Rural Education and Urbanization: Experiences and Struggles in China Since the Late 1970s

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Abstract

China has adopted an unbalanced policy for economic development to improve its domestic economy and international competiveness for more than three decades. During this process, rural education has undergone a series of reforms. With reference to compulsory education, this article argues that rural education in China is a pragmatic instrument for the state to expand and improve the quality of urbanization. Rural education can be used to serve urbanization, is influenced by the rural-urban disparities brought about by urbanization, and receives urban aid and support in exchange for following state guidelines. Due to deep-rooted disparities and long-standing inequalities, effectively financing rural education, rural education still faces challenges and difficulties related to handling urban-based curricula and evaluation standards, recruiting, and keeping qualified teachers, and the outflow of original rural residents. This article concludes by offering an explanation of Chinese policy implications for the functions and constraints of state-directed rural education in serving urbanization.

Keywords

rural education, urbanization, rural migration, education policy, China

Introduction

Studies of rural education in developing countries, have pointed out that rural education is key to promoting educational equality, transforming a country's population into an asset for development, improving the local economy and enhancing national competitiveness (DeYoung, 1987; UNESCO, 1993). Researchers (Chambers, 1983; Kallaway, 2001) have become interested in the impact of urbanization on rural education, and have pointed out that rural education has become marginalized, and is dependent on urban education and development. The complexity and dynamics of rural education in China are no

exception and have attracted the attention of both domestic and international researchers. Since reforming its economy in the late 1970s, China has adopted a policy of unbalanced economic development that allows some areas and people to get rich and to reach co-prosperity ahead of others; this has rapidly led to remarkable economic and social achievements, but has also resulted in rural-urban disparity. Research on rural education in China involves many topics, including gender issues (Hannum,

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Shuqin Xu, Sun Yat-sen University,No. 135, Xingang Xi Road, Guangshou, 510275, P. R. China Email: xushuqin3@mail.sysu.edu.cn 2005), the cost and returns of rural education (Knight et al., 2010), issues of equality between rural and urban education (Hannum et al., 2009; Law & Pan, 2009), the influence of socialpolitical change on rural education (Hannum, 1999) and the urbanization of rural education (Ge. 2003; Yu. 2008). Yet, certain aspects of rural education and urbanization remain underresearched: specifically, the role and function of rural education in promoting urbanization; the channels through which urbanization affects rural education; how rural education is readjusted and reformed to tackle problems brought about by urbanization; and the factors that constrain the development of rural education, especially in the process of urbanization. This article seeks to address these questions.

With reference to compulsory education in rural China, this article argues that rural education, as directed by the state's central government, has dynamically interacted with urbanization. On the one hand, in addition to confronting long-standing inequities, rural education passively promotes and deepens urbanization, as state-designed mechanisms benefit urban education and development by providing financial and human resources that are favorable to urban areas. On the other hand, urbanization brings rural education challenged rural education by bringing it inapplicable curriculum, unstable rural teacher resources, and great loss of rural students and graduates to urban areas. The state tries to exercise macrocontrol to develop rural education in ways that will alleviate such dilemmas, maintain social stability and improve the quality of an increasingly expanding urbanization. However, the state's strategies for developing and improving rural education are constrained by financial considerations, a series of unsystematically-made educational policies (e.g., rural school financing and planning, programs of rural school teachers and migrant children's

education), and the local government's modification of policies.

To present this argument, this article first reviews literature on the issues of rural education and urbanization to provide a framework for understanding the interactions between these phenomena and the diverse factors influencing them. Then, it describes the complex relationship between rural education and urbanization, which is influenced by the state's strategy of developing and adjusting rural education to serve the needs of urbanization, and by other policies. It concludes with a discussion of policy implications for rural education and urbanization.

Rural Education and Urbanization

More research on rural education has been conducted in developing countries than in developed ones, for example, the United States (Arnold, 2005; DeYoung, 1987); moreover, studies on rural education in developing and developed countries generally tend to address different topics. Research on rural education in developing countries tends to adopt a macro perspective to discuss such issues as the interactions between rural education and culture, social and political change, gender, and economy (Graham Brown, 1991; Kallaway, 2001); studies on rural education in developed countries, on the other hand, often use a micro perspective to explore teaching and learning methods, classroom conflicts, school leadership in rural schools (Arnold, 2005), the relationship between rural schools and their communities, new technology in education (DeYoung, 1987) and issues of education for minority groups (Ayalon, 2004). Despite these differences, the findings from studies in both developing and developed countries suggest that rural education is relatively inferior, when compared to urban education, and faces more staffing, financial and instructional problems (DeYoung, 1987).

The increasing concern about rural education in developing countries results from the promotion of universal education, and a growing emphasis on the need to transform rural populations into human capital. Education, as advocated by human capital theorists (e.g., Schultz, 1963), helps students to acquire the skills and knowledge needed to earn higher wages and to improve productivity. Developing rural education thus is useful for enhancing rural dwellers' quality of life and for reducing rural poverty (Atchoarena & Gasperini, 2003). Moreover, it also improves the national economy (UNESCO, 1993) and contributes to the efficiency of urbanization (Chambers, 1983; Kallaway, 2001). Urbanization, at its initial stage, is the process of withdrawing massive amounts of labor and other inputs from rural agricultural activities and concentrating them in urban areas for nonagricultural activities; it often accompanies industrialization in most countries (Champion, 2001). Education can contribute to urbanization by facilitating the exodus of literate rural people with the skills and knowledge necessary for promoting industrialization and other aspects of urban development (Atchoarena & Gasperini, 2003).

Studies of urbanization, and of rural education in the process of urbanization in particular, have addressed the urban-rural disparity. Chambers (1983, p.4) described urban and rural areas in terms of a core-periphery system; urban areas form the core, which is "rich, industrialized and high status," while rural areas constitute the "poor, agricultural and low status" periphery. Rural and urban development are not separate, they are interactive; however, extant research has emphasized the unidirectional contribution of rural education to urbanization. Antrop (2004) has pointed out that urbanization in its early period features a pattern of growing urban centers exercising different kinds and degrees of influence on the peripheries, though specific models vary. The prestige and power of

the core are reinforced by its ability to attract and keep resources and professionals (Chambers, 1983; Strange et al., 2012). Beaulieu and Gibbs (2005) claimed that the development of urbanization through rural education involves a pattern of brain drain: In the initial state of urbanization, urban areas draw both talented young rural people (who would otherwise have served their local rural areas) and local resources invested in the education of these youth to urban areas. Kallaway (2001), for example, criticized that rural education is placed in an inferior position in the course of urbanization, and that educational policies ignore specific problems in rural education.

