2004, 262, 274; Patnaik 1986, Raj 1973; Varshney 1995).

Although the public sector had a larger presence in Indian industry, the private sector's share in manufacturing output never dropped below 85 percent (Sivasubramonian 2000, 615). Although industrial licensing limited the mobility of capital in India until the 1990s, it was significantly higher than in China.<sup>7</sup> Labor was also significantly more mobile in rural India. Villagers remained free to migrate and take jobs in other rural areas or cities. For instance, between 1971 and 1981, during which rural outmigration was almost nil in China, rural-to-urban migration grew by 40 percent in India (Mishra 2016, 10).<sup>8</sup> As we will see below, government control over markets remained much lower. Agricultural products were neither taxed nor underpriced consistently (Saith 1996, 32–33; Varshney 1995, 151; Vittal 1986, 149).

We should also note that the level of central government investment in the rural economy was not very different in the two countries during much of the post-1950 era (Saith 1996, 31). Moreover, India was the world's biggest foreign aid recipient and China was a net aid provider between 1950 and 1980 (Chin 2012, 584–85). In the 1980s and 1990s, the share of received aid in GDP was 0.4 percent in China and 0.7 percent in India (Easterly 2002, 231). In short, foreign assistance played a greater supportive role in Indian development.

In summary, the fact that the Chinese rural economy developed more rapidly than India despite being less liberal, receiving less foreign assistance, and spending no more is very important to note. These findings make it crucial to investigate the significant differences in the resource mobilization capacities of the Chinese and Indian states in order to understand the divergence in rural economic development in the two countries.

<sup>6</sup>The author's calculations are based on ZXQNJGNBW (1998, 2001).

<sup>7</sup>More importantly, some of the measures limiting capital mobility actually supported rural industry. For example, by discouraging large-scale textile manufacturing through production quotas, high taxes and low prices, the government encouraged the small-scale manufacturing of textiles in the small towns and villages (Kohli 2004, 269; Saith 2000, 32).

<sup>8</sup>For statistics of rural–urban and rural–rural migration between 1971 and 2001 see Mishra (2016, 9–10).

## Divergent rural mobilization performances

### *Recognizing the need for rural mobilization*

In the early 1950s the great majority of the Chinese and Indian villages lacked basic infrastructure (electricity and irrigation), technology (farm and industrial machinery), and a healthy, literate and relatively skilled labor force that were necessary for achieving rapid economic development. The ratio of irrigated area to total cultivated area was slightly less than 18 percent in both countries in 1952 (GOI-MOL 1955; ZSNBW 1992, 653). Less than 1 percent of their villages had access to electricity at that time (Lei 1984, 29; Samanta and Suntaram 1983, 19). The death rate (per 1000 people) was 20 in China and 27.4 in India in 1950. Life expectancy at birth was 35 years in China and 32 years in India in the same year (China Daily 2002; GOI-MOF 2012, 2; ZRGGTJ 1990, 90). The literacy rate was 12.1 percent in rural India in 1951 (GOI-MOF 2002). The same figure was 20 percent in China as a whole (Li and Li 2010, 67) and certainly lower in the countryside. As long as these bottlenecks existed, incentives (such as the promotion of private enterprise, free market, light taxation, higher subsidies and procurement prices) could not generate economic development to any significant degree (Raj 1983).

The leadership of both the Chinese Communist Party (CCP) and the Indian National Congress (INC) recognized that rural development required building physical infrastructure and improving labor force quality. Since rural China and India were vast and heavily populated, achieving these goals necessitated a strong and long-term investment program. In both countries the private sector was too weak to make significant investments into the rural economy. Hence, regardless of their ideological differences, both the Chinese and Indian leaders agreed that the state was the only agent (potentially) capable of making an investment of such magnitude, but both states initially lacked the fiscal capacity to do that.

Starting in the early 1950s, India and China embraced an ambitious heavy industrialization strategy. They also allocated significant funds to military development, which eventually led them to establish strong armies and join the nuclear club. On the other hand, due to the heavy weight of the rural economy on their national economies, achieving rapid economic growth was impossible without investing significantly in the rural economy. This brought the problem of scarcity of capital to the forefront of rural policy debates and strategies in both countries.

Ragnar Nurkse's *Problems of capital formation in underdeveloped countries* ([1952] 1967) was the first academic study to systematically discuss the subject of surplus rural labor and its possible use for economic development in poor countries. Although there is no evidence suggesting that Nurkse's ideas directly inspired the Chinese and Indian decision-makers,<sup>9</sup> his book reflected a strong strand in the developmental thinking of the time and outlined the general logic of the labor mobilization strategy that China and India attempted to follow in the 1950s.

