

Evaluation of Chengdu's Garden City Project by Ebenezer Howard's Garden  
City Theory

By

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TERMINAL PROJECT

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## I. Chapter One: Introduction

### 1.1. Background

City planning has never been so widely discussed in China as it is now. City planning, as a sub-section of architecture and civil engineering, has gained more recognition for its influence on a nation's sustainable development. Finding suitable city planning methods in China seems more urgent. The reasons behind this need are twofold.

First, China is experiencing an unprecedented urbanization process. It was designated the new path in 1978, after the economic reform and opening-up policies, and will continue into the next decade. There have been many studies regarding the benefits and drawbacks of China's urbanization. Fully recognizing its benefits, we cannot ignore the negative results: environment pollution, social injustice, violation of the laws and regulations, the incompleteness of regulations, low public participation, etc. Finding remedies to the deep-rooted problems will be the only way that China can sustain its development.

Second, city planning has been used in city development projects in the western world for over a century. Now, since the cities are multiplying exponentially, China needs to find suitable city planning techniques to regulate its development.

Chinese people have a tradition of learning from the better and more experienced. Most cities in western countries began their urbanization process half century earlier and had nearly completed the construction processes by the time that the urban residents made up 80-90% of their total population. During this process, theories about city planning have been fully studied and tested. As Confucius said, "When three people are walking, there is always someone learning from." Chinese governments and some NGO organizations have created more opportunities to facilitate the community between the east and the west.

China has its own history and tradition in city planning. Adopting a new planning theory from a foreign country is not possible in certain cases, due to different laws, regulations, and culture. Western planning theories need to be modified in order to be used. Chengdu City is among the first few pioneering cities attempting to combine their city development with western city planning theories.

The Garden City idea has been used to as an example direct many city development projects around the world and has proven its credibility in city planning. Some of the most famous cities, such as the British city of Letchworth, Singapore, and Melbourne, are planned on the principles of Ebenezer Howard's Garden City theory. Chengdu's Garden City project is a good example of how a Chinese city can adopt and implement western city planning theories into its development plan.

## 1.2. Theoretical Framework of the Study

A social theory's transition and adoption need to go through time and space. The revitalizing of a classic theory is not merely a process of mimicking the original idea without considering the historical and social contexts in which it was created. Since all social theories are developed from reality, when adopting a theoretical concept, the original idea needs to be modified and then implemented.

The Garden City method was initiated by Ebenezer Howard in 1898 to help relieve London's over-urbanization burdens. His idea, rationale, essence and visualization were elaborated in a book of less than 200 pages. Different interpretations, debates, and critiques of his book have continued since the first day of publication. Cities adopted the Garden City ideas in their city planning projects, yet no city has been a true realization of the Garden City concept.

In past practice, Howard's Garden City idea usually went through a "localized" process and then was implemented under a revised social context. In another word, subsequent "garden cities" are not Howard's exact vision of Garden City in his described literature. They are the results of reinterpretation of Garden City concepts combined with each city's unique characteristics. This process called "The Self-Selective Process".

This same "Self-Selective Process" is exemplified in Chengdu's Garden City Project. An analysis will demonstrate the success of said project regardless of the compromises and adaptation made from the original literature. Chengdu's Garden City Project has a place in history and value for its pioneering efforts to develop Chinese-Style city planning methods.

## 1.3. Statement of the Problem

Cities that experience rapid urbanization have some characteristics in common: for example, increased in urban areas, larger infrastructure coverage, migration to urban areas, etc.

On the other hand, each city's urbanization shows unique characteristics. For example, in India, the by-products of big cities are the slums in urban areas. In China, millions of farmers leave their hometowns, seeking construction jobs in larger cities.

Chengdu can be viewed as the epitome of many Chinese cities. The planning dilemmas that plague Chengdu also exist in other Chinese cities. Analyzing Chengdu's city planning process will also benefit other Chinese cities.

In addition, Chengdu attempts to incorporate Howard's Garden City idea into its city construction. This reflects Chinese willingness to learn from western countries. The lesson we have learned from our development history is to avoid blindly mimicking



the physical layouts of western cities without considering the uniqueness of each individual city. Failures in city planning can have destructive consequences.

Through this analysis, an attempt will be made to describe how to effectively use western city planning experiments and theories to influence city planning in China.

#### **1.4. Purpose of Study**

The purpose of this study is to evaluate Chengdu's World Modern Garden City using Howard's Garden City concept. A description of Howard's methods will be described and his criteria used to assess the Chengdu Garden City project. This assessment will not be limited to consistency and comparison. The ultimate goal is to discover the reasons behind inconsistency and defects that impede successful future development in China.

#### **1.5. Significance of the Study**

One of the goals in academic study is to push the wheels of society forward. This study of Chengdu's Garden City will facilitate China's city planning process. Chengdu's World Modern Garden City is also a good example of a developing country city trying to learn from the more advance. These findings and discussion will enable planners and researchers discover opportunities to revitalize the classic planning theories for current city planning around the world.

#### **1.6. Organization of the Thesis**

The rationale for the organization of this paper is to present the facts first, then presents the assessment. The final step is to give my conclusions and comments.

Chapter two includes a literature review regarding China's city planning history and a description of Howard's Garden City method. The readers will gain an understanding of how China formed its city planning traditions and why some of the planning heritages impede China's city reformation. The second part of this chapter talks about Howard's Garden City idea. Most of my description is based on Ebenezer Howard's book, "Garden City of To-morrow."

In chapter three, the first part describes Chengdu's city planning history and Chengdu's Garden City project. Following is a comparison of the two Garden Cities and an assessment of Chengdu's Garden City project.

Chapter two and the first part of chapter three are information-based. Though them the readers will gain a clearer understanding of Howard's Garden City and Chengdu's Garden City. China's and Chengdu's city planning histories will then provide readers with a historical background of Chengdu's Garden City project.

The second part of chapter three is my assessment and critique. By comparing the two garden cities, a conclusion is developed regarding their consistencies and inconsistencies. I develop my future argument about which parts of Chengdu's Garden City are worthy praising and learning from and which parts need improving.

The last chapter is my finding and discussion. As an independent researcher, I try to be objective and not cynical or skeptical. However, my argument cannot entirely be devoid of subjective opinions. The last two chapters are open to questions and further discussion.

## **II. Chapter Two: China's City Planning History and Howard's Garden City Idea**

### **2.1 China's City Planning History**

In China, in over two thousand years of city development, there are four periods that are distinctively different from each other: the period before the Opium War in 1842, the period from 1842 to the foundation of People's Republic of China in 1949, the period between 1949 to 1978 during which China experienced economic reforms and the opening up policies, and the period after 1978.

- **Before 1842**

Before the intrusion of the European countries, China was under a feudal system for over a thousand years, during which the government emphasized development in agriculture rather than in commerce. Cities were regarded as an ornament for the imperial power. Nevertheless, city planning from that time had its own unique characteristics which still have influence today.

First, the settlement of a city was more random. Cities didn't have a core for their development, since the rulers always needed to shift the city locations due to political reasons. Throughout history, Nanjing's palace shifted location four times and Beijing changed locations three times. (W.Cody, 1996)

Second, Chinese cities were used as political and administrative centers.

Third, Chinese cities in their physical outlay had a common feature: they were walled off in the name of military defense. The construction of walls limited city growth and communication. So during that time, most cities' developments were discontinuous and interrupted frequently.

Fourth, agriculture dominated China's economy and commerce consisted of the natural exchange of agriculture products. Under the feudal economic system, mass production and trades which are vital to the development of city cannot exist. With the exception of the capital city, most cities remained in a primitive state.

- **1842—1949**

In 1842, China opened up four trading ports that started China's period of over a hundred years of Semi-feudal and semi-colonial history. Feeling humiliated by the war, some enlightened social advocates attempted to learn from the western countries to revive China's glory. During this time, Chinese city planners and foreign city planning advisors tried consciously to use western city planning standards to direct Chinese city's development. For example, China had its first railway built in

the 1890s. Two cities' planning projects are representative of city planning model of this time.