China has also witnessed increased ruralurban disparity and rural dependency on urban development in the process of expanding urbanization since the late 1970s (Wen & Wen, 2007). Two approaches to urbanization have been debated in China: the transforming rural areas into urban places approach (Fei, 1986), and the establishing metropolises approach (Rao & Cong, 1999). The central government has claimed to support the former, but has mainly adopted the latter in practice by pursuing a policy of unbalanced development (i.e., allowing some places and people to become wealthy ahead of others). This policy provides urban places, especially those in China's eastern region, with more privileges, resources and opportunities, thus reinforcing rural-urban disparity (Li, 2008). Similar to urbanization reviewed in the general literature, urbanization in China, at its initial stage, also experienced massive rural laborers' migration to urban areas and an expansion of education for providing human resources for urbanization.

Research on rural education in China has pointed out that rural education is marginalized and has become dependent on urban education and urbanization (Ge, 2003; Qu & Wang, 2012; Wei, 2004), as reflected in three interconnected dimensions. First, compared to urban education,

rural education is confronted by more dilemmas, in terms of funding, teachers and infrastructure, and is always lower in quality (Ge, 2008; Hannum, 1999; Law & Pan, 2009). Second, rural schools, are forced to implement urbanized curriculum content that was based on urban culture and life (Yu. 2005), and to adopt pedagogy applied in urban schools (Ma & Tang, 2004). Both the urban-based curriculum content and pedagogy are not applicable in rural schools, for the former is distant from rural students' and teachers' experience and different from rural school culture, while the latter needs welltrained teachers and sufficient facilities that are both lacked in rural schools (Yu, 2008). Urbanbased rural education, according to Chen (2007), serves China's urbanization by deviating from status quo rural traditions and culture. Third, despite receiving a backward and inappropriate education, rural students are required take the same academic examinations as their urban peers, and as a result have less access to top universities in China (Yang, 2006).

The extant research focuses on the gap between and the policy-directed inequality of rural and urban education, but does not fully examine how the state guides the relationships between rural education and urbanization; specifically, it does not address how the state defines the role of rural education in promoting urbanization and serving the development of urban education, in what ways urbanization influences rural education, or how the state uses the achievements of urbanization to aid rural education in a manner calculated to deepen urbanization, cope with the social conflicts brought by rural-urban disparities and enhance ethnic minorities' identification with the state. This article seeks to fill this gap.

The Context of Urbanization and Rural Education in China

In China, an urban area is an administrative concept used to refer to cities where various

levels of government are located (National People's Congress, 1989). China's government has been led by the Communist Party of China since 1949, and can generally be divided into the central government (zhongyang zhengfu) and local governments (difang zhengfu). The former is headed by the State Council and includes ministries related to areas of national administration, such as the Ministry of Education (MoE), while the latter category comprises five sub-levels: province, municipality, county, district or township, and village (ranked from highest to lowest) (National People's Congress, 2004). The first four levels of local government are located in urban areas (including municipalities directly under central government leadership, cities at the provincial, prefectural and county levels, and the downtown portions of counties and towns), while village governments are located in and directly administer rural areas (National People's Congress, 1989).

Although urban areas were initially planned and divided for administrative purposes, they are usually much wealthier and more developed, and have more advanced transportation and infrastructure than rural areas in the same jurisdiction, as will be discussed later. Moreover, in addition to their geographic division, the Chinese state further divides rural and urban areas through its household registration policy (hukou zhidu), which was enacted in the 1950s to impede the internal migration of rural and urban populations (National People's Congress, 1958). The policy divides the population into agricultural and nonagricultural categories and provides the latter with more privileges than the former (hereafter, the term rural residents will be used to refer to those with agricultural household registration) (Chan & Zhang, 1999; Law, 2006). Under this policy, residents who hold agricultural household registration, but who live in urban areas, do not and cannot enjoy

the same social welfares (including medical care and education) as non-agricultural residents in the same city.

While China's rural and urban areas both are remarkably developed, the country's ruralurban disparity has expanded since Deng Xiaoping's coming to the power in late 1970s and his promotion of a series of social and economic reforms shortly thereafter. The economic reforms that helped promote urbanization were the product of three major strategies. The first strategy was the establishment of a market economy, which including inviting multiple investors to become involved in China's economy and introducing the concept of domestic economic competition. The state, since the late 1970s, has opened that market to non-state sectors, including foreign and individual investment and private enterprise. In so doing, the non-public ownership sector (i.e., enterprises that are neither state-owned nor -controlled) has grown from 1% of China's gross domestic product (GDP) in 1978, (National Bureau of Statistics of China, 2008) to more than 40% in 2014 (Li, 2014).

The second major strategy involved gradually adjusting China's economic structure by giving the country's secondary and tertiary sectors (i.e., manufacturing and services) priority over the primary sector (agriculture/ raw materials). As a result, the contributions of the primary, secondary and tertiary sectors to China's GDP changed from 28.2%, 47.9% and 23.9%, respectively, in 1978 (Zou, 2008), to 10%, 43.9% and 46.1%, respectively, in 2013 (National Bureau of Statistics of China, 2014b). Moreover, the growing importance of the secondary and tertiary sectors, both of which are laborintensive and urban-based, resulted in increased demand for labor in those sectors and attracted even more rural residents to work in urban areas.

The third strategy was the forcible introduction of a policy of unbalanced economic development. The policy prioritized the

development of urban areas and eastern coastal cities (e.g., Shanghai, Guangdong Province, Zhejiang Province) by attracting investment to and increasing support for those areas. As a result of this policy, the income gap of between eastern, middle and western residents, as well as that between urban and rural residents within each region, became quite large. In 2010, for example (Zou, 2012), the per capita net income of urban residents in eastern China (the highest) was about 1.49 times that of urban residents in China's middle and western regions, while the per capita net income of eastern area rural residents (the highest) was 1.84 times of that their counterparts of China's western region (the lowest). The per capita net income of urban residents in China's eastern, middle and western regions was, respectively, 3.16, 3.14 and 3.92 times of that of rural residents in the same region.

