Urbanization in remote areas: A case study of the Heilongjiang Reclamation Area, Northeast China

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ABSTRACT

In a remote part of Northeast China, thousands of villages have disappeared from the map. Their inhabitants, more than 600,000 farmers, have been instructed by the government to relocate to nearby towns and commute to their farms to work. By concentrating the dispersed rural population in a small number of urban cores, the government hopes to improve housing conditions and accessibility to services, stimulate economic development, and free up more land for farming. This paper analyzes this kind of urbanization, which is distinct from the much-studied city-centered urbanization and in situ urbanization in coastal China. In addition to the resettlement program, this urbanization process is driven by agricultural modernization and economic liberalization. Urbanization has produced a rural—urban hybrid settlement system where urban construction coexists with a mostly agrarian economy. Urbanization has also improved the livelihood of many rural households, but there are significant social, economic, and environmental challenges.

Introduction

It is commonly accepted that urbanization in post-reform China is primarily driven by rural—urban migration and the growth of existing cities (Chan, 2010; Zhang, 2008; Zhang & Song, 2003). Since 1978, the discontinuation of collective farming and the commune system, the relaxation of rural—urban migration control, and uneven geography of economic development have created what is often coined ‘the largest human migration in history’. In 2011, there were 230 million migrant workers, approximately 80% of which were from rural backgrounds (Wang & Fan, 2012). These migrant workers typically go to eastern seaboard regions of Guangdong, Zhejiang, Shanghai, Beijing, Jiangsu, and Fujian, where economic opportunities are abundant. Rural migrant workers significantly contribute to the rapid growth of cities in these areas, but are still subjected to socioeconomic, institutional, and cultural discrimination that renders them second-class citizens (Wong, Li, & Song, 2007). At the same time, the expansion of cities leads to the conversion of agricultural land into development zones (Yang & Wang, 2008; Zhang, 2011) and up-scale gated communities (Lo & Wang, 2013). In most cases, entire villages are uprooted, though occasionally they are left intact and become urban villages (Wang, Wang, & Wu, 2009). Landless farmers in these urban villages often embrace new livelihoods as landlords, renting out their property to migrant workers working in nearby factories (Wang, Wang, & Wu, 2010).

Although important, city-centered urbanization is far from a totalizing phenomenon in China, and scholars have posited an alternative pathway to urban development known as in situ urbanization (Zhu, 2000; Zhu, Qi, Shao, & He, 2009). In this model, rural settlements and populations gain urban elements without significant spatial relocation of their residents. The role of local leaders in initiating rural industrialization through establishing township and village enterprises is often emphasized (Fei & Luo, 1998; Friedmann, 2006). Also known as ‘urbanization from below,’ (Shen & Ma, 2005) the majority of these rural enterprises are privately owned, although many were registered as collective enterprises to prevent political persecution before Company Law was introduced in 1994 (Huang, 2012). Alternatively, some rural areas in China have successfully industrialized and urbanized through utilizing foreign direct investment (Zhu, 2000). A classic example of this so-called ‘urbanization from outside’ (Sit & Yang, 1997) is Shenzhen in the Pearl River Delta. A neglected fishing outpost during the Mao era, this dilapidated and depopulated village developed into a thriving metropolis and economic powerhouse with a population of over ten million people, primarily...
through investments from Hong Kong and Taiwan (Chan, 2011; Fei, 1992; Ng, 2003). That most of the city’s inhabitants are migrant workers reminds us that in situ urbanization and rural–urban migration are not mutually exclusive, and the synergy of the two urbanization processes is referred to as ‘dual-track urbanization’ (Shen, Feng, & Wong, 2006). In situ urbanization in China is limited to rural areas neighboring existing metropolises and therefore can be understood as an infiltration of urban activities into the surrounding countryside. Based on this understanding, scholars have drawn similarities between in situ urbanization in China and the influential desakota model developed by McGee (1991) based on his observations of Southeast Asian cities, such as Jakarta, Manila, and Bangkok (Xie, Batty, & Zhao, 2007). However, these studies mainly focused on the eastern China, urbanization studies in remote areas of China have been neglected in some degree (Gu, Wu, & Cook, 2012).

