City profile

City profile: Chengdu

Bo Qin*

Department of Urban Planning and Management, School of Public Administration and Policy, Renmin University of China, China

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A B S T R A C T

Chengdu, located at the western edge of the Sichuan Basin, is the provincial capital of Sichuan Province. The fertile and well-watered basin has given the city a long and splendid history, which has left significant and lasting imprints on its urban form, landscape and cultural life. In the planned economy period, Chengdu serviced as the economic, cultural, logistical and technological center for southwest China, and built a competitive and broad industrial base which now helps the city maintain its leading position in the region. In 2007, Chengdu was assigned as one of two pioneer cities in coordinating urban–rural development. This paper introduces the urban development of Chengdu as a historical city, summarizes the city's economic growth, urban spatial transformation and infrastructure construction as a major city in western China, and discusses its recent efforts in coordinating urban–rural development as a pioneering city in China.

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Introduction

Chengdu's literal meaning is “forming (成, cheng) capital (都, du)” in Chinese, and it is one of the most historically important cities in China. It is the capital city of Sichuan Province, serving as a political, industrial, culture, logistics, and technology center in the province and a major economic center for the whole of southwest China. Chengdu is located in the Chengdu Plain of the Sichuan Basin, one of China's most fertile and well-watered regions, with a large expanse of flat cultivable arable land. The plain has been able to feed the region's population and export an agricultural surplus for millennia. In 2010 Sichuan Province had a population of 87,247,000 with a land area of 485,000 km², while Chengdu had a population of 14.05 million with a land area of 12,390 km² (CSB, 2011).

Given its historical importance, cultural richness, and economic strength, Chengdu was officially granted sub-provincial administrative status by the Central Government of China on February 25, 1994. After several rounds of administrative boundary adjustment, today Chengdu consists of nineteen separate administrative units—nine districts, four county-level cities, and six counties. There are 193 townships and 1771 village committee in Chengdu. The nine districts are located in the urban core and are quite dense and urban. The surrounding counties and cities are less dense. Fig. 1 shows the location of Chengdu and its urban districts, cities, and counties. Administrative divisions and grassroots organizations of Chengdu are reported in Table 1.

Among other nicknames such as the “City of Hibiscus” (蓉城, Rong Cheng) and “Brocade City” (锦城, Jin Cheng), Chengdu has been known through history as the “Land of Abundance” (天府之国, Tian Fu Zhi Guo) because of its fertile Chengdu Plain. The Plain has been home to more than four thousand years of civilization, and boasts a distinct dialect, opera, art, music, and other arts and crafts. As for the city, the name, Chengdu, has remained unchanged for more than two thousand years since the 5th king of the Kaiming Kingdom, a local state of Shu (蜀) culture, moved his capital to the city's current location in the early 4th century B.C. The built-up area of Chengdu constructed then still belongs to the central city of Chengdu today. Millennia of civilization have left remarkable imprints on the city, which makes Chengdu a useful reference to understand urban planning and development through Chinese history.

An important feature differentiates this profile from the others: Chengdu's location in the west of China. Since the integration of China's economy into the world economic system, many cities in eastern China have experienced dramatic urban growth and spatial transformation. Shanghai and Beijing, for instance, have emerged as global cities in the world urban system, and even compete with the first-tier world cities such as New York, London, Tokyo and Paris. However, they are very different from most of the cities in western China.

Even a cursory glance at the city profiles of Cities: The International Journal of Urban Policy and Planning shows that cities in western China have received far less attention from scholars than cities in eastern, coastal China. The Chinese cities documented in the
series include Qingdao (Zhang & Rasiah, 2013), Beijing (Yang, Cai, Ottens, & Sliuzas, 2013), Xiamen (Tang, Zhao, Yin, & Zhao, 2013), Zhuhai (Sheng & Tang, 2013), Urumqi (Dong & Zhang, 2011), Macau (Tang & Sheng, 2009), Wuhan (Han & Wu, 2004), Guangzhou (Xu & Yeh, 2003), Chongqing (Han & Wang, 2001), and Baoji (Wang & Hague, 1995). Among them only three are in western China: Urumqi, Chongqing and Baoji, despite the fact that the western China includes 12 provinces or autonomous regions and occupies 72% of China’s total land area. Chengdu was set as a key center in China’s national “Grand Western Development” campaign launched in 2000 to bring the level of development in western China closer to the level of more developed cities in coastal China (Goodman, 2004). As national policy shifts more resources and attention to the west of the country, this profile aims to redress the balance in urban development literature by shedding light on western China.