The interplay of the state's economic policy, the prosperity of and greater opportunities found in urban areas (especially eastern urban areas) and the state's strategy of easing restrictions on rural-urban migration flows has driven rural residents into urban areas to seek employment in labor-intensive factories and service industries, high technology industries, or transnational corporations. The percentage of urban residents (i.e., those who live in urban areas for more than six months in the same year, even if they have a non-agricultural household registration) in the overall Chinese population increased from 17.92%, in 1978, to 52.6% (or about 712 million of 1.35 billion) in 2012 (National Bureau of Statistics of China, 2013b). In 2012, 263 million urban residents were migrant workers, and 88.6% of these worked in urban areas at or above the county level (National Bureau of Statistics of China, 2013a)

To confront the social and economic challenges brought about by unbalanced economic development, the Chinese state, since the beginning of the 21st century, has adopted a

number of strategies to develop rural areas, especially rural areas in its middle and western regions. These strategies include the Developing of the West Regions (xibu da kafa) movement, and programs urging urban areas and China's eastern region to enter into partnerships with, or to provide aid to rural and western areas of the country. The central government also increased its financial support for rural areas and reduced peasants' financial burden through such initiatives as its Tax and Fee Reform (shuifei gaige), which cancelled some compulsory taxes and fees previously levied against peasants (State Council, 2003). However, the disparity between rural and urban areas has not yet been bridged, leading the state, under Xi Jinping (2012-), to propose the further urbanization of rural areas by integrating and balancing rural and urban development (The Communist Party of China Central Committe & State Council, 2014).

In addition to social inequality and ruralurban disparity, China's urbanization has led to an increased disparity between rural and urban education. Rural students account for a large portion of China's nine-year compulsory education (i.e., primary and junior secondary school education), with 46 million students enrolled in rural school, in 2012 (Department of Development and Planning of Ministry of Education, 2013). The influence of urbanization has created three types of rural students at the nine-year compulsory education level: rural students who live with their parent(s) in their hometown; rural leftover students (nongcun liushou xuesheng) cared for by non-parental guardians (e.g., grandparent(s)) in their hometown while their parents work as rural migrant workers; and rural migrant students (nongmingong suigian zinv) who live with their parents in urban areas, away from their hometown. In 2012, there were 22 million leftover and 13 million migrant students, accounting for 17% of primary and 10% of junior secondary students, nationwide (Department of Development and Planning of Ministry of Education, 2013).

The government adopted four strategies to address rural-urban disparity. The first strategy was to expand education to reduce rural residents' illiteracy and enhance their educational level. To facilitate rural students' access to school, many new rural schools were established; each village was required to establish a primary school, while those villages with considerable territory and sparse population were asked to provide teaching stations for students up to the fifth grade. In addition, in 1986, legislation made universal nine-year compulsory education mandatory (National People's Congress, 1986). This law was immediately implemented in China's eastern region and in urban areas above the county level, and then expanded to counties and towns in 1995. Rural areas were allowed to institute universalizing compulsory education on an ad hoc basis. In 2011, the government claimed that the goal of universal nine-year compulsory education had been achieved (Zhai et al., 2012).

The second strategy involved reforming the financing of education to reduce the central government's fiscal responsibilities; one way of doing so was to extend the policy of unbalanced economic development to education. First, the government invested more heavily in domestic economic development than in education (including rural education); a goal of investing 4% of GDP in education was established in 1993, but was not achieved until 2012 (Zhao, 2013). Second, more financial resources were directly and indirectly allocated to urban education than to rural education. Urban education was given primary development attention, because it had been assigned the mission of supporting China's urban economy and was intended to become a model for rural education (Editorial Board of Educational Yearbook of China, 1986). In addition, financial power was decentralized by

the introduction of "level-by-level local responsibility and management" in basic education, which transferred the central government's responsibility for financing education to local government, and required local governments to raise and allocate funds for education in their jurisdiction through multiple channels (Communist Party of China Central Committee, 1985).

The third strategy was to re-establish the "key school" program at all educational levels. Key schools were primarily based in urban areas (county level or above), had fewer students in each class and were provided with more funds, better facilities and buildings, and morequalified teachers (Editorial Board of Educational Yearbook of China, 1984). Teachers at key secondary schools, for example, were required to have a tertiary degree, received a higher salary and had more opportunities for promotion; one-third of these teachers were experienced teachers with good teaching records, who had been reassigned from non-key schools. Key schools were criticized for increasing inequality among schools, so another term (model school - shifan zhongxue) was adopted to describe the state's emphasis on developing schools with good teachers and facilities. No matter what they were called, key schools favored urban students, who were thought most likely to further the development of urban society.

The fourth strategy was to re-adopt the practice of distributing students who finished their compulsory education into one of two further education tracks. The first track involved vocational and technical education to prepare students to enter the labor market, and included vocational senior secondary schools (*zhiye gaozhong*), specialized secondary schools (*zhongdeng zhuanye xuexiao*) and skilled worker schools (*jigong xuexiao*). The second track offered students a general senior secondary education intended to cultivate

students for higher education. The emphasis on these two tracks was unbalanced. From 1980 to mid-1996, vocational and technical education was emphasized and received the lion's share of state institutional and financial support (He, 2009). Over that period, the number of first-year students in vocational technical schools increased almost five-fold, from roughly 714,300 in 1980, to 3.8 million in 1996, while the number of first-year students in general senior secondary schools decreased from 3.8 million to 2.82 million (Department of Development and Planning of Ministry of Education, 1997). After 1996, however, general senior secondary education was provided with more development opportunities, and the number of first-year general senior secondary school students began to outpace the number of first-year vocational and technical school students. Between 1996 and 2012, the number of students enrolled in general senior secondary schools tripled, while the number of students enrolled in vocational and technical schools increased by only 40% (Department of Development and Planning of Ministry of Education, 2013).