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<sup>9</sup>As Jack Gray (2006, 668) notes, 'the parallel between Nurkse and Mao in this respect is so close, even in detail, that one must wonder if Mao or someone close to him knew Nurkse's work'. Nurkse's impact on Indian development thinking seems indirect but more easily traceable. Nehru 'considered, apart from efforts to give greater vitality to community development and to make the peasants self-reliant, the adoption of Gunnar Myrdal's suggestion of compulsory social service for young men and women' (Gopal 1984, 109). The close relationship between Nurkse's and Myrdal's works is well known. For a review of discussions on the mobilization of surplus labor for rural development in India inspired by Nurkse's work see Tiwari (1990, 18–26).

In his book, Nurkse ([1952] 1967, 35–37) underscored the severe scarcity of capital in the underdeveloped countries and proposed to ‘consider more closely the possibility of taking the surplus people off the land and setting them to work on capital projects – irrigation, drainage, roads, railways, houses, factories, training schemes and so on’. Since the transfer of surplus labor from farming to infrastructure works would not drop the agricultural output and the transferred workers could continue to have the same amount of food on the table and share the same house with their families as before, if governments managed to mobilize villagers in capital construction projects, they would not need to pay wages at all or pay very little. Nurkse acknowledged that surplus labor had mainly been a seasonal phenomenon in most countries. However, this did not make the labor mobilization strategy any less meaningful: ‘even when disguised employment is mainly a seasonal matter, the question of making productive use of it still has important implications in regard to capital formation’. Nurkse’s overall argument was that conventional arguments of efficiency and diminishing returns to extra input of labor do not apply to the mobilization of surplus rural labor:

Even if the direct marginal yield of labor is zero, the indirect yield of labor when applied to roundabout methods of production – that is, to the accumulation of capital- is likely to be very high in countries when capital is scarce. (Nurkse [1952] 1967, 36)

At the time of the publication of Nurkse’s book, both countries had a sizeable under-employed rural labor force. The average number of days of employment in a given year was 119 in rural China and 98 in rural India in the early 1950s (GOI-MOL 1955, 44; Schran 1969, 75). Hence, a labor mobilization strategy was often discussed with reference to these countries.<sup>10</sup> On the other hand, long before the publication of Nurkse’s work, Mao Zedong stressed the utility of labor mobilization for capital construction, and the CCP experimented with it in North China in the 1930s and 1940s (Mao 1980; Schran 1976). Mao placed greater emphasis on the developmental potential of a labor mobilization strategy after 1949:

Things in this country also show us that an outlet can be found in the villages for rural surplus labour-power. As management improves and the scope of production expands, every able-bodied man and woman can put in more work-days in the year. Instead of over one hundred work-days for a man and a few score for a woman ... the former can put in well over two hundred work-days and the latter well over one hundred or more. (Mao [1955] 1977, 270)

Similar ideas had a profound impact on Jawaharlal Nehru and the Indian planners of the time. A report published by the Planning Commission in 1957 stated

While over the past many decades the pressure of population has been increasing and there have been considerable additions to surplus labour force, it has not been possible to avail of the surplus labour for the execution of schemes of improvement and intensification of agriculture .... The improvements carried out in earlier times owe their execution in many cases to state action and in some cases to the efforts of the feudal chiefs, jagirdars or zamindars who mobilized the surplus labour force without payment or on nominal payment. The institution which the latter represented, has since been abolished. This has not been replaced by any institution involving organised action based on considerations of community’s interest. The burden for carrying out the development of land will increasingly fall on the state .... A lot of labour today goes [to] waste since it remains unemployed or under-employed over a

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<sup>10</sup>For a critical review of the literature see Patnaik (1998).

considerable period. The emphasis in India has, therefore, to be not only on net return but more so on increased production over the total area through intensified cultivation by making the fullest use of the available manpower. (GOI-PC 1957, 129–32)

Nehru suggested the revitalization of the historical practice of *shramdan* (labor contribution to public works) and promoted the mass participation in infrastructure works around the Kosi River as a model:

In Kosi, we have done plenty of work, through *Shramdan* and so on ... Kosi was our first experience of public cooperation on a large scale in a major project ... . Far more people came forward than anybody had imagined, twenty to thirty thousand people in fact ... . That such large numbers were prepared to come was itself a very encouraging factor, even if nothing else had happened. (1958, 73)

In 1956, Nehru criticized the agricultural ministers of the states of India for taking 'it for granted that additional increase in agricultural production cannot be had unless additional funds are available' and argued for the possibility of achieving it 'without any large additional expenditures', through 'community projects' (1988, 394).

On the other hand, although the mobilization of the unpaid labor power of the villagers would alleviate the problem of capital scarcity significantly, it was insufficient to solve it completely. Economic development in the vast countryside of the two nations required large-scale capital investment, which could not be met by labor mobilization alone. This directed the attention of the Chinese and Indian leaders to the question of agricultural taxation.<sup>11</sup> Since Chinese and Indian states were unable to penetrate into the villages effectively before the mid-twentieth century (Duara 1988; Rao 2002, 146–47; Raychaudhuri 1983, 12; Rowe 2009, 52–53, 113–14), putting this mobilization strategy into practice was immensely difficult. It necessitated a radical reorganization of the rural economy through installing strong state-directed organizations.

