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Young Farmers and the Dynamics of Agrarian Transition in China

Lu Pan

Introduction

For a transformative country like China that still has a large rural population and significant agricultural sector, the role of young farmers in the future of the country's agrarian transition has extraordinary importance. The social awareness of young farmers and their important role varies in China in the last decade depending on the dynamics of agrarian change and socio-economic transformations. This issue is particularly relevant in the second decade of the twentieth century when the government is actively encouraging young people to commit to agriculture and rural revitalization in China; farming families are in a period of increased opportunity but not without related challenges. This chapter begins with a brief review of agrarian transition in China before exploring the general

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situation of rural youth in terms of education, vocation, and social mobility in order to provide the reader with a comprehensive background of the situation for young farmers in China. Before concluding, the final section will address the demographic challenges of Chinese agriculture.

Development of Chinese Agriculture

In contrast to the large farm sizes in North America and Australia, and the comparatively middle-size farms in Europe and central Asia, farming in Southeast and East Asian countries can be characterized as smallholding agriculture. Small-scale family farming in China came into being as an adaptation to the high population density and relatively scarce agricultural land resources (Zhang 2011). It has remained the dominant organizational form of agricultural production for over hundred years and has been specifically strengthened since the 1980s. In 2016, family farming accounted for nearly 97 per cent of all farming units, overwhelmingly surpassing large-scale farms that employ hired labour (Ministry of Agriculture and Rural Affairs of China 2017). On an average holding of 5 mu (about one-third of a hectare) of land, Chinese agriculture has exceptional performance and produces about one-third of the world's grain, one-sixth of its wheat, and one-fifth of its maize (Wang 2013). Chinese farmers have not only secured domestic food supply and contributed to economic growth but also significantly contributed to the food export market. Agro-products exports in 2020 were over US\$76 billion and mainly went to Japan, Korea, Vietnam, the USA, and some other east Asian countries (Ministry of Agriculture and Rural Affairs of China 2022).

Contemporary Achievements of Chinese Agriculture

In the history of modern China over the last 100 years, the basic and primary operative unit of farming has always been the rural household. Small-scale family farming has demonstrated the centrality of the family in agricultural production and its embeddedness in local society. For agricultural households, the ultimate objective was “health and wellness of

whole family, income is only an intermediate objective” (Soda 2003). In a word, subsistence was a family’s priority. In realizing this goal, a series of features and merits arise that are associated with family farming, including biodiversity, resource efficiency, co-production with nature, multiple jobholding, and a resilient community. The dynamics and agency of peasant agriculture and rural society have been especially reactivated after 1978 when agriculture collectivization was abolished and economic reform in rural China was piloted. The result was great transformation and changes in agriculture and in the countryside. Grain production, for example, increased from 3.05 million tons in 1978 to over 669.49 million tons in 2020 (National Bureau of Statistics of China 2021a). The net income of rural residents has risen from CNY¹ 171 per capita in 1978 to CNY 32,189 in 2020, which contributed to poverty alleviation in many parts of the country (Central Government of China 2021c).

The state has played an important role in delivering public goods and services for agriculture development. In 2011, fiscal expenditure on agriculture and rural development by central government was CNY 2972.72 billion (Ministry of Finance of China 2012) and the annual amount reached over CNY 3000 billion in recent years (*People’s Daily* 2021). State support to agriculture is also reflected in taxation and subsidy improvements. Since 2004, the government has annually increased direct subsidies that support grain production. Each farming household can be subsidized according to their land area of cultivation. In 2006, the government took the historic step to abolish the agricultural tax—farmers do not have to pay tax for agricultural products.

The increases in income from farming and agricultural activities and the aforementioned economic growth in the countryside are closely associated with the occupational differentiation of the rural population. Before the 1980s, the Chinese countryside was a peasant society, with characteristics as defined by Shanin (1990). They were the small agricultural producers who, with the help of simple equipment and family labour, produced mainly for their own consumption and for the fulfilment of obligations to the holders of political and economic power.

¹ 1 CNY equals about US\$0.15 at the time of writing.

Rural society was quite homogenous, especially at the end of agriculture collectivization in the 1970s in terms of wealth and occupation. It was only after 1978 and during a period of increasing rural-urban economic interaction that these peasants were able to find employment beyond the agricultural sector and outside their villages or counties. The consequences were the social mobility of the individual and the socio-economic differentiation of rural society. In China, the term “peasant” (*nongmin*) has combined meanings beyond the academic debate, and simply, it ascribes identity to people who were registered as rural inhabitants in the *hukou* system.² The majority of those who live in rural areas are still engaged in agricultural production. They are farmers, though if one examines their specific mode of farming, some can still be classed as peasants, while others are commercial farmers. Depeasantization in rural China witnessed on one hand those who used to work on land for subsistence constantly flowing into urban areas and on the other hand the mode of farming that relied on family-controlled land and labour for subsistence-oriented production disappearing.

Some scholars attributed the agricultural growth between 1980 and 2010 to fertility rate decline, large-scale non-farm employment, urbanization, and changing patterns of food consumption related to rising incomes. Philip Huang (2016) concludes that an enormous mass of small family farms, rather than capitalist farming enterprises, have led a “hidden agricultural revolution.” It is “hidden” because its growing production value is largely driven by the switch from grain production to increasingly higher-value agricultural products like meat-poultry-fish, milk-eggs, and quality fruits and vegetables. It is so-called new agriculture because it is both capital and labour intensive. Changes can be seen in the increased area dedicated to cultivation and higher-valued agricultural products’ production value, for example, from vegetables and fruits. The cultivation area for the latter has increased by 606 per cent and 680 per cent, respectively, between 1980 and 2010, accounting for 18.9 per cent of 2 billion mu³ of cultivated land nationally in 2010. In the same

² The *hukou* system has been implemented since the 1950s in China as a tool for social control that artificially differentiates people into rural and residential registration. Rural residential registration, or rural *hukou*, denies farmers the same advantages and rights as those in urban areas.

³ Mu is a Chinese unit to measure land area and 15 mu equals 1 hectare.

year, the production value of vegetables, fruits, meat-poultry-fish, and milk-eggs accounted for 66 per cent of total agricultural production value in China, compared to 15.9 per cent for grain production (Huang 2016).