- Nanjing City

Nanjing was the capital city of the Republic Government from 1911 to 1937. Before Japan committed their massive bombing of this city, Nanjing's administrative government attempted to create a modern and up-to-date city by hiring American city planners and advisors. (W.Cody, 1996)

These two main features can show Nanjing's efforts to become a modern and scientifically built city: Firstly, zoning was introduced to Nanjing's city development projects as a method of enforcement of scientific development and growth control. The administrative government enacted the National Government Enabling Act for Municipal Planning and Zoning, and based on this new land-use standard, Nanjing was divided into eight semi-municipalities.

Secondly, Nanjing gave up the massive square-and-palace building design standard, and instead they adopted the western idea that the new government buildings were to be scientifically built and grouped for efficiency.

- Guangzhou City

Guangzhou was one of the first the cities to be opened up as trading ports. Compared with the inner cities, like Chengdu, it was influenced western city development and city planning from a hundred year earlier. Two government administrators, Sun Ye-Sun and Su Ke, invited American architects and city planners Henry Murphy and his colleagues to help make the Guangzhou 1927 Plan. Three main features of the Guangdong 1927 Plan were influenced by the American planners: first, updating Guangzhou's harbor facilities, second, erecting massive Chinese-style centers, and third, of planning for the commonwealth instead of for the rulers.

During this period, even with continuous warfare, city planners continued to make improvements. Changes were made to the physical form of many Chinese cities from the traditional palace-centered and walled-around pattern to more efficient and humane layouts. For example, the city walls of Guangzhou were demolished and its main roads widened.

Chinese urban administration changed some of their city planning strategies. Chinese Cities were no longer a decoration of the imperial authority but were endowed new meanings to consider social and economic functions and the convenience of the people living inside.

The first wave of discussion in city planning was initiated during this period. At first, there were foreign-sponsored organizations. At the turn of the 20<sup>th</sup> century, some

Chinese people established professional organizations such as the Engineering Society of China. (W.Cody, 1996)

During the time of Republic of China, social elites and advocates greatly supported China's city reforms. They attempted to introduce western planning knowledge and technologies to China and expected China to have national revival. Unfortunately, most of their plans ended unsuccessfully. The second wave of city construction and city planning started with the formation of the People's Republic of China in 1949. Since most of the leaders lacked necessary knowledge about city development, city planning did not enjoy smooth development at the beginning of socialist China.

- **1949--1978**

Between 1949 and 1978, Chinese city planning went through an unstable period, until the milestone conference of 1978 that affirmed Chinese economic reforms and opening-up policies. Before 1978, most of Chinese city planning standards and policies mimicked the former Soviet Union. Even today, many cities in China still have the characteristics of the Soviet Union.

- **The Party's Communist City Planning Strategy**

At the beginning of socialist China, the key to communism was to be reliant on the spontaneous enthusiasm of the masses in the city and countryside<sup>1</sup> (董鉴泓, 2004). The central government abandoned urban center planning strategies. Instead, the central government expected to achieve industrialization and economic development through conscious planning decisions.

During this era, China experienced two government-planned rural to urban processes and two reverse trends of urban to rural processes.

The two fast urbanization processes were the result of the central government's intensive policies. The Great Leap Forward policies attracted more than 19,500,000 rural population immigrants to the city and created 33 new cities in less than 2 years. The intensive policy-driven urbanizations were massive, unrealistic, concentrated on rapid development. Unfortunately, half a century later, these planning habits can still be found in some Chinese governmental propaganda documents.

The urban to countryside reversals were the direct result of China's aggressive economic policies. Cities could not afford massive flooding of people from the countryside, so the central government made policies that demanded the city dwellers go to the countryside to seek opportunities of "re-education." During the Cultural Revolution, more than 30,000,000 people left the cities and went back to

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<sup>1</sup> (半个世纪以来的城市规划发展历程及特点).

the countryside. The city to countryside trend caused a pause in city planning and irreversible damage to China's city developments. It was estimated that after the Cultural Revolution, China's development regressed ten years.

The following table shows Chinese city development during that time:

**Table 1 Population from 1949 to 1960**

	1949	1957	1958	1960
Urban Population	57,650,000	99,490,000	99,490,000	130,730,000
Urbanization Rate	10.6%	15.4%	15.4%	19.3%

From 1949 to 1978, China's urban planning shows the following characteristics:

- a) Highly centralized government power, strict urban growth and city planning
- b) Government claimed ownership of land and necessary resources
- c) Cities and communities set unrealistic goals and built massive monumental buildings to demonstrate the power of states

The segregation between city and countryside became deeper during this period. The main reasons were:

- a) Politically, cities were the center of administrative, cultural, educational and recreational activities.
- b) Economically, industrial development was viewed as the driving force of the economy. China was attempting to achieve a high level of industrialization without a high level of urbanization. The result as waste of labor force and natural resources.
- c) Socially, the advanced urbanization policies and the later urban to countryside reversal policies caused a surplus of labor forces in the countryside.
- d) Ideologically, cities were viewed as evil places. Mao started his revolution from the country, and he thought cities were sources of over-consumption and corruption. As top-leader, he apposed to the development of big cities.

During this era, China cut off its relations with the western world. All aid and support the Chinese government received was from socialist countries, mainly the Former Soviet Union and some from East Germany.

- The Former Soviet Union's Influences

At the beginning of in 1950s, China and the Former Soviet Union had developed a very close comrade relationship. The Former Soviet Union supported China's post-war reconstruction financially and technologically. During 1953 to 1957, China adopted the Soviet Union's city planning system, which included translating city

planning textbooks from Russian to Chinese, drafting China's first legal city planning standards by borrowing data, documents, and criteria from Former Soviet Union, sending students to Russia, and inviting their planners to China. Their closeness in policies greatly facilitated the communication in professional fields.

With the financial and technological help from the Former Soviet Union, Chinese city planners created a whole collection of city planning documents which included planning and construction standards, and detailed design principles. The Former Soviet Union planners participated in more than 150 Chinese cities' after-war reconstruction projects. (董鉴泓, 2004)

In addition, German planners helped the HeFei government with its city development. German planners, contrary to planners from the Former Soviet Union, emphasized the role of transportation in cities and environmental protections. (董鉴泓, 2004)

- **Post 1978**

After China established the Economic Reform and Opening Up policies in 1978, Chinese city planning went back to normal. The Chinese government retreated from the ideological struggle and focused on economic developments.(Yeh, 1999)

Chinese city planning policies were modified to fit the new social and economic trend: first, local government began to explore new city planning modes that could direct the economic development. Second, central government consciously updated cities' construction standards to make goals achievable. During the Third Meeting on National Urban Affairs in 1978, Chinese cities updated the urban planning system to meet the requirements of future economic growth. The following table shows the events that helped restore China's city planning path.

**Table 2 Events in China's City Planning after 1978**

Year	Events
1978	In the Third Plenary Session of the 11 <sup>th</sup> National Congress of the Chinese Communist Party, China launched its Economic Reforms and Open-up policies
1978	The Third Meeting on National Urban Affairs required cities to update the urban planning system
1980	The central government issued the Provisional Regulation of Preparing Urban Plan and Provisional Standards of Urban Planning
1982	The master plans of provincial capital cities such as Lanzhou, Hefei, and Nanning and Wuhan were prepared and approved by the State Council
1984	Regulation of Urban Planning promoted by the State Council
1986	Land Administration Act was issued

1988	PuDong was designated as the new development area of Shanghai municipality
1989	The City Planning Act was enacted, a comprehensive urban planning system, the first to be enacted by law in China

During this time, Chinese city planners were encouraged to be open-minded. More western city planning ideas were translated into Chinese. Ebenezer Howard's "Garden City of To-morrow" was translated into Chinese by Jin Jing Yuan in 1980.