Reclamation areas (kenqu) in China are remote regions that were formerly uninhabited wilderness areas designated for the purposes of agricultural reclamation and border security. These regions are distributed widely within 31 provinces and municipalities in China, but those located in Heilongjiang, Xinjiang and Hainan provinces are the largest. Since most reclamation areas are dispersed in remote parts of China beyond the influence of existing metropolises, their experience with urbanization is distinct from the two models of rural–urban transformation identified above. In this paper, we take the Heilongjiang Reclamation Area (HRA) as a case study and examine the urbanization mechanisms and consequences in the region. We begin with a brief discussion of the characteristics, development history, and governance of the HRA. Then we explain the HRA’s urbanization mechanisms, followed by an analysis of the result of the transformation, which is a rural–urban hybrid settlement system, and the main challenges of this top-down urbanization process. This paper concludes with suggestions for future research.

The Heilongjiang Reclamation Area

The HRA is located in Heilongjiang, which is the northeastern-most province of China, bordering Russian Siberia for most of its northern and eastern boundaries. The region earned the nickname the ‘Great Northern Wilderness’ (beidahuang), reflecting the remoteness, inaccessibility, and sheer vastness of the area. Covering approximately 55,400 km², the HRA is not continuous, but rather comprises pieces of land distributed along the China–Russia border (see Fig. 1). These are the largest reclamation areas in China and are famous for their fertile soil and plentiful water resources. However, farming in these areas has always been hampered by long, harsh winters that rule out the utilization of multiple cropping sequences prevalent in other parts of China. As of 2011, the most important crops in terms of areas planted were rice (46%), soybeans (22%) and corn (22%).

HRA has a low population density, which is unusual for China’s agriculture-based rural areas. In 2011, the HRA’s population stood at 1.71 million. The population density, at 30.9/km², is very low by Chinese standards. The low population density is a reflection of a low population growth rate since 1978, averaging to only 0.02% per year. The low population growth rate can be attributed to two causes. First, the implementation of the one-child policy beginning in 1978 has had a significant effect on the country’s natural population growth rate, and the HRA is no exception. Most farm workers in the HRA are classified as non-agricultural and therefore do not enjoy the special allowance of a second child if the first child is a female. In 2006, the HRA’s natural population growth rate became negative for the first time and continued to decline to −1.26% in 2010. Second, migration is another reason for the low population growth rate. After 1978, a lot of volunteers who came to HRA reclamation during the Mao’s era gradually go back to their hometown. What’s more, a lack of economic opportunities in the HRA has triggered a out-migration in recent years.

Fig. 1. The Heilongjiang Reclamation Area.

1 Chinese population is classified into either agricultural or non-agricultural; the former group is entitled to land ownership and receives more lenient regulation with regards to the one-child policy. The reason for the HRA farmers being classified as non-agricultural is that the land in the HRA is owned by the state, not by the peasants. Because the HRA farmers do not own land, they cannot be classified as agricultural.
Development history

Most of the land in what would become the HRA was uninhabited wilderness at the end of the Second Sino-Japanese War. After the liberation of the region, from 1947 to 1955, soldiers stationed at the frontier of Heilongjiang engaged in agricultural reclamation during leisure time. By 1955, the region had established 63 farms and 2245 km² of arable land, with a population of 81,400. From 1956 to 1966, in an effort to speed up the reclamation, more than 100,000 demobilized soldiers and a large number of volunteers were sent to the HRA. In 1967, arable land increased to more than 12,000 km², the number of the farms increased to 124 and the population increased to 960,000. During the early period of the Cultural Revolution (1966–1976), political upheaval distracted attention away from the reclamation, and the economy of the HRA suffered from neglect and chaotic management. It was not until 1971, when the government started to take some remedial measures, that the situation improved. By the end of 1978, the number of farms increased to 141 and the population reached 1.66 million.