Despite the remarkable achievements in agricultural production in China since 1978, there remain many challenges for farmers and for agriculture more generally. Rapid urbanization over the last decades has not only attracted millions of capable rural labourers to cities but also created competition for arable land. Less than 30 per cent of the total population lived in counties and cities in the 1990s (Jian and Huang 2010), while in 2020 it reached 64.72 per cent (Central government of China 2022). Urban expansion is predicated on the availability of arable land, which has shrunk by over 7.53 million hectares between 2007 and 2018 (Central Government of China 2021b). According to the *Communiqué on Land and Resources of China 2015*, there were 0.135 billion hectares of arable land in that year, a figure that is expected to drop to 0.12 billion hectare by 2030 (Central Government of China 2016). This ongoing decrease in the availability of arable land is a key constraint for agriculture nationwide. Climate change and global warming are also challenges for farmers in China and around the world. Crops and regions are impacted differently, but overall, the result is production losses and potential instability of food production. Experts predict that food production could be reduced by 10 per cent and the chance of instability increased by 15 per cent by 2050 (Pan et al. 2011). The loss of arable land and the unstable climate foreshadow a severe threat to food security and agricultural sustainability in China. Such challenges require the institutional protection of farmland as well as innovative technologies and farming methods to cope with these realities.

Transition Towards Modern Agriculture

Alongside the consolidation and growth of peasant agriculture, there are other tendencies in China's agriculture. For decades, Chinese authorities have been promoting a "modernization of agriculture" that has created tensions as well as opportunities for small-scale family farming. Modernization is generally assumed to entail a double process: a large

part of the agricultural labour force moves from the countryside to the cities and there is a simultaneous restructuring of agriculture since the work is now done with fewer people. This modernized agriculture is far more integrated with the wider processes of capital accumulation than peasant agriculture. According to van der Ploeg and Ye (2016), the integration of modern agriculture with capital accumulation usually occurs through: (1) increased indebtedness; (2) greater use of external inputs and new, more sophisticated technologies; (3) delivery to, and increased dependency upon, food industries and large retail organizations; and (4) state taxation. All of these factors result in a profound repatterning of farming practices. It is widely assumed that a new model of “entrepreneurial farming” or a model of “capitalist farming” in China is likely to become dominant. These processes clearly reconstitute farming on a new basis: land and labour are converted into commodities, farming is increasingly grounded upon multiple commodity flows, and the units of production become part of overarching and complex financial operations (van der Ploeg and Ye 2016).

In the last two decades, China’s agrarian transition has occurred in two stages: first, the commoditization of agricultural production and the reproduction of farming households and, second, the organization of agricultural production beyond the household boundary (variously known as vertical integration, industrialization, and scaling-up) (Zhang and Donaldson 2010). Since 2000, the fixed capital stock in agriculture has risen from CNY 484.013 billion to CNY 1448.49 billion in 2011. Before 2007, the growth rate of fixed capital stock in agriculture was below 10 per cent and then increased to 12 per cent after 2007, reaching 15.37 per cent in 2009 (Luo 2013). The capital-labour ratio in agriculture has increased from CNY 480 per capita in 1990 to CNY 670 per capita in 2000 and CNY 1670 yuan per capita a decade later (Luo 2013). This progression implies that capital is becoming increasingly important in China’s agriculture. Capitalization in agriculture is also reflected in the acceleration of land transfers. Transfers of farmland increased from 67 million mu in 2007 to 471 million mu in 2016, accounting for 35 per cent of total area of rural households that are a part of the contract farming system (Han 2016). The involvement of industrial capital in agriculture is viewed by some as a significant outcome of policy incentives. In

2015, the *No. 1 Document* of the Chinese government⁴ clearly states that holders of commercial capital should be encouraged to participate in entrepreneurial agriculture, processing and circulation of agro-products, and socialized service in rural areas.

It is clear that all of these changes are the consequence of the political steering of modern agriculture since the country's founding in 1949. In 2007, the government's *No. 1 Document* comprehensively illustrated agriculture modernization, that is to "equip agriculture with modern materials, to reconstruct agriculture with modern science and technology, to upgrade agriculture with modern industry, to promote agriculture with modern forms of management, to lead agriculture with modern ideology of development, to cultivate new farmers to develop agriculture." The 18th National Congress of the Communist Party of China (NCCPC) in 2012 also put forward the integration of agricultural modernization with urbanization, industrialization, and informatization. In a word, the way to modern agriculture is the process of reconstructing "traditional" agriculture and changing its growth pattern. This process implies reduced space for the vast number of family-based smallholders, especially for rural youth who have the potential and willingness to become involved in agriculture. As Li (2017) shows in her research on oil palm expansion in Indonesia, there are intergenerational effects of large-scale agriculture— young people will face constricted access to land and deteriorating rewards for their labour.

Accelerated Farmland Transfer

Land reform in China was completed after 1949; all arable land was distributed among peasants who obtained use rights according to the number of people in one's household. Village collectives periodically redistribute land use rights to guarantee the rights of those who have not transferred their residence away from the village. Such a multi-functional

⁴The *No. 1 Document* is the Chinese government's first official document to illustrate the overall political goals and key development issues. Between 2004 and 2017, the *No. 1 Document* was published annually with the aim of closely examining agrarian issues important for agriculture, peasants, and the countryside.

right naturally created a rationality that helped to absorb the cost of external risks through mechanisms within the villages (Houtart and Wen 2013). This was soon followed by government efforts to develop large, collective operations, and by 1956, most of China's agricultural production was done on a collective basis. However, the collective farms drew on many organizational features of the family farms that they brought together. Some two decades later, the family farms, recreated by the division of communal land, have also reacquired an independence in decision-making that has become more robust in subsequent years (Brookfield 2008). In 1978, the government began to decentralize agricultural production from the commune system to individuals and farm households. By 1984, more than 99 per cent of production units had adopted the Household Production Responsibility System (HRS). Under the HRS, rural households do not have ownership of land, instead they have land-use rights and the freedom of decision-making on major production and marketing activities (Fan and Chan-Kang 2003).

The first round of rural household contracting under HRS in most regions of China started in 1983 and ended in 1997. In that year, the government issued related policies to prolong the previous contract period for rural land use by a further 30 years. The second round of contracting period extended from 1998 to the close of 2018 and now it is in the third round of 30 years since 2018. The Rural Land Contract Law issued in 2002 affirms this contract period of 30 years for farmland; the period for grassland and forestry land is even longer.

Regardless of the contract period, there is always conflict between shifting family size and comparatively fixed land arrangements. In order to avoid fragmented farmland adjustments to counter population change and stabilize investment in farmland, Meitan County in Guizhou province initiated an institutional arrangement that farmland contracts for each rural household did not change with an increase or decrease of family member,⁵ that is, farmland size would not change when a family member marries and leaves the farm, is born, dies, or there are residential changes. Since 1993, the government has gradually institutionalized and legalized this arrangement in order to stabilize farmland contracts and

⁵ This refers to the so-called *zeng ren bu zeng di, jian ren bu jian di*.