Despite its vigorous promotion of domestic economic and social reforms since the 1980s, the Communist Party of China (CPC), China's sole political party since the PRC's 1949 founding, has allowed very few political reforms to emerge (Law, 2011). On the contrary, it has used its program of economic and social reform to reestablish the legitimacy of its leadership, and to perpetuate its dominant position in China (Deng, 1979). The CPC has remained the sole decision maker regarding China's reforms, and has consistently stressed the Party's supreme status and the central importance of its authoritarian rule, rather than expand democracy. The CPC has, for example, continued China's dual leadership system, which has enabled the Party to control virtually all areas of life in the PRC since 1949. The first aspect of this system is the administrative line, theoretically

headed by National People's Congress (NPC), while the second is the political line, theoretically led by the National CPC Congress; in reality, both are directed and controlled by the CPC Central Committee, specifically the Politburo of the CPC Central Committee (National People's Congress, 2004: 17th National Congress of the CPC, 2007). The CPC also enacted the National Security Law, ostensibly to ensure China's political, economic and social stability and security, but actually a means of using those concerns to legitimize its leadership role, maintain its political stability and perpetuate its ruling status (Law, in press). The CPC's strategy of developing rural education while promoting urbanization in different periods also reflects its focus on maintaining political stability, as will be shown in next section.

The Complex and Dynamic Relationships between Rural Education and Urbanization in China

The relationships between rural education and urbanization in China were reflected in four related dimensions: the state's oscillation between decentralizing and centralizing the responsibility for financing rural education according to the needs of urbanization; contradictory rural education planning and implementation, which claimed to use rural education to serve rural development but developed rural education based on urban strategies; unstable rural school human resources, which fluctuated between the brain drain of original rural teachers due to ruralurban disparity and the unstable brain gain of university graduates and temporary urban teachers mobilized by the state; and, the flow of rural school students and graduates to urban society.

Financing Rural Education for Urbanization: Centralization versus Decentralization

The first pattern of relationship between rural education and urbanization was the state's financial strategy of directly and indirectly using rural education to serve urbanization. In the late 1970s, when the state introduced economic reforms that resulted in the expansion of urbanization, it invested the main portion of its limited financial resources in urban economic and social development, leaving rural education fraught with problems due to insufficient funding. While this urban development focus led to remarkable social and economic achievements over the next three decades, the resulting urbanization also brought about unequal social problems; in order to address these problems, while still continuing its goal of expanding urban areas, the state has recently begun to focus more attention on rural development, including rural education development, than it had previously. The state's practice of decreasing funding for rural education to allow increased investment in urban development and education can be seen in two state-prescribed approaches to financing education.

The first approach involved decentralizing responsibility for financing education to allow the central government to focus its limited financial resources on economic development, which mainly occurred in urban areas. To increase its capacity for economic investment, the central government, in 1994, introduced its new System of Tax Sharing (fenshuizhi), which transferred the fiscal income of local government at various levels to the central government, leaving them a small portion of tax income to finance local concerns, including education. This effectively increased the funds available for urban education, which cultivated talented people to serve the needs of urbanization, and decreased funding for rural education, as the financial capabilities of the

various levels of local government did not match with their responsibilities (Law & Pan, 2009). Higher-level governments located in urban areas had more fiscal income, but their responsibility for financing education was usually limited to the schools in the city in which the government was located: the government could thus provide more funds to urban education and allocate educational allowances to the residents under its direct jurisdiction. By contrast, township and village governments, at the bottom of the administrative hierarchy, had the least tax income, but bore the most responsibility for raising and allocating funds for rural schools (State Education Commission, 1992). Rather than providing more financial support, the central government directed rural governments to explore new ways of developing their local economy that would enable them to support education through self-reliance (Editorial Board of Educational Yearbook of China, 1994). Local governments, following the example of the central government, began to divert funding earmarked for education, using it instead for local economic development and related areas of responsibility that could quickly yield results (Editorial Board of Educational Yearbook of China, 1995), leaving the poor peasants to pay for rural education (renmin jiaoyu renmin ban) to (re) construct school building, buy teaching facilities and provide teachers' allowance. The peasants who shouldered a heavy financial burden paid for education through three ways (Ma, 2000). The first way was paying for their children's tuition and miscellaneous fee (xue za fei). The second way was paying 1.5% to 2% of their per capita net annual income as educational surcharge (jiaoyufei fujia) that was calculated and charged by village government. The third way was donating money for constructing or renovating school building and buying school facilities, which will be presented more in next paragraph. These ways not only increased peasants' financial burden, but also

failed to provide sufficient funds for rural education.

The state's second approach involved introducing multiple investment mechanisms (charging additional fees, running school businesses and encouraging social donations) to fund education. As discussed above, urban residents' per capita net income was significantly higher than that of rural residents; therefore, the additional fees urban schools charged urban residents were higher than those charged by rural schools. In addition, urban schools, being located in urban societies that featured high levels of commerce and industry, could also generate additional income by running school businesses; rural schools could not, as they had no market in which to sell such goods or services. Urban schools also received a higher level of financial support from diverse stakeholders for such reasons as charity, appreciating the school, helping their offspring get educational in the school or building up relationship with local government. These stakeholders included individuals, companies and other donators, and all of them had more disposable income than their rural counterparts. For example, in 2000, individuals and social groups donated almost RMB 114 billion in educational funding, but only RMB 26 billion of that amount went to rural education and most of which was contributed by peasants (Editorial Board of Educational Yearbook of China, 1995).

Owing to a lack of funding, rural schools, especially those in remote poor areas, suffered strains. They did not have sufficient funds to provide sound physical facilities for education, either by constructing adequate new buildings or by renovating old or dilapidated existing school buildings. Rural schools also found it difficult to pay the salaries of and to provide adequate allowance to teachers, which resulted in their constantly losing existing teachers and having to recruit replacements. Qizhou County in Hubei province in middle region of China, for example,

could pay its formal teachers only 65% of their salary, while community-sponsored teachers were paid RMB 250 per month, and substitute teachers were not paid at all (Zhou et al., 2003).

To cope with these problems, the central government, at the beginning of 21st century, introduced three major strategies for increasing funding to develop rural education. The first strategy reshuffled the financial responsibilities of various levels of government (Law & Pan, 2009), shifting primary responsibility for raising and allocating funds for rural education from village and township governments to county and, ultimately, provincial governments (State Council, 2005), meaning peasants were no longer called upon to donate money to support local education. The resulting shortfall was compensated for through the Fiscal Transferring Payment (caizheng zhuanyi zhifu) program, a special fund for improving rural education that was allocated by the central and provincial governments on a proportional burden-sharing basis (National People's Congress, 2006). County governments were assigned the responsibility of establishing special funds for paying teachers' salaries.