Fig. 1. Location of Chengdu and the districts, cities, and counties in Chengdu.
Over the past decade Chengdu became a new focus in China’s urban system as the national government has urged all Chinese cities to learn from the city’s experience with coordinated urban–rural development. Since 2003 Chengdu has launched wide-ranging reforms to coordinate urban and rural development. In 2007, the Central Government of China recognized Chengdu’s efforts and designated it as one of two pioneer cities (the other is Chongqing) in comprehensive reforms for coordinated urban–rural development (Abramson & Qi, 2011; Ye & LeGates, 2013).

To sum up, this profile aims to: (1) provide a brief account of the urban development history in Chengdu as one of the most historical cities in China, (2) analyze the industrial and economic growth of Chengdu as a major city in the western China, and (3) summarize the reforms for coordinated urban–rural development in Chengdu. The final section discusses the future challenges confronting the city.

Historical development of ancient Chengdu

Chengdu’s long history of civilization can be traced back to four thousand years ago, when the region was inhabited by peoples with a unique ancient culture and a sophisticated social structure in place. Archaeological evidence demonstrates that Chengdu was the center of Shu culture, where a large population and presence of buildings existed in the Shang and Zhou dynasties as early as 1600 B.C. to 256 B.C. (Duan, Luo, & Xie, 2011). The name Chengdu (“Forming Capital”) is said to have originated from the statement of the Supreme King Tai of Zhou during the relocation of his capital to Qishan in present-day Shaanxi Province, “it takes one year to form a habitat settlement, two years to form a town, and three years to form a capital” (Sima, 2013). Around the 4th century B.C. the 5th king of the Kaiming Kingdom was inspired by the statement when relocating his capital from Pixian to the city’s current location, and named the place Chengdu.

A mid-twentieth century street map of Chengdu (Fig. 2) clearly shows a 35 degrees east of north axis in the city’s spatial form. The axis dates back to when the 5th king of the Kaiming Kingdom constructed his capital. It was the direction of the most frequent winds that swept across the Chengdu Plain. It is amazing that 2400 years ago the wind direction was noticed and utilized to plan and construct the city. Even now, the axis is still noticeable in the road network of central Chengdu.

Between 221 B.C. and 220 A.D. (the Qin and Han dynasties) Chengdu evolved into a nationally important metropolis, thanks largely to the Dujiangyan irrigation system. This was built in 256 B.C. and still plays an important role in agriculture across the Chengdu Plain today (Fig. 3). During the successful Western Han Dynasty (206 B.C. to 9 A.D.) population figures for Chengdu can be reliably estimated at around 400,000, making it one of the six main metropolises in China. There was a highly developed brocade production industry in place, so important that the central government assigned the Jin Guan (Brocade Official) here, charged with administering the industry, which led to Chengdu being given the name “Jin Guan (Brocade City)”. During the Three Kingdoms period, the capital of the Shu Kingdom was set in today’s downtown Chengdu, and that period has left numerous historical and cultural sites in the city, such as Wuhouci Temple, shown in Fig. 3.

During the Sui and Tang dynasties, from 581 A.D. to 907 A.D., boasting not only a rapidly-growing economy but also prosperous cultural development, Chengdu became one of the top five commercial cities in China, the others being Chang’an, Luoyang, Yuezhou and Taiyuan. In the Tang Dynasty, many writers and poets spent some part of their life in Chengdu, contributing to the local cultural boom. China’s two greatest poets, Li Bai and Du Fu, were among them. One of the heritage sites popular with tourists in Chengdu today is the Du Fu Caotang (entrance shown in Fig. 3), where the poet lived and worked in the 760s.