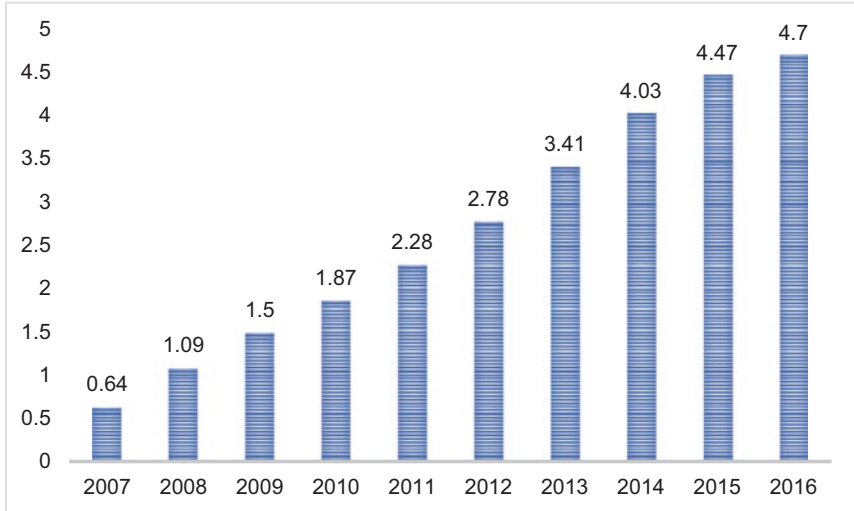


Fig. 5.1 Area of farmland transfer by year (unit: hundred million mu). (Source: Tuliu Net 2021)

agricultural production (Shao 2015). This means that young people who were born after 1998 do not receive a farmland allocation through the village collective. For these young people, the only way to access farmland is to sub-contract land from others or to work on their family land (Fig. 5.1).

Informal land transfer between rural households can be traced back to the 1990s when rural labour began to migrate and agricultural tax remained a heavy burden on rural people. Such land transfer was spontaneous, informal, and low cost. Households that rented out land could retrieve their land whenever necessary. Households who rented land paid very low rent, sometimes nothing. Rural households rarely have their rented land adjacent to their own land to make a larger plot, and therefore their operational scale is usually not very large (Tan and Sun 2014). Peasants' spontaneous land transfers gradually accelerated an institutional update on the right to a land contract. The Rural Land Contract Law, issued in 2003, regulates land contracts for a variety of transfers, including sub-contract, rent, exchange, and transfer. The village collective gradually lost its rights in the arena of land readjustment. In 2014, the

Table 5.1 Separation of three rights on farmland in China

	Before 2014	After 2014
Land ownership	Village collective	Village collective
Land contract right	Rural household	Rural household
Land use right/land management right	Rural household	Individual, household, enterprise, corporate, etc.

Source: Compiled based on Rural Land Contract Law of China

government issued *Instructions on Leading Orderly Transfer of Rural Land Contract Right to Develop Scaled Agricultural Operation*, which emphasized the separation of ownership, contract rights, management rights, and steering orderly transfer of land management rights (Table 5.1). This policy also required local governments to finish the registration and certification of land contract rights in five years. In 2016, the government again issued a policy to improve the separation of these three land rights. Theoretically, rural households are free to dispose of their land contract rights according to legal regulations. Some scholars argue that registration and certification of land contract rights would strengthen peasants' capacity in disposing of their rights and not definitely accelerate transfer of land contract rights (Luo and Li 2014). However, many are concerned that registration is just a disguise for land privatization and its aim is not pro-peasants but to promote the concentration of farmland for scaled operation (He 2015).

From official discourse, the promotion of land transfer highly conforms to the state's pursuit of modern agriculture. In the *Instructions on Leading the Orderly Transfer of Rural Land Contract Right to Develop Scaled Agricultural Operation* (Central Government of China 2014), it was clearly stated that:

... land transfer and moderate scaled operation are the inevitable path to develop modern agriculture and are in favour of optimizing allocation of land resources and raising labour productivity, in favour of guaranteeing food security and major products supply, in favour of promoting technological extension and increasing peasants' income.

In general, rural land transfer won wide support from different levels of governments and scholars who believe that land transfers will help to create agricultural management efficiencies, guarantee food security, and promote labour migration and local employment of rural labour (Ye et al. 2016).

In recent years, the rate of land transfers has been accelerating. In the 1980s, household-based land contracting accounted for 95 per cent of the total farmland and only 8.2 per cent of rural households had sub-contracted land from others. In 1999, only 2.53 per cent of total farmland was transferred and the ratio was 4.57 per cent in 2006, 8.6 per cent in 2008, and 17.80 per cent in 2011. As stated earlier in the chapter, transfers of farmland increased from 67 million mu in 2007 to 471 million mu in 2016, accounting for 35 per cent of total area of rural households that are a part of the contract farming system (Han 2016).

Most land transfers are short term for a period of less than 5 years. In Heilongjiang province, for example, among the 22.54 million mu of transferred land, 71 per cent was granted on a one-year lease and only 6 per cent was leased for a period of five years or more. Usually transfers of land for recreational agriculture and perennial cash crops have a longer period of transfer, some for up to 20 years (Lu and Chen 2015). Most of the land transfers are negotiated without duress, but there are problems with the system, including forced transfers, changing the purpose of land use (e.g., convert land for construction), altered cultivation structure after the transfer (from grain crops to non-grain crops), and unequal distribution of land revenue for rural households (Han 2012).

Emergence of New Entities in Agricultural Operation

In the governmental pursuit of modern agriculture, one important strategy is cultivating new actors/bodies suitable for scaled farming and market-oriented agriculture. The government's *No. 1 Document* (Central Government of China 2013) explicitly indicates that "specialized large-holders and family farms should be supported and promoted through favourable policy and legal environment and subsidies and grants." The *No.1 Document* in 2014 pushed further in that direction, encouraging

the establishment of farmers' cooperatives through specialized cooperation, joint share cooperation, and so on. In so doing, government financial programme funding can be invested in qualified cooperatives and local government and private capital are encouraged to setup financing guarantee companies to provide loans to new agro-operators. Governmental subsidies have favoured family farms and large holders of land in recent years. For example, in 2016, a farm over 200 mu for vegetable and fruits production qualified for a CNY 5000 per mu subsidy from the Ministry of Agriculture. Agri-businesses, agricultural demonstration bases, and the other processing businesses could receive various subsidies from the Departments of Agriculture, Finance, Poverty Alleviation, and others (Tuliu Net 2016).