The year 1978 was a watershed for the HRA. Before 1978, farms in the HRA operated as state-owned enterprises under the central planning system. They did not have autonomy in production, human resource management, or investment; those were not responsible for their own loss and profit. This created inefficiency as the fulfillment of production targets, rather than market demand and profit maximization, was the sole consideration of farm managers. In the 31 years of central planning, farms in the HRA made a loss in 21 of those years; their net loss from 1967 to 1979 reached 1.435 billion RMB. In 1978, the central government abandoned central planning in agriculture in favor of the household responsibility system, which decentralized decision-making powers and financial responsibilities to individual households through subcontracting (Krusekopf, 2002). In the HRA, the household responsibility system reform meant that farmers no longer received wages from the farms. Instead, they subcontracted a piece of land for a fee. This, in essence, broke the large state farms into numerous individual farms. The role of the state retreated to that of a landlord and an agricultural service provider, including the provision of seeds, fertilizers, pesticides, and farming equipment. Elsewhere in China, the household responsibility system has resulted in small and scattered farmland, which reduces the scale of agriculture and the level of mechanization (Bramall, 2004; Mead, 2003). This is not the case in the HRA, where individual farms created by the reform are large in terms of area because of abundant land resources and a low population density. Instead, the reform has been influential in improving the HRA farms’ performance. Annual grain production increased from 2.35 million tons in 1978 to 20.37 million tons in 2011, or 8.7 times the production in 1978.

Governance

Under China’s decentralized political system, local governments gained significant authority in local governance vis-à-vis the central government (Mertha, 2005). The HRA’s political system, however, is distinct from other regions in China. The HRA exists outside the jurisdiction of any municipal government and is instead governed by the Heilongjiang Reclamation Bureau (hereafter Reclamation Bureau), which is a functional department of the Heilongjiang Provincial Government, but is also governed by the Ministry of Agriculture of the central government. The Reclamation Bureau is highly autonomous and governs through three tiers of local authorities. At the top tier are 9 regional branches (see Fig. 1 for the geographic location of the regional branches). At the middle tier are 113 state farms of various sizes; the largest is 1888.12 km², and the smallest is only 5.36 km². At the bottom tier are approximately 2600 production teams. Before the household responsibility system reform, the production teams served as the basic administrative and economic units. The reform has hollowed out much of the functions belonging to the production teams, and recently the Reclamation Bureau has begun to formally eliminate this tier of administration. According to the “Heilongjiang Reclamation Area Regulation”, the Reclamation Bureau enforces the municipal government’s administrative powers, whereas the regional branches enforce the county government’s administrative powers. Since 2000, under the guideline to separate enterprise from administration, state farms have functioned primarily as state-owned enterprises and are responsible for their own management decisions, profits and losses (Han et al., 2002).

The driving forces of urbanization

Until recently, most farmers in the HRA lived in isolated villages, not unlike other rural areas in remote parts of China that have been left out of the urbanization process. This lack of urbanization before the resettlement program leaves little doubt that the resettlement program is the key driver of urbanization. In this section, in addition to examining the resettlement program in detail, we further consider two policy developments that may help explain the rationale of the resettlement program.

Agricultural modernization

Agricultural modernization, especially agricultural mechanization, has been a long-term focus of the HRA. As early as 1948 the region started to import farming equipment from the Soviet Union, the United States and other countries and in 1959 began to invest in domestic research and development. The Reclamation Bureau has been the key driving force behind agricultural modernization by investing in technologically advanced farming equipment. Furthermore, in 1985, the Reclamation Bureau established the Agricultural Aviation Experimentation Station, which has since developed into a leading agricultural aviation company in China. Currently, the farming process in the HRA is highly mechanized and advanced GPS, GIS, and remote sensing technologies are employed to optimize efficiency. The agricultural mechanization rate reaches 97.5%, and the output of grain per farm worker is 46.8 tons. The average cultivated area per agricultural worker in the HRA is 4.1 ha per capita, which is about 20 times the national average (Heilongjiang Reclamation Area Bureau of Statistics, 2013). The motivation for agricultural modernization is to increase productivity, rather than to urbanize the area. However, the surplus labor created by agricultural modernization becomes an important enabler to urbanization.