### *The structure of the Chinese rural collectives*

The radical land reform (1947–52) and the rural collectivization (1952–56) left no elite intermediary standing between the party-state and the peasantry in China.<sup>12</sup> After collectivization, a three-tiered hierarchical structure comprising the production team at the bottom, brigade in the middle, and commune at the top was established. On average a team comprised 45 households (Rawski 1979, 76). Able-bodied villagers over the age of 16 were obligated to join the production teams. After paying taxes and contributing to collective accumulation and welfare funds, each team was required to distribute its net annual profit among members according to their labor contributions measured by the work-point system (CCPCC [1962] 1980, 137–46).<sup>13</sup>

The brigade constituted the medium level of the collective organization. An average Chinese brigade combined seven or eight teams, which provided a sufficiently large pool of labor and capital for small- and medium-scale infrastructure projects. A part of brigades' profits was retained in welfare and accumulation funds, providing the basis for the

<sup>11</sup>A significant body of literature demonstrates that the degree of success in agricultural taxation (through direct taxation and manipulation of the terms of trade) was an important factor behind the different industrialization performance of Third World countries in the second half of the twentieth century (Byres 1979, 1996, 2012; Kay 2002; Mitra 1977).

<sup>12</sup>On the transition from land reform to collective rural economy see Chen and Buckwell (1991, 36); Li (2009, 24); Yan (2007, 61); Zhang (2005, 52).

<sup>13</sup>On the historical trajectory of the work point system see Li (2009); Potter and Potter (1990).

construction and maintenance of junior middle schools, clinics and industrial enterprises (CCPCC [1962] 1980, 137; Rawski 1979, 77; Zweig 1989, 29). The commune constituted the highest administrative level of the collective system. On average, about 10 brigades made up a commune. They were responsible for the delivery of the crop quotas to the state, and construction of larger-scale infrastructure. Their accumulation funds were reinvested, especially in rural industry, and welfare funds were used to run senior middle schools and hospitals.

Rural collectivization created a giant *non-salaried* bureaucracy in the countryside. There were about seven million administrators at the brigade level and 15 million administrators at the team level. They carried out crucial administrative tasks without receiving salaries (Li 2009, 2017, 19). This reduced the financial cost of rural administration significantly.

There were two main sources of unpaid labor in China's collective system. The first is known as 'compulsory labor' (*yiwu gong*). The Chinese government required all collective members to allocate about three percent of their total workdays to capital construction projects without seeking any sort of payment. This was unpaid labor in both the legal and actual senses of the term. On the other hand, the actual scope of labor mobilization – to which the concepts of 'labor accumulation' (*laodong jilei*) and 'labor accumulation work' (*laodong jilei gong*) referred – was much broader than compulsory labor. Collectives allocated work-points to pay the labor of their members in excess of the three percent threshold (CCPCC [1962] 1980, 145–46). Hence, all construction labor exceeding the three percent threshold was not unpaid labor in the formal, legal sense of the term. However, in reality, this was still unpaid labor because the income from the collectives did not have any source other than their total output. Given the fact that the construction of infrastructure has a gestation period and does not immediately increase production, allocation of work-points for construction work only increased the number of the total work-points and automatically decreased the value of each work-point. Since villagers produced the total output from which a part was used for paying their construction labor, the reality was that villagers were paying themselves (Wakashiro 1990, 491). The guaranteed supply of basic necessities (staple food; clinics and schools; basic social coverage for the elderly, disabled and minors) made the large-scale mobilization of rural labor possible.

Rusticated labor force provided another important unpaid labor force for rural development. The Chinese state transferred about 40 million high school and university students, workers, and technical personnel from the cities to the countryside between 1960 and 1976 (Wen 2013, 32–72). It instructed the collectives to absorb this additional labor force. Students, a large portion of the rusticated labor force, had to earn work-points for their labor input.

### ***The Great Leap Forward and the policy lessons learned***

In addition to the famine that took about 30 million lives (Wemheuer 2014, 144–53), the Great Leap Forward (GLF) also led to an economic disaster. Per-capita GDP decreased by 20 percent between 1958 and 1961 (Maddison Project 2013). A comprehensive analysis of this failure is beyond the scope of this paper.<sup>14</sup> What is worthy of note is that during the GLF, Chinese collectives mobilized labor and other resources in a haphazard fashion and

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<sup>14</sup>For detailed analysis of the GLF's disastrous failure see Kueh (1995); Wemheuer (2014).

often to an extreme degree. The sudden and massive transfer of labor and financial resources to infrastructure construction affected grain production very negatively. Chen's (2011, 204–06) comparative analysis of the GLF's human toll in Anhui and Jiangxi demonstrates that an important factor behind the greater human toll in Anhui was the mobilization of peasants in long-term, large-scale, physically demanding hydraulic projects, which dramatically decreased labor input in food production, whereas peasants of Jiangxi mobilized mostly in short-term, small-scale, physically less demanding hydraulic projects, which did not take much labor away from farming. Hence, although the mobilization strategy played a key role in rural China's economic success, the GLF experience showed that extreme confidence and poor planning could turn this strategy upside down and into a disadvantage.