Chengdu reached its peak with more thriving economic and cultural development in the Song Dynasty between 960 A.D. and 1279 A.D. In particular, silk and brocade production was expanded, which earned Chengdu the reputation of being the national center of the textile industry, with its wide variety of brocade patterns and styles. In the midst of such thriving commerce and trade

<table>
<thead>
<tr>
<th>Region</th>
<th>Land (km²)</th>
<th>Sub-district office</th>
<th>Residential committee</th>
<th>Township</th>
<th>Village committee</th>
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<tr>
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<td></td>
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<td>15</td>
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<tr>
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<td>65</td>
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<td><strong>Development zone</strong></td>
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<td></td>
</tr>
<tr>
<td>Gaoxin</td>
<td>5</td>
<td>47</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>12,121</td>
<td>95</td>
<td>1598</td>
<td>193</td>
<td>1771</td>
</tr>
</tbody>
</table>

* Gaoxin (a high-tech district) is a special designated development zone. It administers the economic development affairs of 5 sub-district offices and 1 township, but cannot be regarded as an official administrative division.
Chengdu also witnessed the emergence of "Jiao Zi", the first widely used paper money in the world, which was issued by the governmental authority of the city.

During the Yuan (Mongol), Ming and Qing (Manchu) dynasties, from the 13th century to the 19th century, China’s economic center shifted to the southeast of the nation. Furthermore, there were local problems. Chengdu’s development was suffocated by brutal governance and heavy taxation during the early Yuan Dynasty after the devastating wars that brought the Mongols to power. By the time wars broke out again at the end of the Yuan Dynasty Chengdu’s urban economy was completely shattered. Stability and easier taxes in the Ming Dynasty helped revitalize the city’s economy. However, the economic boom was terminated again by riots and uprisings of peasants during which Chengdu was devastated and its economy reached the lowest point in its long history.

When the Manchu people came to power in China in the mid-seventeenth century, the Qing government pursued a series of appeasement policies to encourage development. The city recovered gradually and new developments began. The Wide and Narrow Lanes were one legacy of the Qing dynasty and have now become a tourism destination full of restaurants, teahouses, bars, and residential houses (Fig. 3). Despite all these upheavals and its weakened economic status relative to the southeast, Chengdu nevertheless remained the political, economic and cultural center of the southwest region.

Economic and urban development of modern Chengdu

Industrial development

The establishment of a modern industrial system in Chengdu took place during the War of Resistance to Japan (1937–1945), when the Kuomintang (Nationalist) Government retreated to Sichuan to escape from Japanese invasion and brought a large amount of factories, universities, skilled workers and academics to the city. However, post-1949, during the early years of the People’s Republic of China (PRC), a large number of businesses and cultural institutions were relocated back to the east. The withdrawal of companies and facilities, coupled with the severe damage sustained by key industrial facilities as a result of the civil war (1946–1949), impeded the development of industry and commerce in Southwest China and triggered a period of economic stagnation. In these difficult circumstances, Chengdu was identified in
the PRC’s first Five-Year National Economic and Social Development Plan (1953–57) as one of China’s key national industrial centers. The industrial base of Chengdu was further strengthened in the Third Front Movement starting in 1964, when the Central Government decided to put large-scale investment in the west of China for national defence considerations (Duan et al., 2011).

After years of industrial development, a comprehensive modern industrial system comprising various sectors from textile and food to electronics and aerospace industries was in place even before the Reform and Opening-up that began in 1979. The universities and research institutions established also helped Chengdu gain noticeable strengths in talent pool build-up and industrial development. However, after 1979, like most cities in western China, Chengdu experienced a relatively slower pace of economic growth than many coastal cities. This was especially true in the 1980s and 1990s.

At the turn of the millennium, under this pressure, the Chengdu Government set specific goals to transform its planned economy to a market-oriented economy, to attract more foreign investment, and to restructure its industrial system in the city’s 10th Five-Year Economic and Social Development Plan. A dynamic market economy characterized by rapid growth and increasing openness has gradually emerged. For instance, there was a remarkable drop in the percentage of investment from state-owned enterprises compared to the total investment in fixed assets; from 47.9% in 2000 to 32.1% in 2012. In 2012 there were more than 220 Fortune 500 multinational corporations in Chengdu, including Intel, Maersk Global Services, Walmart, Dell, Siemens, Toyota, and Microsoft (Naisbitt & Naisbitt, 2012).

Chengdu took initiatives to adjust its industrial structure and develop four pillar industries, i.e. electronic information, mechanical engineering (automotive), medicine and foods. This laid a solid foundation for the city to maintain its position as a major industrial center in western China. Thanks to a more rational industrial structure and an open economic system, Chengdu maintained a stable and strong GDP growth at an annual rate of over 15% from 2000 to 2012. The figures are remarkable: from RMB 115.68 billion in 2000 up to RMB 813.89 billion in 2012 (Fig. 4). Being both an industrial base with a strong increase in jobs and an attractive living place for the famously comfortable climate and relaxed atmosphere, the permanent residents in Chengdu increased from 11.11 million to 14.18 during the same period (Fig. 4).