Economic liberalization

The HRA’s first attempt to urbanize through rural industrialization was driven by an imperative to solve the employment problem of surplus labor created by agricultural modernization. In 1979, the Reclamation Bureau proposed all farms should promote secondary industries to create jobs. However, progress was slow. In 1990, the HRA had 1189 enterprises, compared to 737 in 1978. Most factories were poorly performing state-owned enterprises (SOEs) operating on a small scale and struggling to adapt to the market economy. The situation began to change in 1993, when the central government initiated the economic liberalization reform. The gist of the reform was to cease support to small, loss-making, and debt-ridden SOEs. Instead, underperforming SOEs were to be privatized, merged, or declared bankrupt. By 1995, the reform was in full swing in the HRA, resulting in the rapidly diminishing number of SOEs in
the region (see Fig. 2). At the same time, private enterprises were allowed to flourish. In 2002, the number of private enterprises surpassed the number of SOEs for the first time. The emergence of a private economy stimulated the development of modern industries, especially the food and agricultural products processing industries, in the HRA. In 2011, private enterprises accounted for 92% of the gross industrial output and 88% of total industrial jobs in the HRA.

The liberalization of the economy has positively impacted rural industrialization. However, the HRA was unable to duplicate the success of township and village enterprises elsewhere. In addition to the challenges of its remote location and low population density, another significant barrier to industrialization was the dispersed nature of settlements in the HRA. Farmers lived in a great number of small settlements, making it difficult for industries to attract a sufficient workforce. This is one of the problems that gave rise to the idea of using resettlement to stimulate urbanization.

Large-scale resettlement

Before the resettlement, the HRA was characterized by dispersed settlements. The majority of the population was scattered across approximately 2600 villages, known as production team settlements (see Fig. 3). A typical village had about a hundred households, mostly living in poor-quality houses (see Fig. 5). This settlement pattern derived from the need to reclaim and cultivate large areas of land, as well as for national security concerns to safeguard the border against the Soviet Union. However, dispersed settlements greatly increased the per capita cost of services and facilities provided by the government, and were detrimental to rural industrialization. To address this problem, the HRA started a large-scale resettlement program in 1999. The overall goal of the program is to abolish the production team settlements and concentrate the population in 5 core cities with more than 100,000 inhabitants each, 50 important towns with more than 20,000 inhabitants each, 50 general towns with more than 100,000 inhabitants each, and 500 communities with more than 1000 inhabitants each (see Fig. 4). By concentrating the population in a small number of urban cores, the government hopes to overcome the shortcomings of scattered settlements; improve livelihoods through better housing, employment and basic services; free up land for farming purposes; and stimulate the growth of urban areas.

In general, there are two types of resettlements: voluntary and involuntary. Resettlement is voluntary if the affected population is given the choice to remain (Muggah, 2003). In Canada, for example, the federal government and the provincial government of Newfoundland initiated an incentive-based, voluntary resettlement program to move people from remote fishing villages to larger centers from the 1950s to the 1970s (Mayda, 2004). In China, large-scale rural resettlements are almost always involuntary, with cases such as the Three Gorges Project (over 1.2 million people relocated), the South-North Water Transfer Project (over 300,000 people relocated), and the environmental resettlement in Inner Mongolia (over 200,000 people relocated) (Berkoff, 2003; Dickinson & Webber, 2007; Li, Waley, & Rees, 2001). Chinese legislation and regulation on involuntary resettlements advocate the principle of development resettlement, meaning that the government would act to maintain and enhance settlers’ living standards and promote socioeconomic development (Mcdonald, Webber, & Duan, 2008). However, regulations do not always translate into actions in China, and so far the government has applied the principle of development resettlement to only one national resettlement scheme: the Three Gorges Project (Mcdonald et al., 2008).

For most part, the HRA resettlement program is involuntary. Thousands of villages have been uprooted and converted to farmland with consulting the inhabitants, and negotiating and coming
to an agreement with them. Nevertheless, it remains the case that
the success of the resettlement hinges upon the provision of
affordable and adequate housing. Affected farmers are given the
choice to purchase a new home in consolidated communities
(which is essentially a large village), towns, or core cities. To facil-
itate the process of finding a new home, a number of policies have
been implemented. The resettlers are given compensation by the
local farm for the destruction of original dwellings. The compen-
sation rate differs across farms, but on average is approximately
200 RMB/m². Furthermore, a subsidized housing scheme was
established jointly by the Reclamation Bureau and the central
government. Each household is eligible for a subsidy between 100
and 600 RMB/m² for purchasing new houses and a relocation
allowance of 1000 RMB. In addition, the central government gives
7500 RMB to each household. The financial assistance is quite
generous considering the cost of housing in the HRA, between 1000
and 1600 RMB/m², is well below the metropolitan area average. For
families that could not afford to purchase an apartment, the
Reclamation Bureau built affordable housing units that can be
rented at a very low annual fee of 1000 RMB for three years. By the
end of 2011, the HRA has resettled approximately 600,000 people
(approximately one-third of the HRA’s total population) from 1648
villages (People’s Daily, 23/12/2012). Table 1 shows that the HRA is
on target to achieve the objective of resettling 1947 out of 2474
villages (79%) before the end of 2012.