New technologies, such as remote sensing and the Geographic Information System, were introduced into China's urban planning. This computer-based data analysis became an important method in making cities' long-term planning plans. However, the deep-rooted problems still existed: urban planners in China were still overwhelmingly obsessed with spatial pattern, and not enough attention was given to how to implement plans and how to integrate city plans with other government policies. (Yeh, 1999)

The political event on the 4<sup>th</sup> of June in 1989 led to a sudden pause of economic reforms. In 1992, Den Xiao Ping led an influential tour of southern China where he confirmed the policies of emphasized quickening the pace of reform and no more arguing about whether the reform route should be named "socialism" or "capitalism." It was also in 1992 that the Political Bureau of the Central Committee of China made an announcement about the "resolution on the acceleration of the reform and the opening to the outside world." (Yep, 1999)

The deepening of economic reforms had particular impact on China's planning: the policies of speeding up housing provisions initiated more land development and foreign investments, which were closely related to urban development in China.

Since 1990, several mega-cities, like Beijing, Shanghai and Guangzhou made their new city planning goals: to become international cities. Small cities tried to increase diversity in commercial and residential areas. City planning policies started to change from only encouraging production to encouraging production and consumption at the same time. At the end of 1992, the number of development zones reached 1,951 while there were only 117 in 1991. (China Daily, 24 May 1993)

During the process of deepening economic reforms, the shortcoming of China's conventional urban planning system was revealed: inadequate development control led to ineffectiveness of urban planning. The following is a citation from the World Bank (1993):

*...in the areas like Pudong, Shanghai and the various special economic zones established in Guangzhou or Hangzhou, the investors are expected to be primarily or significantly offshore in nature. They are free to ignore the presumptions of the local planners, who still think in terms of assigning sites to enterprises patiently waiting in a queue. (p.101)*



According to the City Planning Act, city planning function is to define the size, economic orientation, and special structure of a city, to realize the goal of economic and social development of a city, to prepare the “rational” city plans, and carry out construction to meet the needs of development for modernization.

However, under the market-oriented environment, the planning department cannot control size and economic orientation. Under a centrally-planned economy, the ability of the government to influence the city’s economic function decreases. Chinese city planning started to change after the 1980s: The function of urban planning was exercised at the macro level, in solving incompatible land uses and balancing conflicts of interests during urban development. (Yeh, 1999)

## **2.2 Chinese Adoption of Garden City Idea**

Chinese city planners’ efforts to learn from western countries can be traced back to 1911. Nanjing and Guangzhou were among the first cities to borrow the garden city idea to direct their city planning.

Garden City is best known as a city planning idea created by Ebenezer Howard. However, hundreds of years ago, a Chinese poet and philosopher created his own garden city idea which can be called China’s original Garden City.

### **2.2.1 Chinese Original Garden City Idea**

People living city life like rural hermits has been a very influential idea that dominated parts of Chinese literature throughout history. One of the prominent representatives is Tao Yuan Ming (365-427), a poet in Six Dynasties. His works and philosophy were about returning home to the countryside. The descriptions sometimes were vaguely translated as comfortable dwelling, friends, neighbors, music, wine, books and beautiful mountain farm scenery.

China’s original Garden City Idea was so widespread that it influenced many aspects of people’s life: literature, political attitude, architecture and city’s design. One of the examples of Tao’s influence in architecture is the He Garden built in Yang Zhou city. The owner named the garden by using lyrics in Tao’s poem “Returning to the Nature”. Despite the similarity in name and their praise for natural environment, these two garden city ideas represent two different philosophies: Tao’s philosophy was about retreating from society and living a primitive life. He tried to create a place which he felt was the combination of nature and humanity, a place to settle down and hide from conflicts in real life. Howard’s philosophy was more positive. He tried to initiate a social reform to benefit the whole commonwealth, and to change the situation of people who could not afford to live decently in the city.

Howard’s Garden City, compared with the original Garden City idea in China, is more altruistic and has better social meaning. He wanted to promote social progress instead of creating a peaceful place where people could hide. However, in many

situations, people still tried to link the two philosophies despite their fundamental differences. So did the planners and city managers in Chengdu:

*Compared with other cities in China, Chengdu is rich in its natural environment, and Chengdu has had the tradition of building a city which is surrounded by mountains and an aquatic environment. Right now, with the development of the services industry, (also called the third industries) which requires less intense human labor, it is possible to create a spacious and garden-like environment.<sup>2</sup>*

Chengdu is not the first city to adopt the Garden City Idea, Howard's Garden City idea was introduced to China by the American city planners in the early twentieth century.

### 2.2.2 China's Early Attempts to Adopt Howard's Garden City Idea

Garden City was introduced in 1911 by Su Yi-Sen and his son Su Ke, with the support of the then-enlightened revolutionaries and other political leaders. Under the influences of the Garden City fundamentals, Guangzhou made plans to rebuild a southern port as a harbor and residential area. Sun had implicitly suggested Guangdong was "an ideal place for planning a garden city with attractive parks." (W.Cody, 1996)

Garden City's influence can also trace to Nanjing and Shanghai. Both Nanjing and Shanghai established the planning commissions to direct and manage city planning. But their interpretation of Garden City was limited to its design standards. For example, Nanjing Planning Commission proposed to link the scattered city parks by boulevards so the whole city would "become a big city." Also Nanjing emphasized that trees along streets would enhance the "garden-like" characteristics of the city. As a result, Nanjing's Tree Planting Movement left a visible impact on the city's tree-shaded landscape.

The Republic of China's adoption of the Garden City idea was partial and incomplete. Governors and city planners only picked the physical design parts of Garden City and expected to change the physical appearance so the whole city would look like a garden. Nevertheless, their courage and efforts are still worth praising: it was a time of endless war and political suppression; it took much will power and courage to start and continue a major reform. Cities that were rebuilt at that time, like Shanghai and Nanjing, still preserve their western characteristics that are highly valuable both culturally and historically.

In the 1980s, after about half a century of warfare and turmoil, Howard's Garden City caught the attentions of Chinese politicians. Garden City of To-Morrow was translated into Chinese by Jin Jing Yuan in 1980. However, during the 1980s,

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<sup>2</sup> Translating from interview with a city planner in Chengdu

Garden City of To-Morrow was not accessible to the general public and only internal staff with special permission was allowed access.

In Garden City of To-Morrow, Howards illustrated his vision of equal and class-free society, “*People are endowed with equal right to the lands.*” Howard’s social reform concept could not be accepted in the class-sensitive time in China. So the Chinese Translation of Garden city of Tomorrow was not published until 2000. Howard’s Garden city idea was first open to the public and city planners. His vision is worthy of an in-depth review.

## 2.3 Ebenezer Howard’s Garden City Idea

### 2.3.1 Ebenezer Howard

Sir Ebenezer Howard, born in 1850, is one of the most influential thinkers in the field of city planning. He is best known for his publication of *To-Morrow: A Peaceful Path to Reform* (1898), in which he described his vision of an ideal place for people to live and work. The book was so famous that it was republished with a different title, *Garden Cities of To-Morrow*. Even though praised as one of the most influential minds in city planning, Howard had no experience with actual city planning.

Howard was born the son of a shopkeeper in the city of London, England. In 1871, he immigrated to America to become a farmer. After the endeavor proved unsuccessful, Howard spent four years living in Chicago, witnessing the city’s rebuilding after a destructive fire. This experience left a deep impression in his mind. In 1885, Howard returned to London and worked for the remainder of his life as a recorder in Parliament. In this capacity, Howard got access to the great ideas from political leaders of Great Britain in later 19th and early 20th centuries. These personal experiences helped Howard form his idea of Garden City.

### 2.3.2 Why Did Howard Develop the Garden City Concept?

To answer this question, it is necessary to understand what circumstances inspired Howard to develop the theory of Garden City.

the creation of a theory is usually closely related to its era and thereby to the social, economic, or environment problems. The Garden City concept is a synthesis of Howard’s personal perspectives and the works of others.