As a result of industrial development, economic and population growth, Chengdu saw robust development of service industries, especially producer services, in recent years. In 2012, Chengdu’s primary, secondary and tertiary sectors accounted for 4.3%, 46.2% and 49.5% of the economy, respectively, compared to 27.2%, 49.7% and 23.1% respectively in 1980. As shown in Table 2, the gross output value of finance and insurance exceeded that of wholesale and retail and constituted the largest tertiary industry in Chengdu in 2012. Not only has the central bank of China set up its southwest headquarters in Chengdu (one of nine regional headquarters nationally), but major international financial institutions including Citigroup, HSBC, and Standard Chartered Bank have also been attracted to the city.

Urban spatial restructuring

As the political and economic environment has changed, so has the physical structure of Chengdu. The evolution of Chengdu’s urban spatial structure since the founding of the PRC can be...
divided into five phases. The first phase, from 1949 to 1959, began with a rapid axis-based (the 35 degrees east of north axis) clockwise expansion starting from the northeast, reaching to the east and southeast parts of the city. The second phase, from 1960 to 1978, characterized by chaotic political unrest, saw extremely slow growth of the city's built-up area from 39 km² to 58 km². This is equivalent to an annual expansion of less than 1 km². The axis-based development was replaced by a slow expansion in peripheral zones. This second phase was marked by Chengdu's first ring road being established among the traditional grid-based road networks, allowing connectivity between many key roads in the city center such as Renmin Road, Jiefang Road, and Hongxing Road. This became the prototype of a radiating road network connected by ring roads, making possible future rapid expansion of Chengdu's urban internal spatial structure.

After Reform and Opening-up in 1978, Chengdu's spatial evolution entered its third phase (1979–1995) in which the city was busy with filling up the urban built-up area left by the previous two phases. With rapid urbanization, business and residential construction projects quickly filled up the city center and the available land within the ring road could no longer meet the growing demand. At the end of the 1980s, China began to implement new land policies that enabled trading of urban land-use rights. As a result, the increasing urban land rent caused many enterprises to move out of the city center and to relocate along the radiating roads in the peripheral areas of Chengdu. The moving trend led to urban land-use expansion again and, to some degree, caused the construction of the second ring road.

In the fourth phase from 1996 to 2006, urbanization became a prevailing force to facilitate the spatial restructuring in Chengdu. In 1996, Chengdu's Master Plan featured major restructuring of its urban spatial layout including efforts to develop the east and the south as two sub-centers as well as seven peripheral satellite towns. Accompanying the rapid growth of urban population was the fast expansion of land use in both the central city and satellite towns, which resulted in further axis-based radiating development of the central city. A more sophisticated road network was developed with the completion of four ring roads (first ring, second ring, third ring and the outer ring) together with multiple radiating roads, which was characterized as a "three-ring-and-sixteen-radiating-road" network.

The fifth phase began in 2007 and continues today. As one of the pilot cities for implementing the national coordinated urban–rural development project, Chengdu discarded its "city-centered" development plan and turned to "Total Chengdu" planning. The city began to put into practice its vision of a spatial structure with one central city, two belts, five wedge-shaped green spaces and six township development corridors (Fig. 5). In the plan, the central city is and should remain the main development district for urbanization and industrialization. The purpose of the two ecological development belts is both to protect the environment and develop tourism as Chengdu builds itself into an international tourist city.

The six corridors refer to concentrated development corridors along main transportation lines between the central city and remote destinations. They are known as the Northern, Chengguan, Chengwengqiong, Southern, Chenglong and Chengjin Corridors. The land adjacent to the corridors is planned for concentrated and relatively high-density developments. Development of these six corridors uses highways, freeways, railway and other transportation infrastructure to provide mobility to sustain high density living and dense production facilities along the corridors. The six-corridor pattern is designed to help decentralize development away from the central city of Chengdu into the surrounding areas along the transportation corridors. In conjunction with this there is great effort being placed on coordinating development in rural areas for better preservation of arable land and ecological systems.