### A rural–urban hybrid settlement system

The most direct result of resettlement is the disappearance of
villages. Approximately 400,000 ha of new arable land has been
created out of the demolished production team settlements. The
resettlement also triggered rapid urbanization, especially in the
regional towns and cities. The result is a hybrid settlement system
with both rural and urban elements, or in the words of the locals,
‘live in the city, work in the field.’

#### Urban construction

The massive resettlement of the HRA’s rural population has led
to a construction boom that is showing no signs of slowing down at
this time. New residential communities, mostly low-rise apart-
ments but also some semi-detached and detached houses, are
popping up in most cities and towns in the HRA (Fig. 6). At the same
time, public facilities, notably hospitals, schools, and parks, and
commercial districts are being planned and constructed by the
Reclamation Bureau and its regional branches (Fig. 7). This is in fact
a significant reversal of the long term policy of suppressing in-
vestment in housing and public services—considered under the
socialist economy as unproductive—to support development in
manufacturing and agriculture. Fig. 8 illustrates this reversal in
investment priority. It was not until 2009 that the ‘non-productive’
investment outstripped ‘productive’ investment. Investment in
residential housing has had particularly strong growth, reaching
124 billion RMB in 2011, or 43.4% of the total fixed asset investment.

Urban construction has led to some improvements to living
standards. Public facilities and commercial establishments,
including hospitals, schools, parks, restaurants, and cinemas, are
now much more accessible to the farming population. Fei Xiaotong’s idea of “transforming small towns into the service, culture,
and education centres of the countryside” has found expression in the regional towns and cities in the HRA (Fei, 1986). Moving from villages to towns or cities would logically result in less living space, however, the opposite is true. Because of underinvestment in housing, per capita living space in the HRA was a mere 17.03 m² as late as 2005. The figure has increased to 28.21 m² in 2011, an improvement of 65.6% over 6 years. The new apartments and houses are not just larger, but are also better insulated and equipped with modern facilities, including central heating and flush toilets.

Agrarian economy

Despite the hopes of the government, urbanization has not triggered a rapid growth in the secondary and tertiary sectors in the HRA. Fig. 9 shows that although the total economic output of the HRA has grown rapidly, especially after 2000, the economic structure has not changed substantially. At the start of the resettlement program in 2000, the primary industry, secondary industry and tertiary industry made up 54.3%, 16.9%, and 25.7% of the total industry, respectively; in 2011, these proportions changed to 51.7%, 23.8%, and 24.5%. Industries in the HRA are mostly limited to food processing and manufacturing. The continued dominance of the agrarian economy is also reflected in the employment structure (Fig. 10). Agriculture has always employed more than half of the labor force, although its dominance declined from 67.4% in 2007 to 62.6% in 2011. During the same period, the secondary sector increased slightly from 13.3% to 15.4%, whereas the tertiary sector increased from 19.3% to 22.0%.

The challenges of urbanization

Urbanization in the HRA is still an ongoing process. Yet, several challenges have emerged, including investing in public facilities, resettlers’ cost of living, job creation, institutional reforms, and balancing environmental and economic concerns. These challenges, if handled poorly, can lead to serious social, economic, and environmental problems that threaten the sustainability of the resettlement process.