#### 2.3.2.1 Historical Background

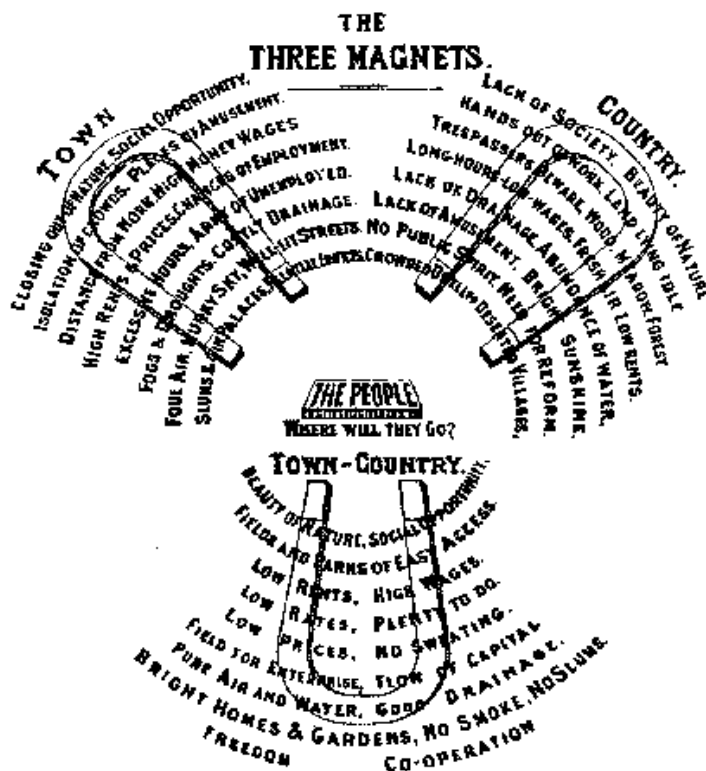
Towns and cities in Great Britain and many other industrialized countries in Europe faced similar problems: cities were over-crowded, the environment was heavily polluted, working people lived in slums, and quality of live for the poor was indescribably bad.

Life in the countryside was no better than in the cities. There were no jobs in the countryside; so many rural residents were forced to move to urban areas to seek better work opportunities. The influx of rural populations into the cities brought traffic congestion and other social problems.

Howard believed the root of these problems was the massive rural to urban immigration. He cited Sir John Gorst's words in *Daily Chronicles*, November 6th 1981: "If they wanted a permanent remedy of the evil.....they must back the tide, and stop the migration of the people into the towns and get the people back to the land."

Howard began his theory by investigating ways to make the countryside more attractive to future residents and investors. To illustrate his points, he created the famous "Three

Figure 1 Three Magnets Diagram



Magnet" diagram. Howard used the magnet to compare the merits and demerits of both town and countryside: town can provide more jobs, better salaries, more opportunities, etc. But the negative sides of townships were high living expenses, a polluted environment, a congested traffic system and excessive working hours. In the countryside, the natural environment is preserved but the negatives included a "dull" society. Howard thought in order to let people stay in their land, it was necessary to combine the merits of both town and countryside which is to bring the vitality of towns into the life of the countryside. His Garden City is a combination of

city's job opportunities and the countryside's natural environment. The combination was not a mix of physical characteristics but the creation of a new society, so that in the Garden City, the city's textures and contents are consistent with its social orders and legal norms.

### 2.3.2.2 Social Advocates' Influences

Garden City is not a utopian society created by Howard's imagination. The formation of Garden City took more than twenties years of gathering information, observing realities and finally coming up with the solution.

Howard said in his book, *Garden City of To-Morrow*, that there were two theories that contributed to his idea: Wakefield's theory about organized population transfer, and the "public-owned land" idea from Thomas Spence<sup>3</sup>, and later, Herbert Spencer<sup>4</sup>.

Howard borrowed Wakefield's organized population migration theory to answer the question of how people could move to the new city. Howard emphasized the value of individual's creativity and initiative in choosing where they want to live, but also stated the importance of an organized migration. The migration of population "should be based on the scientific principle<sup>5</sup>."

Another important part of the origination of the Garden City idea was the "Public Land Ownership" theory. The land theory was the foundation of Howard's social equality proposal: since the land belonged to the public and no private person could own the land, the land value would be kept in a reasonable and affordable level. Everyone would be equally free to buy and sell land through the open market.

Other noticeable influences in Howard's book of Garden City of To-Morrow were: Edward Bellamy and his book about the Utopian America "Looking Backward (1888)," and Economist Henry George's proposal of "single tax on land value." The former described a utopian society where *"Everyone retires with full benefits at 45, and may eat in any of the public kitchens. The productive capacity of America is nationally owned, and the goods of society are equally distributed to its citizens"*<sup>6</sup>.

Henry George argued the single tax on land value "would give landowners an incentive to use the land in a productive way"<sup>7</sup>

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3 English radical who advocated for common ownership of land

4 English philosopher, biologist, sociologist, and prominent classical liberal political theorist of the Victorian era

5 Garden Cities of To-morrow, by Ebenezer Howard, [1902], at sacred-texts.com

6 Looking Backward, from Wikipedia, the free encyclopedia, retrieved from [http://en.wikipedia.org/wiki/Looking\\_Backward](http://en.wikipedia.org/wiki/Looking_Backward)

7 Progress and Poverty, from Wikipedia, the free encyclopedia, retrieved from [http://en.wikipedia.org/wiki/Progress\\_and\\_Poverty](http://en.wikipedia.org/wiki/Progress_and_Poverty)

The inputs of other thoughtful and conscientious socialists and economist made Howard's Garden City more achievable and practical. Another widely discussed section of Ebenezer Howard's book was its relationship to Marxism. His opponents postulated him being a socialist; on the other hand, socialist China banned the book's publication for over twenty years because it was from a capitalist country.

Howard's opponents used the classic literature from Marxism to argue about the nature of Garden City society. Engels, the forerunner of Marxism stated in his book *Anti-Dühring* (1876-8),: "*The abolition of the separation of town and country is therefore not utopian .....* "

Howard specifically talked about the differences between the Garden City society and a socialist society. He said in his book that Socialism advocates common property in land and in all the instruments of production, distribution, and exchange—railways, machinery, factories, docks, banks and the like. At the same time, socialists preserve the private ownership of all things in forms of employment, under the direction of the government, which is a rigid monopoly. Howard started his argument with pointing out two shortcomings of this system. The first is a socialist system ignores personal ambition and creativity in a way that their daily work is under the guidance of others. The second point is the self-seeking side of humans. People feel secure by attaining possessions for personal use and enjoyment. Another socialism-related problem Howard brought up, I think even Socialist countries today cannot give proper answer: it will happen that an individual bears the desire to serve the community, while the community as a whole does not respond or appreciate.

Howard made it clear that his garden city is a "quasi-public body," and was opposed to the idea that centralized government would help create an equal society. Now knowing the social context of Howard's Garden City idea, now we can examine in the next section on the city's geographic and structural components.

### 2.3.3 How to Build Garden City

The first two chapters in the book of *Garden City of To-Morrow*, give a precise description of the physical characteristics of garden city and how social cities might be created as populations increase. Howard used pictures and diagrams to illustrate what a model garden city would look. The model Garden City was described as a newly built city with limited size and population, planned in advance and surrounded by a permanent belt of agricultural land. Garden City is run independently and is managed by its citizens. The land of the Garden City is owned by the public represented by a group of trustees, and leased to the citizens.

The garden city described herein is the garden city model Howard portrayed in his book. A true Garden City on an actual site would be different from the one he describes.

#### **2.3.3.1    *City Layout***

Garden City is built in the center of a 6,000 acres land, and the whole city covers about 1,000 acres. In the city center, there is a 5.5-acre circular garden and public buildings like city halls, public library, lecture hall, theatre and museum surround the garden. On the outer ring, there is another public park called the Central Park, that covers a 145 acre area. In this park, there is laid a landmark building “the crystal palace,” it is a commercial center for local businessman and retailers. In addition, the crystal palace can be used as shelter during the rainy season in regards to London’s weather. On the outer ring, there are residential areas, where affordable housing is laid facing the city parks.

#### **2.3.3.2    *Park, Green Spaces and Green Belts***

Parks and green spaces are highly recommended in Howard’s Garden City. Parks, buildings, and roads make up the city structure. A 5.5-acre park is located in the center of the city, and on the outside ring, there is another 145-acre central park that separates the public administrative areas from the residential areas. The central park serves as a gathering place, where people can trade with each other and carry out other outdoor activities.