Among the promotion of new agricultural operating entities, the "family farm" is the most controversial. With thousands of years of the family farming tradition, the central government officially proposed the term "family farm" in 2008 during the third plenary session of the Seventeenth Central Committee and encouraged to develop such entity of agriculture. As a consequence of this policy incentive, the definition, identification, and registration process of a family farm became a focal point in academia and practice. The Ministry of Agriculture defines in 2013 the family farm as "a new type of operative entity in agriculture that is mainly based on family labour to pursue large-scale, intensified and commodified agricultural production and operation." Through this definition, politicians have been promoting the "family farm" as a new entity that is meant to be largely separated from existing family farms. Extensive academic discussion developed in the country and almost all scholars who are pro "family farm" agree that family farms should be a legal entity like any other business or enterprise and subject to marketization and modernization. They argue that the "family farm" should be characterized as a family operation of moderate scale, operating as part of the market and under entrepreneurial management. In terms of production factors, labour, and product, such "family farms" are very close to corporate farms. The fundamental difference between them is that the former depends more on family labour in production and operation. The essential difference between "family farms" and empirically existing family farming households is that the former completely participate in market

exchange with their specialized commodity production, that is, marketized operation.

Although the government has emphasized the term “family farm” in various policies and documents, it is not uniformly defined. Standards and criteria for identification and registration of a “family farm” are inconsistent in different provinces, municipalities, and even counties. In March 2013, the Ministry of Agriculture in China carried out its inaugural national survey on the development of family farms. Farming units satisfying the criteria summarized in Box 5.1 qualified as a “family farm.”

The survey results show that 877,000 “family farms” were working 13.4 per cent of contracted farmland in China in 2013. The average working labour on a family farm was 6.01 persons, among which long-term hired labour accounts for 1.68 persons. Most family farms specialize their production and operation in either crop cultivation or husbandry; only 6 per cent engage in a diversified operation. The average production scale of the surveyed family farms is 13.3 hectares, nearly 27 times the national farming land scale per household (see Table 5.2).

Box 5.1 Criteria for “Family Farm” from a Ministry of Agriculture Survey

- Operators of the family farm should be registered as rural residents (*hukou*).
- Family labour dominates, no long-term hired labour; the amount of hired labour does not exceed family labour.
- Income from agriculture comprises the major source of income for the family and net income from agriculture accounts for over 80 per cent of the farm's total income.
- Scale of production reaches a certain standard and remains stable. Size of farmland (with a contract period longer than five years) in grain production should be over 3.33 ha (double cropping) or over 6.66 ha (single cropping). For farms with cash crops, husbandry, or both modes of production, operational size should reach the standards that local departments of agriculture set.
- Operators of the family farm should have received technical training in agriculture.
- Family farm should have complete financial records.
- Family farm should have a demonstration effect to other farmers and agricultural households.

Table 5.2 Scale of officially identified “family farms” in China

Scale (unit: ha)	Amounts (unit: 10,000)	Percentage (%)
<3.33	48.42	55.2
3.33–6.66	18.98	21.6
6.66–33.3	17.07	19.5
33.3–66.6	1.58	1.8
>66.6	1.65	1.9
Total	87.7	100

Source: Ministry of Agriculture and Rural Affairs (2013)

Based on government policies and the criteria used in the 2013 national survey, it is obvious that the politically promoted “family farm” is, in essence, a capitalized family farm. Its capitalist features imply a predatory impact on the livelihoods of many small-scale farms. The promotion of large-scale “family farms” is based on the premise of land transfer. In the demonstration area for “family farms” in the Songjiang district of Shanghai, for example, 99.4 per cent of farmland had been transferred to “family farms” by 2011 (Chen 2013a). Such politically directed transfers to a minority who hold large amounts of land disrupt the land transfer that ordinary farming households need to operate profitably. The unequal power relationship between large holders of land (who are usually social elites in rural communities) and other family farmers makes the latter vulnerable in contract negotiation. Additionally, the normalization and long-term (usually 5–10 years) nature of land transfer contracts that the “family farm” registration requires imply that rural households who contract out their land use right cannot abort the contract even if their basic livelihoods are urgently endangered. Land concentration to “family farms” and those farms’ preference for capital-intensive farming is exacerbating the employment issue for rural labour in the contemporary period of intensive urbanization in China. The large-scale nature of capitalist farming should not be the future of Chinese agriculture.

Rural Youth: Hovering Between Rural and Urban

Young people are the key actors and an important variable in the ongoing development of both the countryside and agriculture. The negative impact of mass labour migration on the countryside is obvious, especially

in terms of social cohesion and collective action in community development. The absence of young successors in agriculture is leading to an increasing concentration of land by large holders as well as to a different trajectory for Chinese agriculture. Most young people with a rural background do not want to remain in the countryside or work in agriculture, but they still live in marginalized conditions after they move to cities. As rural-urban interaction has become the most important feature of China's societal transformation, rural youth are floating between rural and urban societies throughout their education and as they begin their working lives. Rural-urban integration offers prospects to rural youth, but also problems and challenges.

Educational Constraints for Social Mobility

For young people in China, education is the most important path for social mobility. It is particularly true for children in rural families who lack the social and financial capital required to secure a decent job in the labour market. Since the 1980s, the government's development of the education system, especially post-secondary education, has offered increased opportunities for young people to study and realize their social mobility. Since the Ministry of Education issued its college enrolment expansion plan in 1999, the enrolment rate has leapt from 12.5 per cent in 2000 to 48.1 per cent in 2018. This expansion has very important and positive implications for rural youth. According to 2018 Ministry of Education statistics, over 60 per cent of the nearly 40 million college students are from rural areas (Ministry of Education of China 2019). This investment in human capital is just one step in remedying the rural-urban difference in education. Considering the larger rural population than the urban and the government's urban-biased educational resource allocation, rural youth face more difficulties in order to access a good education. Research reveals that in 2018 the rural workforce received, on average, 9 years of schooling compared to 11.3 years for the urban workforce (*Workers' Daily* 2020). It is widely recognized that rural youth face increased challenges to achieving social mobility through education.