Cost of living

Maintaining the living standards of resettlers is often a key challenge of resettlement programs in China because of lack of available farmland in the resettlement area (Duan & Wilmsen, 2012). However, the HRA resettlers do not lose land. In fact, in many cases they receive extra land as compensation, made possible by the conversion of villages to farmland. Nevertheless, the resettlers face challenges due to the high cost of living associated with an urban lifestyle. Heating now costs resettlers thousands of RMB per season, depending on the size of their new house. Transportation is another new expenditure, as most farmers now need to commute long distances to their farm. Moreover, before resettlement, most farmers grew vegetables and raised animals outside their houses for domestic consumption or extra income. There is often no space for them to do so in urban areas, especially if they move to apartment blocks. Consequently, their income decreases and the cost of living increases. Furthermore, despite government assistance, many resettlers have to take on a mortgage to buy a new home. These various costs add up to a considerable amount of money and became a social issue that must be addressed urgently.

Investing in public facilities

One of the supposed benefits of resettlement is better access to public facilities. However, the speed of resettlement, especially since 2008, means that in some cases provision of urban services and facilities lags behind the movement of the population. New arrivals may find many promises unfulfilled, and existing urban dwellers may feel limited public resources are strained to their limits. The pressure to locate resources to address the funding gap for public facilities has led some farms to substantially increase

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2 We would like to thank an anonymous reviewer for this insight.
their subcontracting fees, which further increases the cost of living and its pressure on the settlers.

Job creation

As mentioned previously, the goal of using urbanization to stimulate growth in the secondary and tertiary industries has not been fulfilled. Most existing and newly constructed towns remain predominately agricultural service oriented. Within Heilongjiang, the industrial corridor of Harbin, Daqing, and Qiqihar is highly competitive and attracted 63.3% of the province’s total investment in 2010. Although the increase in urban population in the HRA has successfully attracted some investment in the retail sector, such as supermarkets, restaurants, and shopping malls, so far the scale of these investments has been limited and has not provided enough urban jobs. Job creation and diversification away from agriculture are of critical importance to the economic sustainability of the HRA, yet, it remains difficult for the HRA to compete with the more established metropolitan areas in Heilongjiang, let alone other parts of China, for investment.

Institutional reforms

The fourth challenge is institutional. The Reclamation Bureau is at the same time both a governing authority and a state-owned enterprise. Although this legacy institutional arrangement may have contributed to the smooth operation of the resettlement program, the bureau is not without serious problems. As a business entity, the Reclamation Bureau must pay taxes to both local governments and the central government. At the same time, the Reclamation Bureau is responsible for delivering public services and infrastructure. At present, with the exception of primary and secondary education, which is fully funded by the central government, services such as public health, culture, sports, and agricultural assistance are all funded by local farms. In other words, the Reclamation Bureau has a double burden, which further limits the funding available for investment in public facilities. Additionally, the Reclamation Bureau and its subordinates do not have authority over land management or tax collection. This has put the HRA at a disadvantage in attracting investments when other local governments in China are able to offer incentives such as tax breaks and inexpensive land.

Balancing environmental and economic concerns

Urbanization may result in the degradation of natural and rural environments (Morinière, 2012). In China, the emergence of the sustainable development discourse underpins the growing importance given to environmental concerns. Environmental issues are of particular importance in the HRA because of the region’s role in food production and because it is home to a number of significant ecological systems, including wetlands, grasslands, and forests. After decades of reclamation, cultivated land in the HRA has reached 28,009 km². The area of wetlands in the Sanjiang Plain, which covers four regional branches (Baoquanling, Hongxinglong, Jiansanjiang, and Mudanjia) of the HRA, has dramatically reduced by 60% from 1949 to 2005. On average, the groundwater level has declined by 2.5 m from 1997 to 2005. In some places, the groundwater level has fallen by over 5.8 m (Su, Pu, & Fu, 2007). However, for many years environmental protection and ecological conservation were ignored, resulting in numerous forms of environmental degradation, including the increased use of marginal lands, increased use of chemicals, and the rampant destruction of ecosystems (Muldavin, 1997). The environmental debt accumulated in the past thirty years means that the government must now act to rebalance environmental and economic concerns. A particularly pressing environmental concern is climate change. Worldwide, cities are responsible for the majority of carbon emissions, and Chinese cities are often carbon intensive (Wang, Zhang, Liu, & Bi, 2012). Given the central government’s intention to control carbon emissions (Lo, 2014), city building in the HRA needs to implement climate mitigation measures such as building energy conservation, deploying renewable energy, and controlling urban sprawl.