On the further outside circle, Grand Avenue separates the inner town areas which are mainly for people to meet and live, from the outer town areas which are for manufacturing and railways. The Grand Avenue also provides an additional 115-acre green space. The parks built along Grand Avenue can be seen as the prototype of today’s Green Belts. Grand Avenue serves as a visual boundary that keeps the smoke and noise from the manufacturing areas away from people and their living spaces.

#### **2.3.3.3    *Traffic System***

The principle of the traffic design in Garden City is to encourage pedestrians and limit the use of auto cars in the inner city, and create a convenient railway system for business and commerce.

There are six magnificent boulevards—each 120 feet wide—beginning at the center of the city and extending to the circumference. There are multiple concentric ring avenues going around the city. At the outskirts of town, the 420-feet wide Grand Avenue is the main arterial for the city. Railways connect Garden City with other cities.

#### **2.3.3.4    *Residents’ life: Work and Recreation***

Residents of Garden City enjoy the freedom to participate in various trades and occupations. The free market allows people to own their own business, lease their land, and dispense their produce to whomever they desire. The people engaging in



agriculture can sell their products to people living inside the town, and also sell to potential customers overseas. The convenient traffic systems are built to support city residents' businesses.

City dwellers live in well-built houses facing the boulevards and city parks. The residential areas are designed to be compact but satisfying: they come in different architectural styles with kitchens and gardens. Street lines are compatible with the surrounding environments.

Along and on the outer skirts of Grand Avenue, there are playgrounds, gardens, churches, and schools designated to enrich people's lives. On the fringes of the Garden City, there are factories, warehouses, dairies, coal yards, timber yards, etc. Their location on the outer circle of the city makes it is earlier to load and unload.

### 2.3.3.5 City Administration

The principle of the Garden City administration is freedom with no rigid monopoly. The jobs of varied public administrative sections are more geared to directing than governing.

The core question with the administration of the Garden City is the extent to which municipal enterprises of Garden City can act on their power and to what extent the administrative authority should surpass private enterprise.

Howard answer this question with caution and flexibility, *"The public municipality should not attempt too much...there should be no fine line drawn between municipal and individual enterprises...enterprises in Garden City should be neither distinctly municipal nor distinctly individualistic but of the characters of both, may be termed as semi-municipal."*<sup>8</sup>

Taking the Crystal Palace as an example shows how business is carried on by various individuals and social groups and is limited by the "local option": if the traders charge prices that are too high...people in the town will invite a new competitor to enter the field. But on the other hand, as long as the trader runs his business properly, his business is secured. The local option is not only applied to business in Garden City. It can guarantee a platform for the free expression of public consciousness.

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<sup>8</sup> Garden Cities of To-Morrow, by Ebenezer Howard, (1902), Chapter Seven, Semi-Municipal Enterprise—Local Option—Temperance Reform, p.96



### 2.3.4 How to Sustain the Future Development

#### 2.3.4.1 Rural Area Management

There are 5,000-acre areas used as agricultural lands, covering five sixths of the total area of Garden City. Well managed rural lands will ensure the future development of Garden City.

The farmlands in Garden City are individual-owned large farms, smallholdings, allotments, and cow pastures, etc. The most convenient part of the agricultural business in Garden City is that “every farmer now has a market close to his doors. There are 30,000 townspeople to be fed.”<sup>9</sup>

The wastes products of the town could, without heavy charges of railways and other expensive agencies, be brought back to the soil as fertilizers.

The agricultural estates in Garden City will keep increasing with well-devised sewage disposal, close to door markets, and convenient transport to more distant markets.

#### 2.3.4.2 Urban Area Management

The revenues of the town estates come from two sources: the home-building lots and the factories, warehouse, and markets. All the home-building lots are well situated, especially those fronting Grand Avenue and the boulevards. They can call for the highest prices.

#### 2.3.4.3 The Garden City's Land Economy

First, Howard suggested buying relatively cheaper agricultural land through the free market and then raising the land value by building up city infrastructure and attracting future investments.

Second, the migration of people from various social classes will bring additional value to the property in Garden City. It is against Howard's initial ideas that Garden City ended up being a residential suburbia for middle and higher classes. He envisioned a more diverse and healthy communities with different social groups living together.

Third, the rent of land should be compatible with the land value in the markets. Since the land would become more valuable, the rent would increase at the same time. According to Howard's proposal of “protecting the local business,” the additional rent would be applied as a rate relief <sup>10</sup> for local business or organizations.

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<sup>9</sup> *Garden Cities of To-morrow*, by Ebenezer Howard, [1902], at [sacred-texts.com](http://sacred-texts.com), P60

<sup>10</sup> An action taken to allow a regulated company, such as a utility, to charge higher rates (that is, the prices it charges its customers) so that it can generate greater revenues. Public utilities frequently

#### 2.3.4.4 Future Development

To ensure future development, it is important to keep the revenues and expenses balanced.

The revenues mainly come from the rent paid by the Garden City renters. They include but are not limit to, residents, farmers, businessmen, and workers. The revenue would be used first to pay interest on the land purchased; second, provide return to the first investors; third, construction and maintenance and fourth, pension for the aged, medical services, and insurance.

The second phrase is to sustaining development of Garden City. Howard emphasized the that it is importance of creative a free and liberal environment where aggressive and advanced thoughts can co-existed, and some can be chosen to implement under the Garden City legal system.

This proposal comes from Howard's personal experiments: he believed there were always certain individuals in the society that had a greater vision of social duties. When their visions get accepted by the state and municipality it will greatly improve the wellbeing of any society. Howard thought his Garden City is the place for social elites to speak and gain recognition.

Howard's Garden City is a pioneering work. It will be carried out by those who believe the economic, sanitary, and social advantages of common ownership of land. It not only means to secure the advantages that have already been granted, but to share people's views of the future of the nation. Howard stated in his texts: "*the larger experiment is designed to lead the nation to a more justice and better system of land tenure...*"<sup>11</sup>

### 3 Chapter Three: Chengdu's Garden City Project and the Comparison of Two Garden Cities

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seek rate relief by filing a request for rate increases with public regulatory bodies. The utility's success in obtaining rate relief has a very heavy impact on the value of its shares. From <http://financial-dictionary.thefreedictionary.com/Rate+Relief>

<sup>11</sup> *Garden Cities of To-morrow*, by Ebenezer Howard, [1902], at sacred-texts.com, p.104

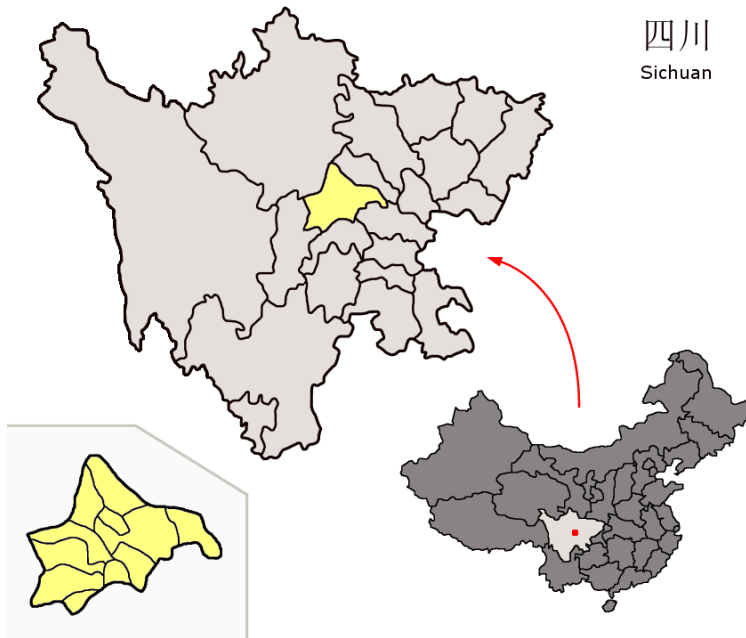
## 3.1 Chengdu's Basic Information

### 3.1.1 Background

#### 3.1.1.1 *Review of Chengdu, China*

Chengdu (成都), is the capital of Sichuan Province in Southwest China. It is one of the most important economic, transportation, and communication centers in the nation. Chengdu was chosen as one of the top ten cities to invest in out of the total 280 urban centers in China, according to the 2007 Public Appraisal for Best Chinese Cities for Investment<sup>12</sup>.