Rural youth who cannot enrol in post-secondary studies at the college level find it similarly difficult to receive high quality vocational education in agriculture or non-agricultural disciplines. The development of agricultural vocational education has evolved through three stages since 1949. The core policy objective in the first stage was to promote the development of rural vocational education to restore and develop agriculture. The second stage—1978 to the end of the 1990s—was a period when the state attached great importance to economic growth and modernization. Vocational education in this period focused on cultivating professional talents to accelerate overall economic growth of rural areas, not only to develop agriculture but to cultivate farmers with new skills for rural development (Xie 2010). Since the mid-1990s, agricultural vocational education has experienced a serious decline. In 2007, there were 141 agroforestry technical secondary schools, a drop from 365 in 1987 (Tian 2010). The enrolment of students in the agroforestry discipline accounted for only 3.41 per cent of all students enrolled in 2007 in a secondary vocational school. Many of these schools faced a myriad of problems including the loss of teachers and students and poor teaching conditions (Xia and Peng 2004). Outside of vocational education, technological training for the rural population is limited. In 2008, only 20 per cent of farmers received short-term training and even less, only 3.4 per cent, received basic vocational training in agriculture (Xu and Wang 2009).

Failure within the education system is an important force driving rural youth migration. When these young people finish (or drop out of) senior (or even junior) high school, they often follow their parents or other family members to the city to find employment. It is illegal for an employer to hire children under the age of 16, and as such, many rural children need to wait in the village for this birthday to secure the needed ID card that will facilitate their job search. For rural youth who have the chance to attend college, many have negative perceptions of agriculture and are reluctant to return to the countryside to work on the land. Throughout their education, the mantra of their teachers, and especially their parents, has been the goal of securing a non-farm job with a stable income in the city. The government has issued some national policies in order to encourage college students to return to and serve in the countryside, including

the Opinions on Guiding and Encouraging College Graduates to Work in Grass Roots (2005). Local governments followed suit but the outcome was disappointing. Even for graduates of agriculture-related disciplines or universities, few students have the intention to work in a rural area, even though it is a larger percentage than those who attend non-agricultural universities or study-related disciplines—55.7 per cent versus 23.54 per cent (Fei and Wang 2013). In a survey done by Chen Shensheng (2013b) with 398 college students who worked in agri-business, 67.6 per cent did not understand agricultural production or national policies on agriculture; 38.1 per cent were unfamiliar with the social economic context about agriculture and countryside; and only 49.6 per cent had participated in production activities in a rural area. College students who work in agri-business are usually paid low salaries—85.37 per cent earn an annual salary that is less than CNY 50,000. Only 58.79 per cent of the students work in a position that is related to their discipline. Aside from the subjective enthusiasm of college students and youth, material guarantees and room for career advancement are equally important in order to attract young people into agriculture-related fields (Chen 2013b).

Rural Labour Migration and New Generation of Migrants

China's economic restructuring, a key phase in its development, initiated the outflow of rural labour in the late 1980s. Before the reform and opening up, the government strictly limited any spontaneous flow of people under urban-rural dualism which implies two different systems of social policies in rural and urban areas. This was gradually cancelled after the reform to facilitate labour provision for urban industries. In 2020, there were 285.6 million rural labourers working in non-agriculture sectors, among which 169.6 million were migrant workers (Central Government of China 2021a). The mid-west provinces such as Hunan, Sichuan, Jiangsu, Henan, and Guangxi are the main sending areas. The destination cities are mostly large and medium-sized cities. Due to their low level of education and lack of skills, most of the rural labour migrants are engaged in the labour-intensive secondary and tertiary industries (Zhang et al. 2004).

Incentives for rural labour migrants are complicated and diverse. Income gap between urban and rural, the adjustment of industrial structure, public policy, the urbanization process, and other factors all have important impacts on the flow of rural labour. Migration has evolved to be almost a “rite of passage” that most rural youth, male or female, encounter on their path to adulthood (Ye et al. 2014). Many migrants and rural households gradually form their life course around migration—leaving their home when they are young in search of employment and returning to the countryside when they are old as a farmer, wage worker, or business operator (Li 2012).

As rural migration continues without abatement, this population is also experiencing intergenerational transition. Scholars suggest that this population could be divided into three generations at an interval of 15 years. The older generation (over 46 years old), middle generation (31–45 years old), and the new generation (16–30 years old) are coexisting (Duan and Ma 2011). According to *Report on Monitoring and Investigation of Rural Migrant Workers in 2020* (Central Government of China 2021a), rural migrants below 40 years old accounted for 49.4 per cent of rural migrants, indicating that young people have unsurprisingly become the majority within this population. A similar result was found for rural youth’s social mobility.

Young migrants then quickly became a key focus for research in youth studies and urban studies. Studies have explored all aspects of this new generation of rural migrants: work and employment, social welfare, social integration in the city, lifestyle and consumption, marriage, and crime, among others. Some researchers summarized the characteristics of this group as low occupational reputation, low income, low social security, low standard labour time, low identity recognition, low level of employment, and poor living conditions (Yang 2010a). Researchers also report several differences between this group and the older generation of rural migrants. For example, the new generation are more familiar with cities and urban areas and when compared to their parents, have greater ambitions to relocate permanently (Pun et al. 2009). They are not migrating for subsistence as their parents did but migrating for their future (Yang 2010b). Work performance also differs. For example, the younger generation is unable to adapt to intensive labour and harsh working

conditions or frequent job changes, which increase tensions in the workplace, especially in factories and other blue-collar positions (Wang and Huang 2014). Despite difficulties in the city, the new generation is reluctant to return to the countryside. A survey shows that only 8 per cent of young rural migrants considered themselves to be peasants (as defined earlier) and most of those surveyed felt no emotional attachment to land or to agriculture (Yang 2010a). Another study found that about 80 per cent of young rural migrants did not plan to return to their home county, let alone their home village (Duan and Ma 2011). This situation can be defined as “dual disembeddedness” as some scholars argued—disembedded from rural society on one hand and disembedded from the labour regime in the city on the other. Such dual disembeddedness is unstable and the future of rural youth remains a critical issue in the development of China’s cities and its countryside.

Split Family Reproduction for the Young Generation

The reproduction of the rural family and the population left-behind, as they are called, are two casualties of the outflow of rural labour to cities. Under the hukou system, government departments that are responsible for labour, social security, public education, and urban administrative management exclude rural labour migrants from the entitlements of “citizen” when they are resident outside of their home village. This marginalized situation exacerbates “split labour reproduction,” which makes it nearly impossible to migrate as a household and some family members—especially women, children, and the elderly—have to remain in the countryside. This well-known phenomenon has resulted in a form of split family. Researchers estimated that by 2006 there were 87 million left-behind population in China, including 47 million women (Ye and Pan 2008). This family strategy is affected by the institutional restrictions on the one hand—for example, women’s disadvantages in education, the labour market, underdeveloped social services, and supportive networks—and shaped by fundamental cultural values and social norms such as familism and differentiated gender roles and motherhood

obligations (Ye et al. 2014). This changing demographic structure also contributes to grey agriculture and agriculture feminization.