In the long-run, the central city, as a mega center, will be surrounded by 14 medium-sized cities connected with the six corridors and within this huge spatial framework there will be 34 small cities, over 150 towns, more than 2000 new rural communities, and spacious open spaces consisting of arable land and natural parks, together forming a multi-dimension spatial structure for Chengdu.

To address sprawling urban land-use expansion, Chengdu has created a greenbelt into its urban development plan. The city has established a 198 km² greenbelt completely circling the densest part of the central city, which consists of a series of greenways for jogging, bicycling, and other recreational uses, and additional parks and open space throughout the region. The 198 Greenbelt

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**Table 2**


<table>
<thead>
<tr>
<th>Gross output value of the industries (Million RMB)</th>
<th>2010</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale and retail</td>
<td>49399.55</td>
<td>65311.88</td>
</tr>
<tr>
<td>Finance and Insurance</td>
<td>43728.12</td>
<td>74058.78</td>
</tr>
<tr>
<td>Real Estate</td>
<td>38168.66</td>
<td>42620.00</td>
</tr>
<tr>
<td>Sum of the three major industries</td>
<td>126296.33</td>
<td>181990.66</td>
</tr>
<tr>
<td>Three major industries as a percentage of Chengdu's total output value in the tertiary sector</td>
<td>45.3</td>
<td>45.2</td>
</tr>
</tbody>
</table>

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**Fig. 4.** Demographics and GDP in Chengdu (2000–2012). Source: CSB (2013).
Plan is between Chengdu’s third ring road and outer ring road. This area includes a five hundred meter greenbelt outside the outer ring road. The 198 Plan integrated planning and management of collective-owned rural land and state-owned urban land to implement comprehensive land use and environmental planning for economic development, environmental protection, and resource allocation on Chengdu’s urban fringe. For instance, some cultural and creative industries such as the five golden flowers (flower nurseries developed for agro-tourism) are permitted in the 198 greenbelt because they contribute both to urban residents’ recreation and to rural villagers’ job-creation.

Infrastructure construction

With robust economic growth and numerous rounds of spatial planning, Chengdu has witnessed dramatic changes in its urban construction. The municipality’s investment in public facility construction and maintenance increased from RMB 1.435 billion in 2000 to RMB 19.667 billion in 2011 equivalent to annual growth of 26.9%. As of 2011, the city has developed a total road network of 2704 km, a 5430 km drainage system, a 2427 km sewage system, 17 sewage disposal plants, and 609 bridges including 127 overhead ones. Its per capita road area has doubled from 7.21 square meters in 2001 to 14.98 square meters in 2011; the per capita green area has also rocketed from 3.08 square meters in 2001 to 13.45 square meters in 2011. The built-up area of the central city has been expanded from the original 18 km² in 1949 to 354.96 km² in 2011 (CSB, 2013).

The city has invested a large amount of funds in major construction projects to scale up basic infrastructure and enhance the city’s competitiveness. The Chengdu Shuangliu International Airport, for instance, has become the air hub for the whole of southwest China after continuous expansion, which has facilitated exchanges between Chengdu and the world, increasingly giving the city the character of an international metropolis. The city is endeavoring to alleviate the growing pressure from city traffic with a focus on metro system construction as well as efforts to improve the main roads and crucial traffic junctions. Construction began on the metro system in 2005 and approximately 60 km of subway lines were put into use in the end of 2013.

Committed to investing in infrastructure construction in general, Chengdu strives to promote its cultural and social facilities as well, aiming to bring the city an extra competitive edge in attracting creative workers and developing creative industries. As of 2011, Chengdu has set up 22 libraries and 29 museums to cover the key towns and townships of the municipality. Its public health system now comprises 223 township public hospitals and 2396 village clinics. There were significant improvements from 2000 to
Development". The PRC has made coordinated urban–rural development Pilot Regions for Coordinated Urban–rural development. In 2007 the Central Government designated Chengdu and the neighboring municipality of Chongqing as National Comprehensive Reforms. In 2002, urban economic development has progressed rapidly and the urban–rural income gap has grown. The ratio of urban residents’ income to rural residents’ rose from 2.45:1 in 1997 to 2.61:1 in 2000, and to 2.66:1 in 2002.