The Chinese government learned the lessons of the GLF and never repeated the mistake of draining labor and other resources away from food production (Wemheuer 2014, 232–34). After the GLF, the basic accounting unit was restored from the commune and brigade back to the production team. Despite the later campaigns of the radical Maoists to adopt brigade accounting, only 10 percent of the brigades and only about 60 communes nationwide functioned as the basic accounting unit by 1978 (Khan 1984, 77). Household plots and rural open markets were also allowed – albeit to a very limited extent – despite the sporadic campaigns against them (Huang 1990, 279; Wemheuer 2014, 223).

### ***The Indian government's failed efforts to radically reorganize the rural economy***

Indian leadership paid close attention to the rural mobilization experience of China. In 1955, Nehru wrote

One of the most impressive things that is happening in China is the rapid growth of agricultural and industrial cooperatives. This is no doubt helped by the authoritarian regime there. But this is not an adequate explanation and we have to find out the other causes . . . We have done much work in India in regard to cooperatives. But our success is still very limited . . . It is likely that we shall send a small team to China to study this and report to us. (1990, 330–31)

Two delegations (of the Planning Commission and the Ministry of Food and Agriculture) visited China in 1956 and published reports that underlined labor mobilization as a key driver of its agricultural development (GOI-MOFA 1956; GOI-PC 1957).

The Indian state's effort to establish a strong rural organization that could mobilize labor and the financial resources of the villagers led to two main reforms. The first step was to establish the National Extension Service (NES) in 1951 and the Community Development Program (CDP) in 1952 (Frankel 2005, 102–03; GOI-PC 1962, 3; Hanson 1966, 400–21; Sinha 2008, 75). In 1957, the Indian government appointed a committee headed by Balwantrai Mehta to examine the CDP and NES and propose ways to improve their performance. The committee recommended revitalizing rural India's old *panchayat* (council) system on a modern basis. The system organized rural administration around a three-tiered (district–block–village) structure of elected councils. Following its foundation, the CDP budgeted only one third of the costs of its ambitious plans for rural capital construction. Villagers were called on to raise their own resources (Dharampal 1972; Frankel 2005, 24, 102–103, 178). A local evaluation report on the CDP stated:

The needs of the villagers were many; the finances were limited. Important as the size of the financial allocations to the different items of rural development were, the more significant were the development efforts put in by the extension staff to bring out the most fruitful results out of the given allocations by inducing popular involvement in development activities. (Inamdar 1962, 28)

The second step was to establish cooperative farms. This was one of the most radical reform attempts of the INC since independence. It was first recommended by the Congress Agrarian Reforms Committee in 1949 and accepted by the INC in 1959 (CARC 1949; INC 1959, 3–4). However, during the late 1950s and 1960s, the rural elites established a large block of landowning peasantry (comprising about 80 percent of the rural population) that influenced all major parties (including the ruling Congress party and the major right- and left-wing opposition parties), and was successful in defeating the cooperative farming scheme.<sup>15</sup> Two decades later, all cooperative farms (including the bogus ones) comprised only 0.3 percent of the country's total cultivated area (Haque and Sirohi 1986, 208–11). Village councils were established everywhere, but instead of becoming the organizational ground of labor mobilization and self-finance, they soon turned into institutions dominated by private economic interests, depending significantly on government spending (Immerwahr 2015, 66–100; Sharma 1978).

### **Divergent labor mobilization performances**

Chinese collectives mobilized over one quarter of China's total rural labor force in infrastructure works in the 1960s and 1970s.<sup>16</sup> Decollectivization of agriculture decreased the state's capacity to mobilize rural labor. However, the institutional legacy of labor mobilization continued to shape China's rural development up until the abolition of the agricultural tax and compulsory labor mobilization in 2006. The *Regulations on the Expenses and Labor Services Shouldered by the Villagers*, adopted by the State Council in December 1991, redefined the concepts of 'compulsory labor' and 'labor accumulation work' (Guowuyuan 1991). According to these regulations, village administrations and township governments had the authority to demand each working-age villager to contribute five to 10 workdays as 'compulsory labor' and 10 to 20 workdays as 'labor accumulation work'.<sup>17</sup> Local governments were allowed to demand more contribution when necessary.

Between 1981 and 1984, the total amount of construction work done through labor accumulation decreased to 15 percent of the level of the previous decade (Wakashiro 1990, 497), but this was still significant considering the near absence of such mobilization in India. Moreover, the Chinese government pushed to increase this level in the following years. During the winters of 1985 and 1986, 39 million villagers worked in capital construction projects. In 1989, 56 million villagers contributed 2.4 billion labor days to capital construction (Nickum 1990, 290; Renmin Ribao 1989; Stone 1993, 323; Wakashiro 1990, 497).