The second strategy reformed fee-charging by the 2001 introduction of a "one-fee system" for the poorest rural areas, which was later extended, in 2004, to rural schools in China's middle and eastern regions (Ministry of Education et al., 2004). This system limited schools to charging student fees only once a semester, and stipulated that the fee charged must be based on the per-student budget established by the provincial government. The system was intended to ensure that funds were fully allocated to rural schools and to reduce peasants' financial load regarding their children's education.

The third strategy was to increase financial investment in rural education. It first surfaced in the central government's "two exemptions and one subsidy" policy, which exempted students

from paying textbook fees and miscellaneous expenses and subsidized school boarding fees. Then, in 2006, the central government began to provide free nine-year compulsory education in schools in western regions, allowing those students to get school boarding subsidies and free textbooks and exempting them from miscellaneous fees (National People's Congress, 2006). Moreover, the central government also mobilized urban schools and schools in the eastern region to provide funds and free teaching materials to schools in the western region, especially rural schools. By 2003, schools in 12 eastern cities had donated RMB 280 million to western schools (Editorial Board of Educational Yearbook of China, 2004).

Although rural schools had access to more funds due to the new financial system and increased investment, they were still confronted by challenges during the reform process. First, in the process of increasing its investment in rural education, the central government tried to reduce costs by combining the teaching stations, schools, students and teachers scattered among several villages into larger schools (chedian bingxiao) (State Council, 2001). By 2010, 65,000 rural junior secondary schools and 302,000 rural primary schools (including teaching stations) had disappeared (Editorial Board of Educational Yearbook of China, 2005). This movement resulted in larger classes at the merged schools, more resource shortages, and eroded rural culture. It also increased the financial burden on families sending their children to distant schools, and made it more difficult and increased travel time for students to go to school. Students who previously would otherwise have gone to local teaching stations or schools now had to attend primary schools an average 5.4 kilometers from home or secondary schools an average of 17.4 kilometers from home (Yang, 2011). After more than a decade, this movement was finally stopped in 2012 (State Council, 2012). Second, though total funding for

rural education increased, per capita funding for rural students remained lower than that of their urban counterparts. Third, though new and modern facilities (e.g., computers, music room, and function room) were provided to rural schools, they were seldom used in teaching because the schools did not have enough teachers to organize activities and the teachers they did have did not know how to operate modern technology or use it for teaching purposes (Wu, 2006). More problems related to rural teachers will be presented in the next section.

Rural Education Reform: Selfcontradictory and Urban-based

The second pattern of relationship between rural education and urbanization concerned the contradictions of rural education, in terms of goals, curriculum and evaluation. Rural education was designed to serve the needs of rural and agricultural development, but was either provided with insufficient resources to do so, or was based on urban experience.

The first contradiction was that, while the entire state was in the midst of an urbanization trend, rural education had long been tasked with serving rural and agricultural development needs and improving peasants' standard of living (Ministry of Education, 2010; Ministry of Education & Ministry of Agriculture, 2001); rural students were expected to work in their rural hometown after graduating. Two approaches were adopted to promote rural development through rural education. The first required rural junior secondary school students to learn agricultural knowledge and skills. In the 1980s, rural junior secondary schools were required to provide agriculture-related subjects or to place some final year students into classes that specifically taught agriculture (Communist Party of China Central Committee & State Council, 1983). In the new curriculum reform, begun in 2001, rural junior secondary schools

were required to allocate 300 teaching hours to two or three agriculture-related subjects, and to award students who passed these subjects Green Certificates (*lvse zhengshu*) which was proof that the awarded students had learned the government prescribed agricultural knowledge and skills (Ministry of Education & Ministry of Agriculture, 2001).

The second approach to serving rural development through rural education was implemented mainly through vocational and technical schools (Deng, 1978; Pang, 2006), despite the fact that these institutions were generally designed to benefit urbanization, rather than rural development. First, students who enrolled in majors relating to agriculture and rural development were not well trained in urban development, and did not promote rural modernization (Editorial Board of Educational Yearbook of China, 2000). Second, to encourage students to study in vocational and technical schools, the state offered to change their agricultural household registration to a nonagricultural one, which meant providing them more social welfares (He, 2009). Third, the state shifted its emphasis from vocational and technical secondary schools to general educational schools to cultivate more talented people capable of supporting modernization and urbanization. Fourth, to attract students and help them to get jobs, vocational and technical schools provided only majors that were popular in urban markets (He, 2009). Fifth, rural students were not interested in a rural vocational and technical secondary education that could not help them earn more than rural migrant workers earned in urban areas, or that made them less competitive in urban job markets than higher education graduates (Pang, 2006).

The second contradiction was that the curriculum provided to rural students was based on urban experiences and transmitted an urban culture that marginalized the rural culture with

which rural students were familiar. By analyzing the drawings and themes in Chinese language textbooks provided to rural primary school students in 1994, Yu (2005) found that content concerning rural life and culture focused mainly on landscapes, animals and plants, while urban-related content addressed a richer range of information, including architecture, interpersonal relationships and modern technology; moreover, the number of textbook drawings and themes that focused on urban life increased with the grade level.

The Chinese state tried to solve the problem of urbanizing the rural curriculum by prescribing a three-level curriculum—national, local and school-during the curriculum reform initiative it began in 2001 (State Council, 2001). However, this reform merely aggregated the inferiority of the curriculum provided for rural students and promoted its further urbanization (Wei, 2004). On the one hand, rural schools, lacking funds and teachers as shown in the previous two sections, and were not capable of implementing local curricula or developing school-based curricula, which were also challenges for urban schools. On the other hand, the national curriculum, which was based on urban experiences, became more challenging from a rural education perspective. A remarkable amount of national curriculum content referred to concepts familiar to urban students (e.g., computer and multimedia, McDonalds, supermarkets), but strange to rural students and teachers (Wei, 2004). Moreover, many suggested student activities (e.g., visiting the zoo and collecting information from internet) and teaching materials (e.g., videos and video players) could not be organized or accessed in rural schools (Wang, 2007).

The third contradiction was that rural students, despite having been provided inferior educational resources and unsuitable curriculum content, were evaluated using urban criteria; they took the same examination their urban

peers did to determine whether they could pursue further study after finishing their compulsory education. Due to increasing rural-urban disparity, rural students became less competitive in entry examinations for senior secondary schools and universities (Yu, 2008). A sample investigation of 16 universities showed that the percentage of freshmen coming from rural areas decreased from 72% in 1982, to 48.3% in 2010 (Wang, 2013). The percentage of rural students in top universities had also decreased, to even lower levels; in Tsinghua University, for example, rural students fell from 21.7% of total enrollment in 1990, to 17.6% in 2000 (Yang, 2006).