Figure 2, Location map of Chengdu Prefecture



Chengdu is located at the western edge of the Sichuan Basin and sits on the Chengdu Plain; the dominating terrain is plain<sup>13</sup>.

Chengdu has a monsoon-influenced humid subtropical climate, and is largely mild and humid. The Qinling Mountains to the far north help shield the city from Cold Siberian winds in the winter; January average is 5.6 °C (42.1 °F). While summer is hot and humid, July and August average around 25 °C (77 °F), with afternoon highs

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<sup>12</sup> Chengdu. In Wikipedia The Free Encyclopedia, Retrieved from <http://en.wikipedia.org/wiki/Chengdu>

<sup>13</sup> Chengdu Geography, From Wikipedia, the free encyclopedia, retrieved from: <http://en.wikipedia.org/wiki/Chengdu#Geography>

sometimes reaching 33 °C (91 °F). Rainfall is common year-around but is the greatest in July and August. Chengdu also has one of the lowest sunshine totals in China (less sunshine annually than London), and most days are cloudy and overcast even without rain<sup>14</sup>.

### 3.1.1.2 Chengdu's demographic features<sup>15</sup>

Table 3, Chengdu Demographic Information

NO.	Name	Chinese Name	Population( 2010)	Area (Km <sup>2</sup> )	Density (/km <sup>2</sup> )
city core					
1	Qingyang District	Qīngyáng Qū	828,140	66	12,548
2	Jinjiang District	Jīnjiāng Qū	690,422	61	11,318
3	Jinniu district	Jīnniú Qū	1,200,776	108	11,118
4	Wuhou District	Wúhóu Qū	1,083,806	77	14,075
5	Chenghua District	Chénghuá Qū	938,785	109	8,613
		Total	4,741,929	421	57,672
Suburban districts within city limit					
6	Longquanyi District	Lóngquányì Qū	767,208	558	1,375
7	Qingbaijiang District	Qīngbáijiāng Qū	381,792	392	974
8	Xindu District	Xīndū Qū	775,708	481	1,613
9	Wenjiang District	Wēnjiāng Qū	457,070	277	1,650
		Total	2,381,768	1,708	5,612
Satellite Cities					
10	Dujiangyan	Dūjiāngyàn Shì	657,996	1,208	545
11	Pengzhou	Péngzhōu Shì	762,887	1,420	537
12	Qionglai	Qiónglái Shì	612,753	1,384	443
13	Chongzhou	Chóngzhōu Shì	661,120	1,090	607
		Total	2,694,756	5,102	2,132
Rural					
14	Jintang County	Jīntáng Xiàn	717,225	1,156	620
15	Shuangliu County	Shuāngliú Xiàn	1,158,516	1,067	1,086
16	Pi County	Pí Xiàn	756,047	438	1,726
17	Dayi County	Dà yì Xiàn	502,198	1,327	378
18	Pujiang County	Pújiāng Xiàn	239,562	583	411
19	Xinjin County	Xīnjīn Xiàn	302,199	330	916
		total	3,675,747	4,901	5,137
Sum-Up			13,494,200	12,132	70,553

The population growth in Chengdu from 1950 to 2010

Table 4, Chengdu's Population from 1953 to 2010

<sup>14</sup> Chengdu Climate, From Wikipedia, the free encyclopedia, retrieved from:

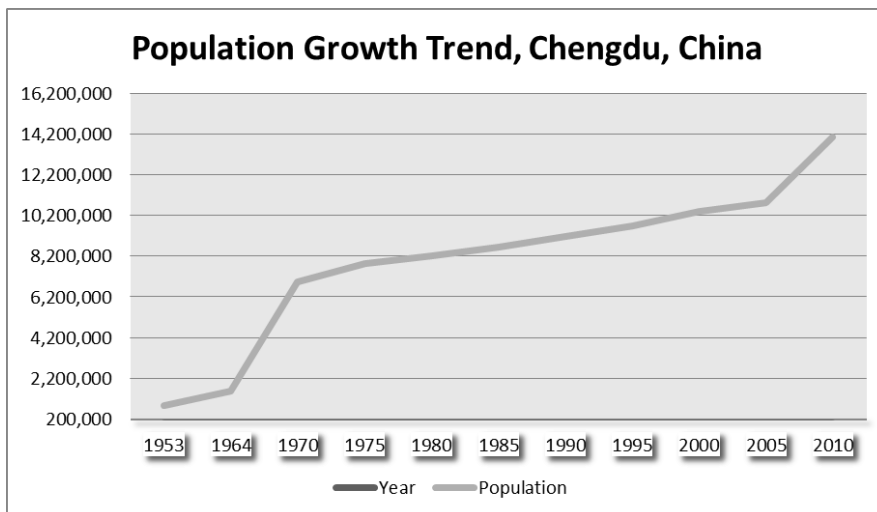
<http://en.wikipedia.org/wiki/Chengdu#Geography>

<sup>15</sup> data information comes from Chengdu, From Wikipedia, the free encyclopedia, retrieved from:

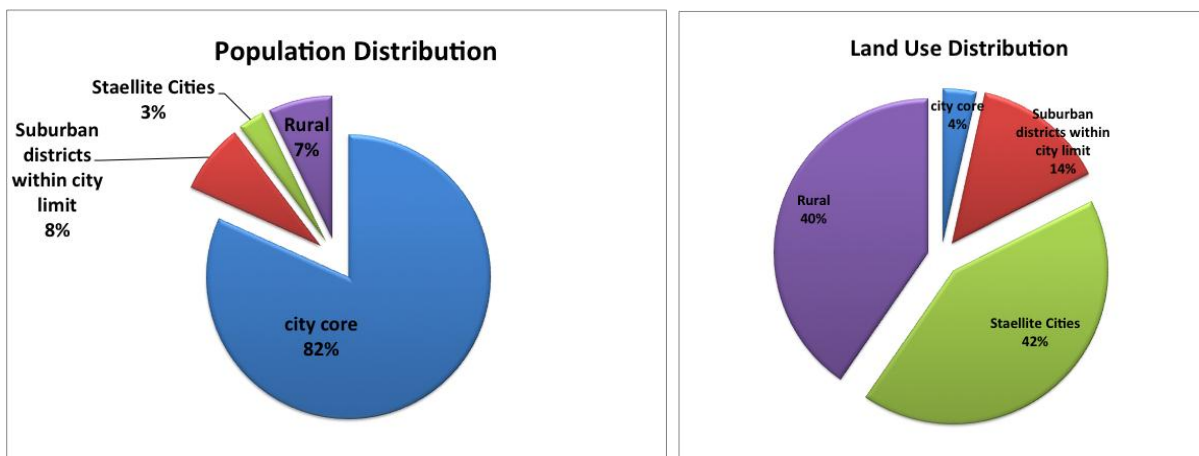
<http://en.wikipedia.org/wiki/Chengdu#Geography>

Year	Population
1953	857,000
1964	1,583,000
1970	6,922,918
1975	7,819,732
1980	8,225,399
1985	8,626,770
1990	9,195,004
1995	9,715,977
2000	10,392,531
2005	10,820,285
2010	14,047,625

**Graph 1 Population Growth in Chengdu City**



**Graph 2 Chengdu's Land use and Population Distribution Comparison**

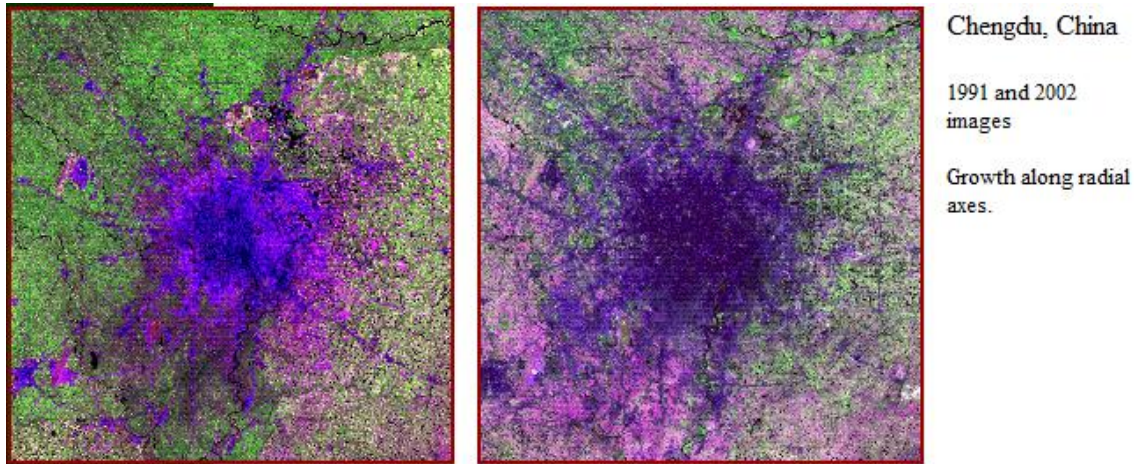


From the data and figures above, we can see the imbalance of human settlement and land use. 82% of its population lives in the city core area while the city core is only 4% of the total land use. Urban areas are incredibly crowded, and in the rural areas there is little or no settlements.