<sup>15</sup>On the political conflicts over the cooperative farming scheme see Democratic Research Center (1959); Frankel (2005, 167–68, 207–09); Gill (1959, 223–28); Gupta (1959, 933–36); Singh (1959). Another cooperative farming initiative came from the Bhoojan-Gramdan ('land gift and village-in-gift') movement. The movement emerged in 1951 with the modest goal of calling on big landowners to donate land to landless peasants. In 1952 it adopted the program of cooperative farming with collective landownership. The movement tried to coordinate with the cooperative farming advocates inside the INC and implemented many pilot schemes. However, it failed to expand cooperative farming (Oommen 1972, 28, 86–90).

<sup>16</sup>The author's calculations are based on Nickum (1978, 280); SSB (1983, 120).

<sup>17</sup>For a reconfirmation of these rules a decade after the State Council's decision, see Renmin Ribao (2001).

The national average for each working-age villager to contribute unpaid labor to capital construction was 17.2 days in 1990, 20.2 days in 1991 and 17 days in 2000 (Aubert and Li 2002, 161; Li 1992, 49). Zhang et al.'s (2006, 59–62) survey of 2500 villages in Gansu, Hebei, Jiangsu, Jilin, Shaanxi and Sichuan shows that between 1998 and 2003 more than 85 percent of Chinese villages carried out one infrastructure project per year. In 56 percent of these projects, villagers contributed labor without remuneration. On average, each household contributed five days of unpaid labor to each project. Local surveys confirm these findings. In Anhui, villagers provided 2.87 billion workdays as 'labor accumulation work', through which 763,000 construction and maintenance works were completed between 1996 and 2000 (Jia, Zhichun, and Sifu 2000, 4). In Jiangsu, each working-age villager contributed 17 workdays on average (900,000 in total) to local infrastructure projects in 1998 and 1999 (Cai, Ge, and Fan 1999, 35). As the monetary value of the villagers' unpaid labor contributions was estimated to be between 170 RMB (Aubert and Li 2002, 161) and 200 RMB (Deng 2003, 43) for the early 2000s, it appears clear that even after the decollectivization reform of the early 1980s, the institutional legacy of labor mobilization made a significant contribution to the development of rural infrastructure.

A closer look at the rural employment programs in India will help us assess the real magnitude of the surplus rural labor and the state's inability to employ them through fiscal spending. The Rural Manpower Utilization Program (1960), the Crash Scheme for Rural Employment (1971), the Pilot Intensive Rural Employment Project (1972), the National Rural Employment Program (1977), and the Rural Landless Employment Guarantee Program (1983) were some of the largest and most central government programs. State governments implemented similar programs. The Maharashtra Employment Guarantee Scheme (MEGS), launched in 1972, was considered the most successful among them in terms of coverage and duration.

A comparison of these programs with rural employment in China shows their serious limitations. The case of the MEGS is particularly illustrative in this regard. The program paid the villagers slightly less than market wage in 1976–1977 and more than the market wage in 1989–1990. A limited (urban) tax base turned out to be insufficient for providing rural employment. The program was estimated to provide employment to about one fifth of the total underemployed population in the state in 1977–1978 and to less than one third in 1987–1988. In short, even the most generously funded and successful local scheme was incapable of putting the underemployed villagers to work. The program's record of infrastructure construction was very modest (Dev 1995, 108–43).

In West Bengal, about four million villagers participated in the Rural Reconstruction Program and the Rural Works Program in 1978–1979. On average, each worker undertook 17.5 days of work a year. Workers received 4 Rs/day, which was below the legal minimum wage (8.10 Rs/day), but above the market wage rates in the off-season. Farm workers did not have work for at least 210 days in this backward region. Hence, government-financed wage employment creation was far from effective in tackling the problems of underemployment and weak infrastructure. In 1978, the state government admitted that most of the infrastructure constructed by these programs was useless (Mallick 1993, 143–44).

The Pilot Intensive Rural Employment Project implemented in the Trithala Block of Kerala in 1972–1973 points to similar limitations. The block needed 2,857,000 days of work per year in order to solve its underemployment problem. The program aimed to provide 2,055,000 days of work. However, this was far beyond the fiscal capacity of the

government. Only 840,000 days of employment were provided. Moreover, the project ended after four years and its contribution to infrastructural development was modest (Gopinath, Asan, and Das 1978).

Central government schemes shared similar limitations. The Rural Manpower Utilization Program planned to employ 100,000 people in 1961, half a million people in 1962, one million people in 1963 and a maximum of 2.5 million people in 1964–1965. It intended to provide 100 days of work to each employed person each year (Donovan 1973, 4–5). In comparison, the Chinese rural collectives mobilized over 30 million villagers in infrastructural projects in the same period (Nickum 1978, 280). Achieving this level of coverage was obviously impossible in India, where wage payment for construction work was the norm (due to the absence of an institutional structure guaranteeing staple food and basic social services) and employment programs therefore depended entirely on the central and state governments' limited budgetary resources. The National Rural Employment Program was another central government scheme given much publicity, but it generated only 1.11 million individual days of rural employment per day in India between 1980 and 1985. In March 1980, 15.36 million people were unemployed in the countryside on any typical day. Hence, the program provided only 7.2 percent of the needed rural employment (Bandyopadhyay 1989, 98). Construction of durable assets through the labor and financial contributions of the villagers was observed only in 'isolated instances' during its implementation (Tiwari 1990, 111).