Discussion and conclusion

By definition, urbanization requires countries to uproot most of their rural population. This can be done by rural–urban migration or by in situ urbanization through rural industrialization. Both urbanization models are relevant mainly to China’s coastal provinces, whereas the majority of rural areas in China’s remote inland are left underdeveloped and depopulated. This case study has shown that it is possible for China’s remote areas to be urbanized. The HRA, situated in the remote hinterland of the country, is undergoing an urbanization process that is transforming the region from a typical rural settlement system—a large number of small villages surrounded by farmland—to a rural–urban hybrid settlement system. The key difference between the HRA and other forms of in situ urbanization in China is that the HRA urbanization process has little influence from existing metropolises. In this regard, the HRA experience is similar to the concept of a ruralopolis (Qadeer, 2000, 2004). At the same time, the HRA is different from other ruralopolises undergoing the urbanization process. Instead of urbanization triggered by population growth and bottom-up initiatives, the urbanization of HRA has been underpinned by agricultural modernization, economic liberalization, and state-led resettlement. Given the decline in the local population, agricultural modernization plays an important role in creating surplus labor. Economic liberalization contributes to the growth of the private sector, which is instrumental to the development of modern industries. The resettlement program, which forcibly moves the rural population into new or existing urban centers, plays the role of a catalyst in this urbanization process. Urbanization has improved the livelihood of many rural households in the HRA, but there are significant social, economic, and environmental challenges.

To what extent is the experience of urbanization in the HRA relevant to other rural areas in China? We have argued that one of the keys to success is an affordable and smooth resettlement process, and there are reasons to suspect that the relative ease of resettlement is at least in part due to certain characteristics of the HRA. Chinese law puts great emphasis on the protection of peasants’ land rights. Residential land use rights are held by each family in perpetuity (Tang, Mason, & Sun, 2012). Farmers in the HRA are considered workers and therefore do not enjoy the same land rights as Chinese peasants. This greatly simplifies the resettlement process, as well as keeps the cost of compensation down. Low population density and small population size also help minimize compensation costs. Furthermore, the overwhelming power of the Reclamation Bureau, which controls almost every aspect of the HRA farmers’ lives, makes it almost impossible for the farmers to resist resettlement. Another characteristic of the HRA is the absence of local government in the area. Consequently, the governance of the HRA is highly hierarchical and militaristic, which makes the implementation of government policies more effective. Finally, the HRA’s success in agricultural modernization can be attributed to both historic and geographic factors. Not only does the region enjoy a comparatively early start of agricultural modernization, its large farm size and flat landscape are also conducive to such farming method. These are preliminary thoughts, and further studies are needed to systematically compare the differences between the HRA
and other rural areas in China. These differences may include the development process, spatial characteristics, economic status, governance and institutions.

Studies are also needed to gain a more complete understanding of the urbanization process and its consequences. Urbanization is a multidimensional socio-spatial process, incorporating social, cultural, economic, political, spatial, and ecological dimensions (Friedmann, 2006). A multidisciplinary approach is needed to comprehensively study these different dimensions. With respect to spatial organization, more studies are needed to look into the distribution of urban settlements by their sizes, forms, functions and the spacing and interlinking of these settlements. In the economic dimension, the most pressing research topic is to find a solution to the job creation challenge. It would also be worthwhile to study the economic impact of urbanization on adjacent regions. Politically, there is an urgent need to reform the Reclamation Bureau. More research is needed to determine the best possible path of institutional reform. Ecologically, there has been a proliferation of eco-cities and low-carbon cities in China. To what extent are these concepts relevant to the urbanization of HRA? How can the towns and cities in the HRA become environmentally friendly, sustainable, and climate proof? With respect to social and cultural aspects, how do the farmers understand and value the urbanization of their life? To what extent do they benefit or are disadvantaged by the resettlement program? Finally, we should remember that these dimensions are distinct but also influence each other. In particular, balancing the often conflicting objectives of ecological protection and economic development in an urbanizing context is crucial to ensuring a sustainable mode of urbanization.

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