For many rural households, the split family is not only a passive response to migration constraints under rural-urban dualism, but also a livelihood strategy for family reproduction, a “half work half till” livelihood strategy. Wages from migrant work are for cash income, while farm work in the countryside is mainly for household food security. Rural households need family members to work in the city and on the farm in order to support the family and realize family reproduction; the absence of either will lead rural households into poverty or other difficulties. Historically, Chinese families have relied on agriculture and non-agricultural activities for their livelihood, but it is only in the past 40 years that this type of multiple livelihood pattern has shifted from “agriculture + handicraft + sideline activities” to “hoe + salary.” The “hoe + salary” strategy usually relates to intergenerational and gender labour divisions within a family (Xia 2014). In split families, young and middle-aged family members usually relocate to work in the city go to the city while the elderly remain in the village to farm.

When compared to the traditional family relationship, split families and three-generation families are different in many aspects. In traditional society, when sons married, their parents would distribute land, animals, housing, and other properties among their children. Family division is an important landmark for the beginning of a new family. Household division is not only about property redistribution but also about sharing responsibility for elder care. In contemporary rural society, this family division is still practised, but it gradually loses its meaning in the context of rural labour migration. After marriage and separation from parents, sons who migrate cannot fulfil their duty to elderly parents. Even though the sons have separated from parental households and received their share of family land, in many cases, it is still the old parents who farm the land and take care of their sons’ children. Family reproduction in the countryside relies considerably on the older generation. However, compared to the older generation of rural migrants, young migrants (around 30 years old) can often not provide sufficient support to their rural families—some even rely completely on their parents for marriage preparation, child rearing, and house construction. The older generation of rural

migrants could tolerate harsh working condition in the city in order to improve the quality of life of their rural family, while the younger generation pays more attention to individual enjoyment. From the author's observations in the countryside, many young migrants do not have savings, do not send remittances home, and sometimes are even in need of their parents' money to support their life in the city. Given young migrants' unstable work and life in urban areas and their limited support to their rural families, family reproduction of the young generation has serious problems. Alongside the heavy burden that the left-behind elderly endure, left-behind children face the risks of anomie behaviours and some engage in crime as a result of their parents' physical absence and lack of guidance. These are the social costs of rural youth's migration. They reflect the intergenerational differences between old and young in the countryside but at the same time reveal the dilemma of reproduction for rural households and society at large.

Demographic Challenge of Agricultural Labour: Positioning the Youth in Farming

Land, capital, and labour are the three important ingredients for agricultural production and development. Except for the changes in land transfer and capitalization mentioned above, the changing structure of the farming population is the most serious concern for the country and is having a profound impact on both agriculture and countryside development. Since the institution of its "one child policy" in the late 1970s, the government has strictly controlled the birth rate, and as a result, population increases have gradually slowed. The birth rate within the rural population has significantly declined from over 30 per cent in 1970 to 12 per cent in 2012. The juvenile dependency ratio in the countryside is 30.65 per cent, much lower than the global average of 46 per cent. Meanwhile, the old-age dependency ratio is 12.04 per cent, almost as high as the global average of 13 per cent (Li and Qiu 2012). According to the latest demographic census in 2020, people over 60 years old accounted for 32.2 per cent of the total population. Compared with the census outcome in 2010, the proportion of population over 60 years old increased by 10 per

cent (National Bureau of Statistics of China 2021b). These demographic changes imply an increasing shortage of young people in rural areas, continually being widened by the lasting migration of rural youth. Labour remains a critical issue for agriculture sustainability in China.

Debate on Grey Agriculture and Feminization of Agriculture

According to nationwide agricultural censuses that the government conducted in 1996 and 2006, older labour over 60 years old comprised a larger portion of the rural labour force than before, which is proof of the ageing of the country's rural labour force. If we look at the structure of the agricultural labour force horizontally, there is also a high tendency of ageing, according to 2014 Chinese Academy of Social Science research. It found that people over the age of 40 accounted for 61 per cent of the agricultural labour force⁶ and those over 50 years old accounted for 34.6 per cent (Chinese Academy of Social Science 2013). According to the findings of the sixth nationwide census in 2010, the population over 60 years of age in the countryside was 99.28 million or 15 per cent of the total rural population. The number of older rural people was 1.3 times the urban contingent. Dang (2014) and other scholars predict that this trend will continue to surpass the age 60 plus population in urban areas until 2050 (Table 5.3).

Table 5.3 Comparison of rural labour composition

	Rural labour aged 51–60 years of age		Rural labour above age 61		Total rural labour (million)
	No. (million)	% of total	No. (million)	% of total	
1996	58.73	10.15	39.16	6.97	561.47
2006	–	20.7	–	25	531.00

Source: National Bureau of Statistics of China (2001, 2008)

⁶In China's agricultural censuses to date, the age bracket (earlier than 15 years old to older than 60 years old) for the agricultural labour force is open as people can work with their family on the farm until a later age than a worker employed in industry.

With the shifting demographic structure of the rural population leading to the changing composition of the farming population, there is a persistent debate on grey agriculture and the feminization of agriculture. The increasing participation of rural women and the elderly in agriculture is a direct result of the composition of rural migrants. Research shows that female migrants accounted for 33.6 per cent of rural migrants in 2015, with more women living in the countryside than men. The percentage of migrants in the rural population rises before peaking at age 29 and only 10 per cent of migrants are above age 60. This verifies the general practice of young rural people migrating at a young age, usually after senior middle school at age 16 and then returning to their home area when they are older or have lost their working capacity for migration (Gai et al. 2014). Another study reveals that 57 was the average age of a farmer, which corroborates the aforementioned ageing trend in the farming population (Zhu 2013).

Debates around grey agriculture and the feminization of agriculture have produced controversial viewpoints. Those with pessimistic viewpoints focus on the negative impacts of male labour migration that some females cannot cope with migration-induced labour loss and that they leave the land fallow or extensively cultivated (Zhu and Yang 2011; Gai et al. 2014). Others focus on the older generation's lower levels of education, which can become an obstacle for agricultural extension and the development of modern agriculture because they face more difficulties in applying new techniques (Ning 2013). All of these negative impacts potentially endanger the country's food security (Zhu and Yang 2011).