To maintain social stability and harmony, the Chinese state tried to increase the proportion of rural students, using three strategies (Dong, 2013). The first strategy was to request that universities lower their university entrance exam score requirement for students from the country's middle and western regions. The second strategy involved designating some eastern universities to recruit rural students; Fudan University, a top Chinese university located in the eastern coastal city of Shanghai, introduced a policy of recruiting outstanding rural students, and admitted 200 such rural students in 2014 (Dong, 2014). The third strategy was to provide programs for recruiting rural students into key-point universities, such as the free normal university program discussed in the previous section. Despite these strategies, rural university graduates continued to be at a disadvantage in the labor market, leading to a perception that higher education yielded low returns; this, together with the multiple unfavorable situations in rural education. discouraged many rural students from pursing further study (Liu, 2015).

The Quality and Mobility of Teachers in Rural Education: Brain Drain versus Brain Gain

The third pattern of relationship between rural education and urbanization concerned the brain drain of rural teachers to work in urban areas and the state's subsequent brain gain strategies for mobilizing urban human resources to work in rural schools. In addition to lacking funds, rural schools were short of teachers. This shortage was intensified by the outflow of (potential) rural teachers to urban areas that were more developed and that offered job opportunities that could provide a higher salary and a richer life experience. The state, beginning in 2000, established programs to encourage graduates with tertiary education experience to teach in rural schools and to mobilize teachers in eastern and urban areas to aid western and rural schools.

The brain drain of rural teachers occurred in two ways. First, in-service rural teachers were attracted to urban areas where there were more opportunities to earn more money. The first large wave of rural teachers leaving for urban areas took place in the late 1980s, when the market economy in urban areas began to show its advantages (Li, 1999). This trend continued due to the fact that rural teachers' salaries, already low and often defaulted upon, were increasingly lower than those of teachers working in urban areas. In 2004, when county governments were first commanded to pay teachers on time, experienced rural teachers received a basic salary of only about RMB 2000 per month; by contrast, migrant peasant workers who worked in big cities could earn around RMB 6000 per month (Ouyang, 2014). In Qichun County of Hubei Province, more than 800 teachers quit their jobs within a single sixmonth period, and most went to work in urban areas (Zhou et al., 2003). Rural teachers flowed to urban area in three ways: by abandoning their teaching positions and working as factory

workers, construction workers or entrepreneurs in more urban areas; by securing teaching or administrative positions at schools in more urban areas (in 2014, for example, nine outstanding teachers from a rural junior secondary school in Wugang County of Hunan Province left to take up teaching positions in urban schools (Yang et al., 2015); or by continuing to work in rural schools, while commuting as manual laborers at weekends or during holidays (Ouyang, 2014).

The second way in which the rural-urban brain drain manifested occurred when graduates who had been expected to teach in rural schools instead found jobs in urban areas. Until the 1980s, students from normal school and colleges (universities) could be coerced by the government to teach in rural areas; once the government began to afford them greater autonomy in their job choices, however, they increasingly chose to work in urban areas. In addition, normal schools, which recruited junior secondary school graduates and were the major provider of rural primary teachers, were marginalized or upgraded to be normal college when the state shifted its emphasis from vocational education to higher education, in the 1990s. This policy resulted in the supply of teachers to rural schools falling dramatically, as graduates of normal colleges generally were able to use their academic degrees to find jobs in urban areas.

In response to the shortage of teachers, rural schools, especially those that were isolated or poor, were provided with large numbers of community-sponsored teachers (minban jiaoshi) and substitute teachers (daike jiaoshi) who could be untrained and unpaid teenagers; however, these still could not satisfy the rural demand for quality teachers. Community-sponsored teachers were not authorized personnel (bianzhi renyuan) who enjoyed state-prescribed allowances and salaries; rather, they were graduates recruited from public schools

and paid by a combination of government allowances and funds raised from local communities; if they wished, they could upgrade themselves to become teachers and authorized personnel (State Education Commission, 1995). In 1980, there were 3.4 million communitysponsored teachers in primary schools (61.4% of all primary school teachers) and 3 million in junior secondary schools (30.1% of all junior secondary school teachers) (Liu, 1993); a large portion of these taught in rural schools. Unlike community-sponsored teachers, who had stable positions, substitute teachers were temporarily recruited by specific institutions, were paid a significantly lower salary, and did not receive state allowances. In 2002, there were 580,000 substitute teachers in rural schools, accounting for 9.6% of all rural teachers. Communitysponsored and substitute teachers, despite making contributions to rural education, were criticized for lowering the quality thereof.

The state adopted two major brain-gain approaches to improve the quality and number of rural teachers. The first approach consisted of reducing the number of teachers who were not authorized personnel. The MoE (later the National Education Commission, 1985-1998) used four methods to clean up and improve community-sponsored teachers in the 1980s and 1990s (State Education Commission et al., 1992). First, in 1986, they stopped recruiting community-sponsored teachers; then, they transformed qualified teachers who passed examinations into authorized personnel, transferred less qualified teachers to nonteaching positions, and dismissed unqualified teachers. By 2000, there were almost no remaining community-sponsored teachers. As for substitute teachers, most of whom had been recruited when community-sponsored teachers left or when rural teachers fled to urban areas, the MoE decided to eliminate them altogether, beginning in 2001 (State Council, 2001). This initiative was criticized for seriously reducing

the number of available teachers in poor rural schools, for disregarding the important contributions substitute teachers had made to rural education, and for showing a lack of consideration for their welfare (Chen, 2010).