The following year Chengdu began experiments to implement the new policy with fundamental institutional, administrative, and social reforms (Ye & Legates, 2013). Favorable results have been achieved and received attention from the Central Government. In 2007 the Central Government designated Chengdu and the neighboring municipality of Chongqing as “National Comprehensive Reform Pilot Regions for Coordinated Urban–rural Development”. The PRC has made coordinated urban–rural development a national priority in the current (12th) Five-Year Plan (2011–2015).

Institutional reforms

Coordinating urban–rural development includes systematic and bold reforms of both urban and rural areas. One radical reform was to the hukou (household registration) system, a very influential yet controversial institutional arrangement to slow down large-scale migration within China. Chengdu has undertaken five rounds of household registration system reforms, in a bid to free farmers from long-lasting dependence on agricultural land and eradicate the inequality of urban–rural dual identity and basic rights. The successful implementation of an urban–rural unified household registration system allowed free movement of urban and rural residents within Chengdu. All Chengdu residents, as long as they work and pay for social security for more than one year, may choose to live anywhere in Chengdu, and take advantages of all the public services where they live.

In rural China, agricultural land use rights belong to rural collectives. It is a very ambiguous institution as a collective is neither a legal entity nor a clearly defined organization, which impedes valuable land from trade and development for the interests of villagers (Ho, 2001). To revive what Peruvian economist Hernando DeSoto calls the “dead capital” of rural land (DeSoto, 2000), Chengdu has been exploring new land policies concerning land right identification, land title transfer, and provision of new flats or houses for those whose sell their land title. The city took great efforts in completing the land right identification and registration process with precision. Following this accurate registration since in 2008, various models of land transfer mechanisms have been gradually established in Chengdu.

With the establishment of a rural land market in Chengdu, land use rights have been traded and reorganized in various ways. One common way is that scattered land titles owned by individual farmers’ are consolidated for scale land use, with land title transfer procedures centrally taking place in the village/community land title transfer centers. Under this model, villagers trade out their land titles on a voluntary basis and they are encouraged to move into the centralized residential quarters in the village after the sales of their land titles. Another typical way is that cooperative ventures or cooperatives are established with government funding, under which farmers join as shareholders and together decide on the land use and the investment of their land title after valuation.

The key in land use right transfer is proper arrangement for the affected villagers. An innovative approach introduced by Chengdu is to utilize the urban–rural land linking policy enacted by the Ministry of Land and Resources of Central Government. The Ministry is dedicated to preserving arable land, and thus employ a strict annual urban land development quota system. Beyond the centrally allocated quota, any amount of increase in urban land must be offset by an equal amount of increase in rural arable land. This increase–increase seems impossible but actually it can be realized by concentrating scattered rural villagers in collectively-owned housing. In essence it is similar to the transfer of development rights (TDR) in the United States. Chengdu has facilitated the TDR program and provided funding support for the high-quality construction of new concentrated housing for the affected villagers. This approach has helped to develop the unique residential areas in rural Chengdu featuring houses with local styles, well-developed infrastructure and sound public services (Ye & Legates, 2013). Fig. 6 shows one such new village, Zhanqi Village in Pixian of Chengdu.

Urban–rural planning

Since 2003, Chengdu has progressively transformed its planning system from traditional fragmented urban planning to coordinated urban–rural planning. Before 2003 urban planning in Chengdu was horizontally and vertically fragmented. Each of the nine urban districts, four county-level cities, and six counties that together make up Chengdu had its own separate land use plan and there was almost no coordination among the nineteen plans. Plans for land use, rural development, and economic development often had contradictory goals and called for quite different development actions and outcomes.

The Chengdu Planning Bureau has developed a comprehensive planning and management approach that encompassed both urban and rural areas, and both physical and socioeconomic dimensions. New community infrastructure and service standards have been established to improve the built environment and the quality of rural life. A series of planning guides such as Public Facility Planning Guide and Socialist New Village Planning Guide are intended to assure that the lowest level of planning—village/community planning—will be done and implemented properly. At the end of 2012, more than 1300 new villages had been built in Chengdu since 2003. Above mentioned Zhanqi Village is an example (Fig. 6). Most of the villages are surrounded by agricultural land, usually buffered by trees, within walking or bicycling distance of work. They are attractive, human-scale settlements, separated from the Chengdu conurbation and each other by undeveloped greenbelt land and come reasonably close to achieving jobs/housing balance. These new villages help rural industrial development and make it possible for former farmers in Chengdu to “leave the land without leaving the village”.