Other attempts of the Indian state to shift part of the responsibility for infrastructural development to the villagers similarly failed. From the early 1960s onward, 'irrigation committees' were established in Uttar Pradesh and Madhya Pradesh. Gujarat and many other states tried 'water councils' and 'irrigation cooperatives' in the 1980s and 1990s. However, most of these organizations were either abolished formally or left to a slow extinction a few years after being initiated (Shah 2011, 77). A report published by the Ministry of Irrigation and Power in 1972 admitted that across the country, 'the experience of entrusting certain functions of irrigation administration to the Panchayati Raj institutions and irrigators' cooperatives has not so far been satisfactory' (GOI-MOIP 1972, 374). Overall, the great majority of the infrastructure works continued to be planned and financed by the government and carried out by private contractors (Jayaraman 1979, 45–46; Sharma 1979, 158; Vaidyanathan 1985, 53–54, 75–76). Institutionalized corruption involving private contractors and local officials increased the cost of infrastructure works by more than one quarter, thereby further increasing the government's fiscal burden (Wade 1982, 1984).

The gender dimension of the different mobilization capacities of the two countries is noteworthy. Transferring a large labor force to public works might involve significant risks for agricultural production even if the greatest care was given to organizing mobilization in slack seasons. The remarkable increase in female participation in farm labor made that transfer possible in China. The share of women in the rural labor force increased from less than 40 percent in 1950 to more than 60 percent in 1957 and above 70 percent in the late 1970s (Croll 1985, 23–28; Johnson 1983, 170–73; Lu 1998, 92; Thorborg 1978, 567–87; Wade 1982, 1984).<sup>18</sup> Moreover, although construction work was a male-dominated

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<sup>18</sup>Since early attempts to socialize household labor, such as cooking and childcare, ended with the collapse of the Great Leap Forward campaign, increases in female labor participation actually resulted in a double burden for women (reproductive work inside the household and productive work outside of it).

area, women's contribution was not negligible (Hershatter 2011, 146). A comparable level of political support for female labor participation was not evident in India. As a result, the female labor force participation rate in rural India was about 30 percent in the entire post-1950 era (IAMR 2001, 91).

### **Divergent financial mobilization performances**

Until the early 1980s, Chinese collectives transferred more than five percent of their net income to the state in the form of direct tax, over six percent to collective accumulation funds and another 1.6 percent to collective welfare funds.<sup>19</sup> After the decollectivization reforms, village and township administrations maintained the legacy of strong agricultural taxation. The share of taxes and fees deducted from the income of villagers was 6.8 percent between 1985 and 1989 and 9.2 percent between 1990 and 2000.<sup>20</sup> The monopolization of rural trade through the use of collectives enabled the Chinese state to manipulate the terms of trade against agriculture. This mechanism effectively functioned as a hidden/extraneous agricultural tax. Although the state's trade monopoly was gradually abolished from the early 1980s on, its power in rural trade remained strong for two more decades. As a result, the share of agricultural output transferred to the state via the price scissor mechanism was 15.7 percent between 1952 and 1982 and 9.7 percent between 1982 and 1997.<sup>21</sup> Moreover, Zhang et al.'s survey (2006, 62) found that the monetary contributions of villagers covered 47 percent of the local infrastructure spending between 1998 and 2003. If the uncompensated labor contributions of the villagers are monetized, the actual share exceeds 50 percent. Wong et al.'s survey (2013, 264–66) of 101 villages in Hebei, Jiangsu, Jilin, Shaanxi and Sichuan also demonstrates that villagers contributed 44 percent to road project finances between 2003 and 2007.<sup>22</sup>

In contrast, the Indian government's attempts to mobilize the financial resources of the rural population through similar mechanisms failed. The agrarian political block successfully forced the government to keep the agricultural sector untaxed and increase spending, subsidies and procurement prices from the mid-1960s on. This ruled out the possibility of covering part of the costs of the construction and maintenance of rural infrastructure and industrialization. In 1974, the Planning Minister D.P. Dhar stated that 'irrigation rates in most parts of the country are so fantastically low that even today we are paying a sum of about [1.7 billion Rs] a year as a loss only on the maintenance of irrigation systems' (Varshney 1995, 99). The ratio of collected water fees to capital investment in canal irrigation was 10 percent in 1902–1903, which then decreased to 1.43 percent in 1977–1978, 0.3 percent in 1986–1987 and 0.2 percent in 2001. The ratio of water fees to the working expenses of canal irrigation was at a remarkable rate of 280 percent in 1902–1903, but then declined to 45 percent in 1977–1978, 20 percent in 1986–1987 and 7.9 percent in 2001. Finally, the ratio of water fees to the value of crops irrigated by canal water was 11 percent in 1902–1903, but dropped to two percent in 1986–1987 and 1.2

<sup>19</sup>The author's calculations are based on SSB (1983, 210).