On the contrary, other scholars assert the positive impacts of rural labour migration for agriculture. Their arguments include: (1) the outflow of rural labour can adjust for the highly unbalanced land-person ratio and increase production per unit of labour; (2) rural migrants' remittances are fed back into agricultural production and accelerate its mechanization; (3) an outflow of rural labour can expedite land transfers, allowing for scaled farming and specialized agriculture. They argue that rural labour migration creates opportunities for "modern agriculture" as well as entrepreneurial agriculture and therefore should be encouraged.

Yet other scholars do not see the feminization of agriculture or the ageing of the farming population as disastrous for Chinese agriculture. For

the current average scale of family farming, neither has much influence on the sector due to the increased use of machinery and accessibility to agricultural social service. One study notes how female participation in agriculture can have positive effects in terms of increasing cultivation area (Wen 2014). Even with this changing composition of the farming population, grain production in China has been increasing in the 2010s. However, the outflow of rural labour, especially male labour, has unquestionably had a profound influence on family and social relationships, bringing to the fore the issue of absent husbands/men in care and family reproduction.

Children's Involvement in Agriculture

In contrast to the ongoing academic focus on female and the elderly's participation in agriculture, children's involvement has been a relatively marginal issue despite the profound implications. The issue of child labour was very prominent in China in the early 1900s as the manufacturing industrialization was developing alongside the entrenched poverty of ordinary people. According to a China Industrial Survey report based on a survey of 1206 enterprises in China in the 1930s, there were 115,000 child labourers in China, accounting for 14.8 per cent of the labour force (Li 2018). Labour research in this field has been concentrated on youth employed in manufacturing. If children's participation in handicrafts and agriculture was taken into account, the ratio of child labour to adult would be significantly higher. Although systematic research on child labour in agriculture in the early 1900s is not available, researchers in the period did examine the relationship between agricultural production performance and child labour involvement. In northeast China, for example, when the soybean harvest was poor, rural households had to adjust their family labour division and increase children's labour input in farming to cope with the lost revenues from this major cash crop. This research shows that when an area of farmland that could not be harvested increased by 1 per cent, the use of child labour (generally aged 11–14) also increased by 0.04 persons (Li 2018).

The situation of child labour has evolved due to rapid urbanization, improved socio-economic conditions, and the country's education system. As rural children spend more time in schools and as school locations are increasingly being shifted from villages to townships and counties, many scholars, especially educators, bemoan children's segregation from rural communities and detachment from agriculture and labour work. Close to nature and agriculture and the children's daily interactions in their neighbourhood are seen as important components of socialization and education for rural children. Underneath this general trend of gain in formal education but detachment from agriculture and the community, however, children's labour participation in some less developed areas is still common. Rural children are involved in various kinds of labour work through interwoven macro-level labour regimes and family gender labour division. In the split labour regime for migrant workers, the burden of labour reproduction (such as childrearing and elder care) is externalized and transferred to rural households. The left-behind people have to take up the domestic and economic work in order to sustain labour regeneration. The children who remain at home may help their grandparents in farm work and domestic work. Ye and Pan (2008) show a significant increase in the labour burden for left-behind children after their parents' migration. About 45.6 per cent of these youth regularly participate in farm work. The increase in labour burden is most dramatic for children between age 6 and 14 since their older siblings (aged 15–18) usually live away from home at boarding school. Children's participation in farm work not only limits their time for play and study, but also induces complaints about the workload, increases pressure on them, and can result in conflicts with grandparents (Ye and Pan 2008).

Affected by traditional gender norms and family gender labour division, left-behind children's labour work in the household is highly gendered. Research shows that young girls need to take up care work, domestic work, and farm work with very little time for recreation, while boys could keep their distance from labour work and spend more time at play. The burden of labour reproduction induced by the split labour regime of rural migrants was first transferred to the rural elderly and then strengthened the gender labour divisions among children (Wang 2019). Other studies illustrate the extent of children's involvement, not only in

domestic and farm work but also in the household economy and in wage labour. Flexible labour employment worldwide has reconstructed social relations and in the Chinese countryside, this has meant the wide-ranging involvement of rural children in the labour process (Ren and Zhang 2015). Regardless of whether the work is waged or domestic labour, the increased responsibilities owing to their parents' or other family members' migration is negatively influencing children's physical and mental well-being, especially that of girls who studies show carry a larger burden.

Cultivating Young Farmers

Youth is a concept that is defined differently in terms of chronological age and has various definitions depending on the region, culture, or life world of the person using the term. China is no exception. The Chinese Communist Youth League is one of the national organizations working for young people. In its articles of organization, young people who are between the ages of 14 and 28 can join the League. The upper age limit for committee members who belong to the All-China Youth Federation is 40 years old. For many awards or other committee across the country, the upper age limit for applications is age 39. For example, since 1996, the Ministry of Agriculture has selected and rewarded outstanding young farmers from across the country. Qualified young farmers are those between 18 and 39 years old who have been working in agriculture for more than three years and have outstanding economic performance and demonstration effect to other farmers on application of new techniques or new way of farming. The Ministry's definition of a "young farmer" is just one of many—there is no common definition among government departments. This is evident in the national agriculture censuses in 2006 and 2016. As Table 5.4 shows, agricultural labourers in family farming were divided by the age difference of 10 years in the 2006 census and there was no clear demarcation or illustration of a "young farmer." In the 2016 census (see Table 5.5), as the presentation and significance of young farmers was better appreciated, the age classification of farmers was simplified to three groups: young farmers (below age 35), middle-aged farmers (those aged 36–54), and old farmers (aged 55 and above). In the

Table 5.4 Age composition of agricultural labour in family farming (2006)

Age (years)	Amount (10,000 persons)	Percentage (%)
20 and below	1820.96	5.3
21–30	5111.02	14.9
31–40	8266.11	24.2
41–50	7892.21	23.1
51–60	7279.93	21.3
60 and above	3846.77	11.2
Total	34217.02	100

Source: National Bureau of Statistics of China (2008)

Note: Data on agricultural labour by age working on commercial farms are not available

Table 5.5 Age composition of agricultural labour (2016)

Age (years)	Percentage (%)
35 and below	21.1
36–54	58.3
55 and above	20.7

Source: National Bureau of Statistics of China (2017)

Medium and Long-term Youth Development Plan, issued by the government and the State Council of China in 2017, they define youth as individuals between age 14 and 35 (Central Government of China 2017). This definition has since become the standard in policymaking and service delivery for young people, especially in policies relating to agricultural and rural development.