Another innovative strategy for urban–rural planning in Chengdu was to employ rural planners. One hundred forty rural planners were working in Chengdu by spring 2012 (Jiang, 2012). The planners represent the interests of rural townships. They inform villagers about plans and policies that affect them, facilitate public meetings, collect and transmit public opinions and suggestions from the villagers, and help make sure village plans comply with regional standards. Rural planners are both technical experts and key decision-making participants. They play an important role
in helping the townships propose new development ideas, arrange construction programs and optimize land use patterns.

Equalizing social services

The new urban–rural planning approach covers all villages in Chengdu, even in remote mountainous areas. Efforts were made to remove the urban–rural disparity by establishing urban–rural integrated social assistance, a basic medical insurance scheme, a pension scheme, public health policies and employment policies. Public services better enjoyed previously in urban areas have been extended to cover grass-roots communities in rural area. Employment support services, for instance, have been strengthened through the delivery of employment and social insurance and the posting of job vacancy information at community/village service centers. A digital employment and training information system has been established, which collects and updates recruitment information such as job type, requirements and salary and makes the information available in the service centers.

Equalized public services as an essential part of coordinated urban and rural development require exponential development of rural infrastructure construction to match that of the urban area. Chengdu has established uniform regional standards regarding public services to equalize services. The standards consist of clear, measurable descriptors of what kinds of public services have to be provided in different levels of centers based on population and detailed requirements for specific services. The standards apply to different levels of government from the entire municipality to centers at the level of settlements below the village level.

At the village level, for example, the standards specify that 13 basic services must be provided, including a primary school, cultural center, sports facilities, labor and social security facility, markets and shops, a garbage transfer station, sewage system, etc. The standards specify the minimum amount of physical space that must be allocated for each service. For example the standards specify that each village must allocate 80 square meters for a health center, 80 for cultural uses such as a library, and 50 for shops for fertilizer and other agricultural necessities (Hu, Xue, Zeng, & He, 2009).

For equalizing urban–rural social services, a great deal of new construction and other development of public facilities have been completed in rural Chengdu. For example, since 2003 Chengdu has built more than 400 standardized new middle schools in its villages, with modern classrooms, playgrounds, restrooms, cafeterias, and dormitories meeting the same standards as urban middle schools. All the efforts in coordinating urban–rural development have proved effective in promoting common development of urban and rural areas and in making progress towards the elimination of urban–rural disparities in Chengdu. The ratio of urban residents’ income to rural residents’ decreased from 2.66:1 in 2002 to 2.36:1 in 2012.

Future development

Millennia of urban development in Chengdu have left the city an enormous historical and cultural heritage, but also occupied a large amount of arable land that restricts future development. It should be noted that some local governments (mostly at the township and street office level) in Chengdu still introduce companies or invest in industries based on misinformed rationales, rather than planning ahead what industries it should introduce or develop in a scientific and coordinated manner. As a result, the overall quality of industries and ecological systems in the city have been undermined. Unless this is corrected little space will be left for higher-value industrial development in the future. The city cannot afford to overlook the issue of excessive land development and needs to call for more stringent development control.

As the economic center of southwest China, Chengdu serves as the engine of regional development. For this reason the city should enhance its regional cooperation level. It should take advantage of its strategic position and strengthen its alliance with Chongqing to form the Chengdu-Chongqing economic zone. Chengdu should also enhance its close link with surrounding cities such Mianyang, Deyang, Meishan, and Ziyang to form a regional urban cluster that serves as a development corridor between Chengdu and Chongqing. The giant development corridor could accommodate a large population, investment and industries, and thus serve as "powerhouse" for the whole of southwest China.

Chengdu’s recent efforts in key aspects such as the household registration, land reform, planning system, and public service improvement have tackled the root causes of urban–rural disparities, better integrated the rural population into urban areas, and achieved common development of urban and rural areas. However, some challenges are inevitable during these efforts. For instance, Chengdu has been to improve the compensation standards for land...
acquired by the government but it is still necessary to strive for balance between social equity and efficiency in the equalized delivery of public services, and to figure out how to achieve effective resource allocation at minimal cost. In 2009 Chengdu set its new vision as a “world modern garden city”. How quickly this goal is to be achieved will largely depend on the city’s ability to resolve the above mentioned challenges.

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