<sup>20</sup>The author's calculations are based on Li (1992) for 1985–1989 and Aubert and Li (2002, 166) for 1990–2000.

<sup>21</sup>The author's calculations are based on Kong and He (2009, 7).

<sup>22</sup>It should be noted that in the 1990s and early 2000s people working outside the village paid fees corresponding to the estimated monetary value of the compulsory labor and labor accumulation work demanded by the local governments (Deng 2003).

percent in 2001 (Shah 2011, 71). In short, farmers successfully transferred the burden of irrigation finance to the state.

While the potential benefits of the conjunctive use of surface and groundwater to agricultural production had been widely recognized in India (GOI-MOIP 1972, 313; Shah 2011, 69), the deterioration of canal and tank irrigation led to greater reliance on groundwater sources tapped through electric-powered tubewells. From 1947 to 2000, the share of the canal-irrigated area within the total irrigated area declined from 42.3 percent to 28.2 percent, and that of tanks declined from 17 percent to 4.37, while the share of wells and tubewells increased from 27.3 to 57.9 percent.<sup>23</sup> Groundwater irrigation is a much more individualized method compared to canal irrigation. This rise of groundwater irrigation indicated a decrease in the financial role of the government and an increase in that of individual households. However, the populism of Indian politics produced an opposite outcome. In 1968, the Punjab government shifted from metering agricultural consumption to a flat-rate tariff that was based on the size (in horsepower) of tubewells. The state government also kept electricity rates at a very low level. In 1977–1978, the Maharashtra government also shifted to non-metered rates and reduced the rate of non-metered consumption from Rs 180 to Rs 125 and metered rural consumption from 29 paise to 20 paise. The Gujarat government followed a similar policy from the 1960s on. Although rural electricity rates were initially lower in Tamil Nadu than in other parts of the country, the populist atmosphere (due to intense electoral competition between the two regional parties) dropped rural electricity rates to zero from the late 1960s on. With a few exceptions, state governments began subsidizing rural electricity significantly in the mid-1960s, and the soaring costs were transferred to urban consumers (Kale 2014, 81–91, 114, 161–70). State governments failed to collect on the reduced electricity bills. For instance, landowning peasantry represented by the Bharatiya Kisan Union successfully prevented the government officials from cutting off electric supply for nonpayment of bills in western Uttar Pradesh in the 1980s and 1990s (Gupta 1998, 89).

Agricultural taxation also remained extremely low in India. In 1972, the Committee on Taxation of Agricultural Wealth and Income reported that the ratio of tax to total agricultural income was only 1.63 percent in 1960–1961, 0.91 percent in 1965–1966 and 0.85 percent in 1970–1971. The ratio of tax to non-agricultural income was 2.49 percent in 1960–1961, 2.41 percent in 1965–1966 and 2.60 percent in 1970–1971 (GOI-MOF 1972, 8). The share of land and other agricultural taxes in total government revenue dropped from about seven percent in the early 1960s to less than one percent in the early 1990s (Varshney 1995, 178). In short, an industrialization strategy based on the transfer of the agricultural surplus to industry, which was rigorously implemented in China, never became a possibility in India.

### **Divergent performance of the rural economies of China and India**

Data on the development of rural infrastructure reflects the different rural mobilization capacities of the two countries. The share of effectively irrigated land in China almost tripled in the collective era (from 17.9 percent in 1952 to 49.4 percent in 1982). This remarkable achievement did not burden the Chinese state with much to do in the era

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<sup>23</sup>The author's calculations are based on the following sources: GOI-MOIP (1972, 69); GOI-MOAFW (2010).



of market reforms. Although the share of agricultural capital construction in total government spending sharply decreased – from 10.5 percent in 1976–1980 to five percent in 1981–1985 and 3.3 percent in 1986–1990 (*ZRGGTJ* 1991, 156) – maintenance of the collective legacy helped to keep the size of effectively irrigated areas stable throughout the 1980s (*ZSNBW* 1992, 653). The legacy of local self-finance remained strong, and government spending on capital construction increased in the 1990s. As a result, the size of effectively irrigated areas increased by 13.7 percent between 1990 and 2000 (Nickum 2003, 261).

Collective mobilization also realized most of the hydropower construction in rural China until the early 1980s. The small hydropower generation capacity of rural China increased from 3630 kilowatts in 1949 to 227,400 kilowatts in 1962, and 7.6 million kilowatts in 1982. The share of small rural hydropower stations in China's hydroelectric generation capacity increased from 16 percent in 1972 to 35 percent in 1982. By 1982, about 90 percent of the communes, 70 percent of the brigades and over 50 percent of the teams had electricity access. By providing electricity to about 30 percent of the counties and 40 percent of the communes in the same year, commune- and brigade-operated hydropower stations accounted for a significant part of this success. This in turn provided a solid base for the development of agriculture and rural industry (Lei 1984, 29; Pan et al. 2006, 13–17; Riskin 1979, 56; World Bank 1985, 153). By 2005, 98 percent of the villages had electricity access (Wen and Dong 2008, 106).