The second approach centered on preparing and recruiting university (college) graduates to work in rural schools, and involved three main programs. The first urged university (college) graduates to volunteer to be rural educators, under such state initiatives as Calling University Students to Serve for Western Areas (daxuesheng fuwu xibu jihua), enacted in 2003, and Three Supports (supporting education, agriculture and hygiene) and One Alleviation (alleviating poverty) (sanzhi yifu), which began in 2006. To entice graduates to join this program, universities, endorsed by the MoE, offered to exempt graduates who volunteered for a two or three-year term of service in western and rural areas from having to write their Master's program entrance examination. The second program, begun in 2006, recruited university (college) students to be Special Post Teachers for Rural Primary and Junior Secondary Schools in western and middle regions (tegang jiaoshi). Special post teachers were contracted to work in designated schools on a three-year basis (Ministry of Education et al., 2006); 59,500 university (college) graduates were recruited in the first three years of this program (Wang, 2007; Wu & Bian, 2010). The third program, begun in 2007, offered a free normal college education to students from western and middle regions, in exchange for their agreeing to work in their home province for 10 years (including at least two years in rural schools) after graduation.

These three programs had three similarities. First, they were all funded by the central government, which afforded rural education volunteers a small allowance, paid special post teachers a salary equivalent to that of teachers who were authorized personnel, and

gave students who accepted free normal education an annual allowance of RMB 6,000, and exempted them from paying tuition or boarding fees. The second similarity was that, despite the levels of financial support they provided, these programs were not attractive to students and graduates. In 2011, only 4.1% of first-year graduates of the free normal education program worked in rural schools (Tian et al., 2011). Special post teachers treated their position as a temporary job and tried to find other positions (e.g., civil service or urban teaching positions) during or after their term of service (Jiang, 2008); in Chongqing municipality, for example, 76.9% of special post teachers polled planned to quit their jobs (Wang et al., 2013). Rural education volunteers only needed to stay in rural schools for two or three years, and seldom went to the most distant rural schools. The third similarity was that schools and county governments frequently defaulted on the salaries of both the free normal education program graduates working in rural schools and special post teachers, and failed to endorse them as authorized personnel who could enjoy more social benefits (Wu & Bian, 2010).

The third approach concerned requesting urban schools to provide intra- and interprovincial partnership aid to rural schools. One method involved sending urban teachers to rural schools to provide inter-provincial partnership aid (duikou zhiyuan). From 2006 to 2008, four provinces mobilized a total of 15,000 teachers from town- and county-level schools to aid rural schools within those provinces, while another 22 provinces sent 5,000 teachers from town- and county-level schools to aid their rural schools (Editorial Board of Educational Yearbook of China, 2009). The second method urged schools in China's eastern region to prove intraprovincial partnerships to schools in the country's middle and western regions. Three thousand teachers from eastern schools were sent to western areas in 2003 (Editorial Board of Educational Yearbook of China, 2004). To ensure urban teachers' participation, some local educational authorities informed newlyrecruited and existing urban teachers that they must first provide aid to rural schools in order to become senior-level teachers (Department of Education of Henan Province, 2015). The third method centered on providing in-service training for aided school teachers and administrators through schools visits and training courses. Almost 4,000 teachers and school administrators were invited to visit eastern schools between 2000 and 2003 (Editorial Board of Educational Yearbook of China, 2004). The National In-service Training for Teachers in Primary and Secondary Schools program was enacted, in 2008, to provide free training to rural teachers and school leaders through on-site or distance training programs provided by normal universities and other authorized training centers in urban areas; around 4.7 million rural teachers had attended this program by 2013 (Chai, 2014).

Inevitable Loss of Rural Students and Graduates to Urban Areas

The fourth pattern of relationship between rural education and urbanization involved the flow of rural students and graduates to urban areas. Rural students who dropped out of school, finished compulsory education or had more education experiences tended to work in urban areas. Rural students who studied in urban areas and had degrees tended to find jobs in urban areas where they could realize improved social mobility and, especially, transform their household registration from agricultural to nonagricultural. Rural education, though inferior, still sent rural elites to serve urban development through the mechanism of education (Yu, 2008). In the early 1990s, 24% of formal migrants who obtained household registration in Beijing did so through higher education institutions (Liu, 1992). The graduates of vocational and technical

schools who worked in urban society before 1996 also received non-agricultural household registrations and became urban residents (He, 2009). Most tertiary institution graduates from rural areas tended to work in urban areas; an investigation of 15 universities in four provinces indicated that 93% of tertiary students from rural areas preferred to work in urban areas above the county level (Teng & Miu, 2010). In addition, rural students who did not study in urban areas or did not have tertiary degrees were also attracted to urban areas, due to the cancellation of migration barriers between agricultural and non-agricultural household registration (Liu & Yu, 2012), mainly becoming migrant workers who performed poorly-paid, menial jobs. There were 269 million such migrant workers in 2013 (National Bureau of Statistics of China, 2014a), and their efforts contributed to China's urbanization by speeding the construction of basic urban facilities, improving the quality of life for urban residents, and increasing their own family income, which in turn furthered the urbanization of rural areas (Liu & Yu, 2012).

Despite migrant workers' contributions to urbanization, children who lived with their migrant worker parents in urban areas did not enjoy equal access to education with their urban peers, due to the interplay of household registration laws and the slow implementation of government policy. First, although more and more migrant workers' children lived in urban areas since the 1980s, ensuring their education was not a significant government priority until 1996. Second, although migrant workers' children stayed in urban areas, their education was still deemed the responsibility of their original local government, due to the limitations of household registration, from 1996 to 2001. During that period, migrant children could not take advantage of the nine-year compulsory education in the public schools of their host city unless their parents paid a large Temporally

Schooling Fee (jiedu fei) (Communist Party of China Central Committee & State Education Commission, 1991). Third, although responsibility for providing education to migrant workers' children shifted to the host government and public schools in the host city in 2001 (State Council, 2001), the children were still not welcomed by urban public schools. This was because the State Council neither changed the decentralized education financing system, nor did it provide enforceable measures and sufficient resources for accepting migrant students in public schools, effectively giving local educational authorities license to reject them or charge them high fees. Expensive fees at public schools meant that migrant workers instead sent their children to cheaper, unlicensed schools, where teachers were insufficient and unqualified, and where facilities often did not meet basic government standards. The government tried to eliminate such unlicensed schools, as they were illegal.

The State Council finally increased financial support for urban public schools to enable them to accept migrant workers' children, and required urban schools to treat them equally, charge no additional fees and provide subsidies for those with financial difficulties (Ministry of Education et al., 2003).