Tables 5.4 and 5.5 also show the significant positioning of young people in the agricultural labour force. Although the 2016 census data did not differentiate young people in family farming and young people as farm workers, it did confirm the existence and contribution of young farmers in agriculture. However, the internal dynamics of this group have not been fully recognized in social discourse or scholarly research. Attention on young farmers was merely revived in recent years in the context of rapid agrarian transition. In 2012, official government documents advocated “cultivating new vocational farmers” as a countermeasure for rural people’s outflow of agriculture and the potential challenge of food security. There is no uniform definition of “new vocational

farmer,” but many scholars have explored the ideal characteristics of this group. Some highlight that the new vocational farmer should differ from the traditional peasant with their access to and knowledge of modern technology and modern ideology. Others argue that new farmers are an outstanding part of the larger farmer/peasant population that can organize and mobilize the other as a model (Lu and Zhu 2006). Some anticipate that the cultivation of new farmers can halt the drain of agricultural successors, but also attract more people to the countryside to establish businesses (Shen et al. 2014). The cultivation of this group involves systematic training, instruction, and financial support. Although standards for new vocational farmers and their cultivation vary between provinces, candidates and applicants should have farming experiences and meet criteria related to scales and sources of income (i.e., 80 per cent of household income from agriculture) as indicators of professional farmer. In reality, these requirements are untenable for young people who are starting out in agriculture and are often unqualified in terms of certification and lack institutional support.

In 2015, in accordance with the government’s national efforts to promote modern agriculture, the Ministry of Agriculture and Rural Affairs initiated a “Training Program for Modern Young Farmers” with a plan to involve 10,000 young farmers. In 2016, another 10,000 young farmers were included in the programme. Target groups included large holders in agriculture, operators of officially registered family farms, major organizers in agricultural co-ops, college students who returned to their rural hometown for business, high school graduates, and veterans. Participants needed to be under the age of 45. The programme provided training in business operations, family farm management, e-business, quality control of agricultural products, and rural construction, among others. Each cohort received three years of part-time training.

In addition to the aforementioned programme for young farmers, the government has implemented several supporting programmes for young farmers in recent years, including the Green Certificate Training Program, which offers practical skills training in agricultural production and operation.

Along with the training programmes by central government on young farmers, the phenomenon of new farming people (*xin nong ren*) is

emerging. There is no single definition or uniformed characteristics of members of this group, but there are many expectations for those who have recently become involved in agriculture. Those who argue it is a new phenomenon state that individuals who fit in this group: (1) are making agriculture their career, (2) are pursuing agriculture in new modes/ways of production when compared to traditional agriculture, and (3) constitute new actors in the countryside that did not previously exist (Wang 2014). When compared to young people who returned to their rural hometowns, *xin nong ren* comprise individuals who spontaneously left their urban existence and transitioned from urban to rural, white collar to farmer. Second, they have a higher level of education than traditional small-scale farmers and become involved in agricultural operation through ecological plantation. The constitution process of *xin nong ren* is the process through which urban youth built a new way of life and new sense of belonging and identity (Li 2016). Some scholars from the Chinese Academy of Social Science summarize their composition as four sub-groups: (1) rural migrants who have a certain level of capital accumulation, have emotional attachment to land, and are determined to return to a rural setting; (2) young people who think agriculture could provide space for their talents and wish to start a career; (3) middle-aged individuals who have had a successful career and decide to engage in organic farming for their family; (4) social organizations or non-governmental organizations that are concerned with rural issues. A sample survey of *xin nong ren* shows similar demographic characteristics. Among the 155 respondents, more than 90 per cent were under age 40; 51.6 per cent were formerly white-collar workers before engaging in agriculture; about 22.6 per cent used to be researchers, teachers, media practitioners, or freelancers. *Xin nong ren* do not necessarily return to their rural hometown, and some relocate to a suburban area or another rural location. Although the concept of *xin nong ren* is still a topic of discussion among scholars, the phenomenon is now widely recognized. In February 2015, Aliresearch, the Alibaba group's research centre, issued the *Xin Nong Ren Research Report 2014*, which indicated that there were more than one million *xin nong ren* in China by 2015. This group is continuously growing and becoming vibrant actors in agriculture.

Conclusion

The issue of young farmers is gaining increasing political recognition, especially since the release of *Opinions of the Chinese Communist Party's Central Committee and the State Council on the Implementation of the Strategy for Rural Revitalization* in late 2017. As the most important comprehensive development strategy on agrarian issues in China, it aims to realize overall vitalization of the countryside by 2050 when the agriculture will be stronger and more promising, the countryside will be more pleasant for living, farmers will be affluent, and farming will be an attractive occupation. The strategy's release immediately invoked extensive discussion among scholars, policymakers, and practitioners who began to research the pathways to realize rural revitalization and the diversified practical innovations and experiences it includes.

It is in this context that young farmers, as the key players in this rural revitalization, have gained increased attention. The key to rural revitalization lies in people, people who love the countryside and are committed to agricultural and rural development. On the other hand, a developed countryside and agriculture system should provide enough space for young farmers to realize their ambitions and support household reproduction. Unfortunately, due to the long-standing rural-urban imbalance and its impact on the country's development in addition to significant rural labour migration, young farmers have been under researched and await the social recognition that their role in China's economy deserves. Many studies have focused on their marriages, employment, and social adaption in cities as migrant labour while overlooking the dynamics and internal complexities that shape farming and agrarian transition. There remains a knowledge gap in terms of the differences between young farmers in different regions, of different genders, their varying styles of farming, among others. The diversification of young farmers and their role in agrarian transition is yet to be explored.

For a country like China with vast territory and prominent regional differences, it is very difficult to provide a general picture of all young farmers in China. Rather, the following chapters are a way to present different stories of young farmers across the territorial scope. The first site is

located in Sichuan province in China's southwest and the second is in the north of China, in Hebei province. Farmers at both sites specialize in vegetable production and smallholding family farming is the major unit of production. Our research shows that the young farmers we interviewed have different pathways into farming. Small plots, bad traffic conditions, and unstable agricultural revenues at the first site, which is located in a mountainous area, have pushed many young people to migrate to urban areas in search of employment. When they returned to care duties in the village, they were to some extent trapped in a marginal situation due to the markets, bad agricultural infrastructure, and all of the other challenges faced by small-scale family farmers engaged in commodification. Their story is repeated in many areas in the west of China. In contrast, young farmers at the second site live and work in an organized community, and on their return from the city, these young people are able to enter into farming more smoothly and consolidate their farming and livelihood. Through these case studies and comparing the different pathways of young farmers into farming in different regions of China, the aim is to enrich and diversify our limited understanding of young farmers worldwide.

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