In India, the ratio of irrigated land to total farmland increased from 17.5 percent in 1950–1951 to 27.6 percent in 1980–1981, 33.4 percent in 1990–1991 and 42.1 percent in 2004–2005 (Indiastat 2017). In other words, India's irrigation record lagged behind China's after 1950 (Indiastat 2017). The consumption of electric power in agriculture was almost nil in both countries in the early 1950s. In 1970, China consumed 94.5 kilowatt-hours of electricity per hectare of farmland compared to India's 38.2 kwh/ha. In 1980, the figure was 322.6 kwh/ha in China and 130.2 kwh/ha in India. In the early 2000s, the same figure was 22.525 kwh/ha in China and 1015.6 kwh/ha in India (Chai and Roy 2006, 76). Given the direct, positive relationship between electrification and industrialization, we can conclude that the electrification gap also significantly impacted their comparative rural industrialization performances.

A similarly serious gap opened up between the two countries in the area of agricultural extension services. During the 1960s and 1970s, the Chinese government dispatched significant numbers of university students and graduates, as well as technical and scientific personnel specialized in agricultural sciences, to the countryside. Moreover, the presence of a significant number of non-salaried cadres at the brigade and team levels provided a strong basis for agricultural extension (FAO 1977, 1980). For instance, in Hunan province alone, more than 800 people across 100 research sites at the brigade level participated in the experiments for the development of hybrid rice technology (a key contributor to agricultural productivity gains) (Schmalzer 2016, 78–79).

In contrast, the Indian government relied entirely on salaried extension officers. On average, one extension officer was able to serve a group of five villages, which limited the quality and geographical scope of the extension effort (Frankel 2005, 102–03; GOI-PC 1962, 3; Hanson 1966, 400–21). Extension officers were generally based in upper-caste villages that could offer them facilities. The impact and benefits of agricultural extension declined with the distance from the base villages (Sinha 2008, 75).

Finally, the Chinese state also used the method of labor mobilization to improve rural healthcare and education. Villagers provided unpaid labor power for the construction of schools and clinics. The rusticated labor force worked as doctors and teachers and organized training programs to generate doctors and teachers from within the village youth. As a result, the number of 'barefoot doctors' was approximately one million in 1968–1970, 1.3 million in 1973, 1.76 million in 1977 and 1.46 million in 1981. The number of health aides in the countryside was approximately 3.7 million in 1970 and two million in 1981. Each brigade had two to five barefoot doctors and two to 10 health aides. Similarly, the number of teachers in commune and brigade schools reached 4.5 million in 1980 (Hipgrave 2011, 227; Wang 2002, 110). Although the closing of village schools negatively impacted rural education, township schools were still capable of providing universal primary school education and near-universal junior secondary school education in the 1990s and early 2000s (Lin and Zhang 2006).

The reliance on the government's limited fiscal power prevented the rapid extension of healthcare and education services in rural India. As a result, a significant gap opened up between the two countries in terms of the quality of rural labor force. The literacy rate in rural China reached 60.5 percent in 1982, 73.8 percent in 1990 and 93 percent in 2005 (World Bank 2006; Wen and Dong 2008, 106). India reached a rural literacy rate of 67.7 percent in 2011 (Indiastat 2017). Considering that acquiring basic literacy requires much more time and effort in China due to its character-based script, the real achievement gap between the two countries is much greater than these figures reflect. Furthermore, the life expectancy of the Chinese population increased from 40.8 in 1950–1955 to 66.4 in 1980–1985, which was clearly a more rapid improvement than India where this figure rose from 37.9 to 56 in the same period (UN 2009, 184, 276). In 2010, India reached the level that China had achieved 30 years earlier (Indiastat 2017).

## Conclusion

This paper argues that the divergent performance of the rural economies of China and India after 1950 was a product of the different capabilities of the Chinese and Indian governments to mobilize the labor force and financial resources of the rural population. By mobilizing unpaid labor and financial resources of the villagers through mediation by the rural collectives, the Chinese state developed rural infrastructure and labor force quality at a pace and geographical scope that were far beyond its limited financial sources. The collectives also enabled the state to tax the increasing agricultural surplus and utilize it for agricultural modernization and rural industrialization. Furthermore, until the abolition of agricultural tax and compulsory labor mobilization in 2006, rural China maintained a strong collective legacy of labor and financial mobilization. By comparison, the efforts by the Indian state to establish rural organizations with similar mobilization capabilities failed due to the effective opposition of well-entrenched class interests in the countryside. Unable to mobilize rural labor and tax agriculture, the Indian government relied primarily on its limited fiscal resources, which produced a much slower development of physical infrastructure and labor force quality. As a result, during the half century following the Chinese Revolution and Indian independence, China's rural economy developed much more rapidly than India's.

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