The entry of migrant workers' children into urban public schools, however, challenged both the children and the schools. Urban public schools complained that enrolling migrant students strained schools' human and material resources, increased teachers' student administration burden and lowered schools' academic level. As for the migrant workers' children, their first dilemma was that they were not allowed to enter public schools where they lived unless they first met those schools' admission requirements. For example, the admission requirements established by the municipal government of Nanjing, an eastern city in Jiangsu province, stated that migrant

workers' children must have resided in Nanjing for more than one year and that their guardian(s) must provide proof of stable employment (Education Bureau of Nanjing, 2013). The second dilemma confronting migrant workers' children was the discrimination they suffered in urban public schools. Migrant workers' children in one Shanghai school were restricted to specific areas of the school building and playground to segregate them from urban students, studied in different classes and played different games on the playground (Wu, 2010). The third dilemma was the issue of the university entrance examination. Despite that cross-provincial migrant workers' children could have opportunity of studying in urban schools away from their home province, they were not allowed to take the university entrance examination in a province where they did not have household registration without first satisfying several oppressive requirements of the family (Ministry of Education et al., 2012). The requirements included that the migrant student's family must have legal and stable job and residence in the host city, and bought the host city's social insurance for years, which were too demanding for migrant workers who usually had great mobility (Ministry of Education et al., 2012). In other words, students were educated in one place, but required to take another province's examination, despite the fact that that examination was different than what they had prepared for and would not test what they had been taught. Because the university enrollment scores for students in different provinces differed, students from some places (e.g., Beijing and Shanghai) could successfully enter university with lower scores (Zhang, 2010).

Policy Implications for the Development of Rural Education during Urbanization

Rural education can be a means to improve rural residents' quality of life, promote rural

development, and enhance national competitiveness. However, during the process of urbanization, rural education, especially in developing countries, has increasingly been shown to be inferior to urban education in the same country. With reference to compulsory education in rural China, this study has examined the historical development of the role of rural education in the urbanization process promoted by China's efforts to develop its economy and maintain social stability. It has identified patterns in the state's strategy of defining rural education to serve urban development and expanding urbanization. Unlike some studies (e.g., Antrop, 2004; Ge, 2003; Qu & Wang, 2012; Wei, 2004), which claimed that rural education was dependent on and passively influenced by urban education, this article has demonstrated that the marginalization of rural education was designed by the state to allow it to concentrate its fiscal resources on developing the country's urban economy and to provide human resources for urbanization. Unlike Beaulieu and Gibbs's (2005) view that urbanization drained the local elites trained by rural education, this study argues that urbanization attracted both rural elites and unskilled rural workers. Rural education's contribution to urbanization was directed by state development policies in different periods and constrained by practical considerations.

Moreover, the experiences and struggles in China's rural education development provide a useful means of understanding the complex, dynamic intertwined relationship among the state, rural education and urbanization. This has three main policy implications for rural education in developing countries during the process of urbanization. First, the state was the key actor in dedicating rural education to serve the needs and goals of urbanization. Urban development and the expansion of urbanization in China were planned by the state and enacted through specific, targeted economic and social

reforms. The state first limited the resources available to rural education to further the development of urban areas and urban education by enacting a policy of unbalanced economic development. This policy helped China make remarkable progress in terms of its domestic economic development and greatly expanded its urbanization, but resulted in increased rural-urban disparity, both in terms of economic development and education. Next, the state left rural education to fend for itself, and provided it with an inappropriate curriculum; at the same time, it allowed urban areas to use their economic superiority to attract rural education elites, outstanding teachers and it failed rural students in order to serve the needs of urban development. Finally, when the state of rural education became a barrier to further urbanization, the state transferred financial resources and mobilized human resources to aid rural education, and confronted long-standing dilemmas in an effort to resolve the inferiority of rural education.

Second, in the process of urbanization, the state's emphasis on the importance of rural education was neither in accordance with trends in population mobility and social development nor favorable to rural education. The case of China shows the conflicts inherent in positioning rural education during urbanization. The first conflict was that, despite shifting its emphasis from the primary economic sector (agriculture/raw materials) to the secondary and tertiary sectors (manufacturing and services), which are necessary for urbanization and require skilled workers and professionals, the state continued to encourage rural education to cultivate rural students (who constitute a large portion of Chinese students) capable of modernizing Chinese agriculture. The second conflict was that, despite emphasizing the role of rural education in the modernization of agriculture, the state did not provide sufficient financial or human resources to allow rural

students to acquire knowledge and skills relating to agriculture; instead, it provided an urban-based curriculum and evaluated rural students using criteria that favored urban students. Being influenced by these conflicts, rural education failed to cultivate students who were capable of modernizing agriculture and enhancing its competitiveness. On the other hand, it did help those who succeeded at the urban-based evaluation to become more socially mobile and to live in urban areas, and it also cultivated unskilled and less-educated workers and service staff to further the process of urbanization.

Third, the planning of rural education must systematically consider the interplay of rural education policy and other policies. The struggles and difficulties resulting from the Chinese state's efforts to plan rural education show that policy-makers should consider the following three policy issues: The first issue is that rural education is constrained by other social policies supported by the state. China's rural education was influenced by the state's policy of unbalanced economic development, and by China's household registration system, which provided non-agricultural residents with more privileges, effectively blocked rural-urban migration, and inhibited the provision of equal education to migrant workers' children. Despite having explored ways of educating migrant workers' children for almost two decades, the Chinese state has continued to divide students based on household registration. Another social policy affecting rural education is the authorized personnel system, which provided rural teachers in the system with a stable job and higher salary. The system helped the state eliminate substitute teachers, who were important to rural teaching, and discouraged teachers recruited through the state's schemes for supporting rural education.

The second issue concerns the consistency and appropriateness of rural education policies. First, to facilitate the implementation of new rural education policies, the state should simultaneously review, and update as needed, its other education policies, so as to avoid conflicts. The case of China's rural education has shown that the state's policy on rural education did not match its general education policies. For example, the state asked host cities to provide education for migrant workers' children in 2001, but continued its decades-old decentralized financial responsibility system, which did not provide adequate financial support to the host cities; the host city governments were thus neither willing nor able to accept migrant workers' children in their public schools. Next, rural education policy should be made by carefully examining the unique demography and geography of the targeted rural areas. To reduce the cost of rural education, the Chinese state arbitrarily enacted policies abolishing teaching stations and merging schools with few students, while neglecting to consider the impact of such issues as sparse populations and the lack of convenient transportation in remote rural areas. Similarly, its policy of eliminating substitute teachers neglected to consider the lack of teachers in rural schools.

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