### 3.1.1.3 Chengdu's Urban Growth Pattern

Pictures bellow show the urbanization pattern of Chengdu City. <sup>16</sup>

Figure 3 Urban Expansion of Chengdu City



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The picture on the left is an aerial photo of Chengdu in 1991, and the one on the right is the aerial photo is from the year 2002.

It shows the expansion patterns of Chengdu city in ten years. Chengdu's urban build-ups moved out of the core of the city along railways, highways and radiated out from the city like spokes on a wheel.

## 3.2 Chengdu's World Modern Garden City Background

### 3.2.1.1 Institutional Bases

In 1990, China promulgated and implemented the Urban Planning Act<sup>18</sup>. Under the framework of the act, China formed the planning system that targeted improvement of the planning laws and regulations, the management of planning, the plan-making process and the corresponding technical norms and codes.

<sup>16</sup> Urbanization as a Component of Global Change, Research at Boston University's Department of Geography, Retrieved from [http://duckwater.bu.edu/urban/local\\_part1.html](http://duckwater.bu.edu/urban/local_part1.html)

<sup>17</sup> McKinsey Global Institute *Preparing for China's urban billion Chengdu: At the heart of China's interior* March 2009

<sup>18</sup> Vice Minister Qui Baoxing from the Ministry of Construction, *China's Urbanization and Urban Planning in the Context of Globalization*, International ISOCaRP Congress, Istanbul, Turkey, 14-18 September 2006

In addition, China started a town and country annexation process, which greatly increases the municipality power. The annexation process empowered the city municipal government of counties and towns. It was easier for cities to acquire land and other resources from rural areas to support the urban construction. The table below shows Chengdu city's growth since 1990.

**Table 5 Chengdu's Land Use Projection**

	1990	1995	2000	2005	2025
<b>Urban Area (km<sup>2</sup>)</b>	1,418	1,418	1,418	2,176	2,176
<b>Urban Population (thousand)</b>	2,955	3,572	4,334	6,381	10,321
<b>Real GDP/capita (Reminbi Thousand)</b>	6,618	10,700	15,457	20,324	75,228

19

In 2003, the Chengdu government confirmed the comprehensive development strategy that integrated urban and rural development. Based on the “scientific development” ideas brought up by President Hu Jing Tao, Chengdu has strived to explore new city planning modes that can make city planning be beneficial to both city and countryside. The following table shows the work schedule of Chengdu's urban and rural integration projects<sup>20</sup>.

### **2003—2006 First Time Urban to Rural Integration**

- Integration on urban and rural planning, social security, education, sanitation, physical education, environment protection and land use management
- Coordination of urban and rural areas their on space, function, type and public service supports
- Exploration urban and rural development
- Coordination of planning system in urban, suburban and countryside
- Overall Planning for the city's industry development which helps to meet the standards of scientific land use. Combination of the original 116 industrial areas into 21 intensified industrial districts
- Development of new communities in countryside that is equipped with basic infrastructure and services.
- Scientific use of agricultural land and promotion of new technologies in agricultural industry

### **2006—2009**

<sup>19</sup> Data source: National Bureau of Statistics; McKinsey Institute Analysis

<sup>20</sup> 8.23 成都市统筹城乡发展规划与实践



- Integrated planning on the 19 districts (cities) in the whole city
- Incorporation of central town, new towns, bigger towns, smaller towns and countryside communities under uniformed planning system
- Optimized industry into different districts
- The income of the urban and rural resident reduced from 2.66 in Year 2002 to 2.62 in Year 2009. With the rapid development of economy in urban and rural areas, the income gap between urban and rural areas were contained with the tendency of reducing.

#### **3.2.1.2    *Physical Infrastructure Bases***

During the last twenty years, Chengdu has focused on establishing an integrated infrastructure system. The basic civil infrastructures like roads, drainage system, electricity, water utility etc. in the rural areas are the same in the urban areas in Chengdu. The then-Party Secretary, Li Chun Cheng, wanted to create a city-wide project that could combine different city development projects together. Li thought after several years' work on the integrated urban and rural development, the physical structures in Chengdu would be well-developed enough to support a city-scale planning project<sup>21</sup>.

#### **3.2.1.3    *Cultural and Historical Bases***

Chengdu is also called "The Land of Abundance" because it is located on the fertile Chengdu Plain. The natural environment endows Chengdu with favorable weather and soil conditions for agriculture, plus has a genius hydration system: Du Jiang Yan. Du Jiang Yan is a creative irrigation system built thousands of years ago and it is still running well and irrigates Chengdu Plain. All these favorable factors had raised a once prosperous civilization: the SanXingdui culture, around the time of 316 BC. With its rich natural resources and historical heritage, Chengdu people have no stress and worries, instead they have a more relaxed and pleasant life comparing with people living in cities of the same size.

#### **3.2.1.4    *Chengdu's Strategic Position***

Chengdu is rated as the one of the most important cities in western China. Chengdu is designated by Chinese State council as the country's western center of logistics, commerce, finance, science, and technology, as well as the hub of transportation and communication. It is also an important base for manufacturing and agriculture. Due to its geographic location, Chengdu has been an important military base since ancient times. Nowadays, since it is adjacent with Tibet, strategically, it has a vital place in the mainland-Tibet relationship.

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<sup>21</sup> Translated from interview with Chengdu City planner



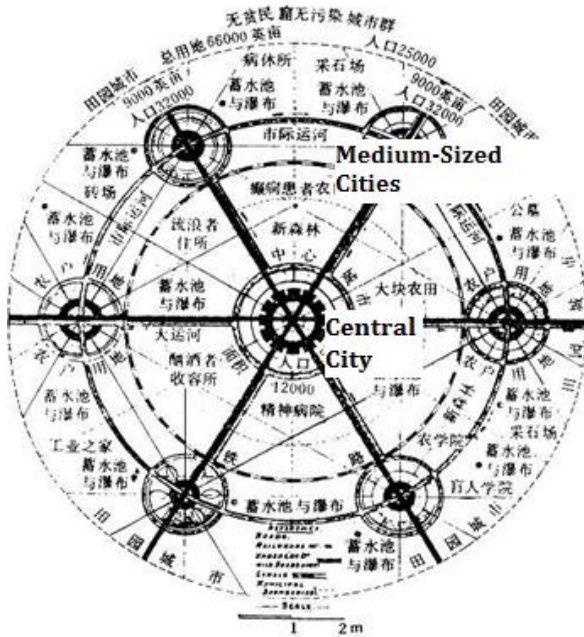
### 3.3 World Modern Garden City Content

Figure 4 Chengdu City Group Physical Layout

#### 3.3.1 How did Chengdu Adopt Garden City Idea



Figure 5 Garden City Group



In Howard's Garden City proposal, he envisioned a number of garden cities surrounding a central garden city. Each city can be self-contained and self-functioning. He named the garden city group as "social city". (The figure 26)

A social city can be seen as a garden city groups which there is a large city with a population of 58,000 in the center and six medium sized garden cities around with a

population of 32,000. The Social City is aimed to solve the over-growth problem in each garden city

In 2006, the Chengdu government implemented the first integrated city planning project by including 19 districts (cities) in the city. The integration included the central city, new cities, key towns, common towns and residential areas. To fasten the connections of each districts, the government built a traffic system covering the whole municipal areas. By comparing the two different types of city groups above, we can tell the similarities.

Chengdu’s garden city project is based on the regional development concept. It is not restricted to city core areas but extends to the urban areas on the fringes. Like Howard suggested in his garden city idea, each garden city is restricted with limited population and size. When growth continues, there can be form city group. Chengdu adopted the development mode that takes Chengdu main urban districts as the center, and incorporating with cities around. The form of the urban and rural space layout is multi-centers, urban clusters and networking traffic system.

The Garden City Project was brought up by Chengdu government in the middle of its city development. Howard’s Garden City Idea was not initially chosen by the government but later brought up by the Former Party Secretary.

Garden City is a strategic development policy that Chengdu city government made to improve the overall urbanization process in Chengdu, and to accelerate the city’s urban and rural integration process.

In regards of the requirements of “Modern Garden City in the World”, Chengdu Planning and Design institute made the Overall Controlling Requirements of the Demonstration Line of Modern Garden City in July 2010.

It is noted that Chengdu municipal government started the Garden City Project in the middle of their city development. Chengdu’s city development at the beginning, didn’t follow the idea of Ebenezer Howard. Choosing the Garden City project was the government leaders’ efforts and determination to deepen the city’s concurrent development policies.

Garden City was established up in 2009, and will continue to develop for 30 years. It is combined with other city planning projects currently happening in Chengdu. The following is the schedule of Chengdu’s Garden City Project<sup>22</sup>:

Table 6 Chengdu’s Garden City Development

2009-	Chengdu government set the historical orientation and a long-term goal of
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<sup>22</sup> 8.23 成都市统筹城乡发展规划与实践

	“World Modern Garden City”
In 5-8 years	Chengdu will be built into a modern metropolitan with most favorable enterprising environment, optimal living environment, and strongest competitive strength in central and western China, becoming demonstration of city and countryside integration and comprehensive modernization, as well as an example of accumulated high-level industry and ecological civilization construction.
In 20 years	About 20 years to build it into a “World Modern Garden City” making all efforts to enter the queue of World Level Cities.
In 30 years	Take 30 to 50 years to build it into a “World Modern Garden City”.

### 3.3.2 How to build the Garden City in Chengdu

#### 3.3.2.1 City Layout

Chengdu government has published the basic guiding principles in Chengdu’s Garden City development.<sup>23</sup>

**Table 7 Chengdu’s Garden City Project Principles**

One Idea	Natural Beauty, Social Justice and Urban and Rural Integration
Four Elements	World-Class, Modernism, Mega-Scale, Garden City
Six Characters	<ul style="list-style-type: none"> <li>• Garden-like City Form</li> <li>• Internationally-functioning City</li> <li>• Modern Industry System</li> <li>• Stable Society</li> <li>• Harmony between Man and Nature</li> <li>• Update infrastructure to be more intelligent, comprehensive and function as a whole</li> </ul>

Chengdu’s Garden City covers the Chengdu municipality areas. Chengdu is a sub-provincial city. It has direct jurisdiction over 9 districts (qu), 4 county-level cities (shi), and 6 counties (xian).

Chengdu’s Garden City will carry out two projects: recodifications of the already existing city and building new city cores and other urban area in the rural areas.

<sup>23</sup> 刘副市长田园城市报告

Since 2003, Chengdu has established the master plan of “one core area, two belts, and six corridors.”

Table 8 Design Principles

One Core Area	City center
Two Belts	Use the mountain resources to develop tourism
Six Corridors	The green corridors

Figure 6 Visualization of Design Principle



Chengdu city is divided into four zones that follow the principle of protecting the environment. The four zones are:

Table 9 Intensified Development Zones

Ecology and tourism zone:	Longmen mountain and Longquan mountain are Chengdu’s ecological barriers and at the same time, they are key development areas.
Optimized development zone:	Modern agriculture is the base for this area, with a modern service industry and advanced manufacturing as co-operating. This area is the basic agricultural land, covered mostly by the Dujiang irrigation system. The development goal is to maximize natural environmental resources and fully express the meaning of Chengdu’s Garden City as a city surrounded by mountains and water.



Upgraded developed zone	Modern service industry leads the development of that area. The function is to adjust the industrial structure in that area and improve the urban carrying capacity as well as the living environment. The goal is to create an image of a city located in a garden.
Expanded development zone:	Advanced manufacturing is the main industry. Modern service industries and modern agriculture coordinate with each other. The goal is to combine garden and city, with the premise of preserving the natural environment.

Figure 7 Visualization of the Intensified Development Zones



The layout of Chengdu is designed to be multi-centered, clustered, and scaled for networking. The spatial structures are modified to be humane and livable. Chengdu expects to combine the modern function, rich historical and cultural contents, and beautiful rural scenery. The forest areas are lined with mountains and water. Large towns and small towns are embedded in the pastoral. The population densities are supposed to follow the pattern of the city center being the most condensed, with the outside circular areas being less condensed.

### 3.3.2.2 Park, Green Spaces, and Green Belts

The main functions of parks and green spaces in Chengdu city are to preserve the natural environment and update the city's landscape. There are four principles:

- 1) To preserve the natural forests as barriers: withdrawing agricultural land for the natural forest use and protecting the wild animals' living environment
- 2) To create a city in the garden-like surroundings and to preserve the rural ecological benefits and recreational functions of rural area

- 3) To develop a green city layout: beautifying to landscape in the city core and increasing the green spaces in the whole city
- 4) To increase the green space coverage along the river, main roads, and city streets

**Figure 8 Visualization of Future Ecology Development in Countryside**



#### **3.3.2.3 Traffic System**

The goal of Chengdu's traffic system is to develop a traffic network system covering whole western areas and radiating to the whole nation.

- 1) To strengthen Chengdu's role as the transportation hub: internationally, the Shuangliu International Airport is designated to have a capacity of 99 million passengers per year; the railways system will connect the most important cities in Western Asia, Europe, South Asia and Southeast Asia; the highway system will cover the Middle Asia, Western Asia, Southern Asia and Europe. Domestically, Chengdu aims at creating a 20-hour fast transportation route that covers all of Chengdu and the Beijing Economic Zone, Shanghai Economic Zone, and Zhujiang Triangle Economic Zone.
- 2) To create Chengdu's Road Network System: chengdu government will establish a network road system between city centers with the surrounding counties, between the counties and the towns, between the towns and villages, and within villages.
- 3) To create an effective and high-functioning subway system: subways can help relieve the inner city traffic congestion problems. Chengdu government has the prospect of establishing 16 different subway lines with a total length of 658km. The current subways system is also part of the Chengdu's new city TOD (Transportation Oriented Development) planning project.

**Figure 9 Illustration of Chengdu's Traffic Centen Funcitons**



#### 3.3.2.4 Resident's Life: Work and Recreation

The new development and building modifications are based on principles of humanized designs: with proper scale and disability-friendly functions. The detailed standards are as follows:

- 1) Humanized Space and Scale: abandon the massive public square, the streets and design public meeting places to be in proper width and scale.

Figure 10 Humanized Community Development



- 2) Humanized Community Development: each community will have schools, public markets, commercial centers, recreational facilities, local clinics, etc. All these are for the convenient life of local residents.

Figure 11 Local Market





- 3) Humanized infrastructure construction: the city specially emphasizes the access of the infrastructure for different user groups. For example, signs are written in both English and Chinese, so non-Chinese speakers can read them too.
- 4) Humanized living space: Chengdu city tries to increase the city's green-space coverage and set up several standards for the city and street designs. One of the criteria is to have green space within 500-meter areas. The green spaces are city gardens, and green space along arterials and roads, in the urban areas, while in the rural areas, it includes agricultural lands, vegetable gardens, economic plant farms and natural or hand-planted forests.

### 3.3.2.5 Administration

Chengdu government has different branches directing specific aspects of people life and works. One of the Chengdu's efforts to improve the quality of their public administration is to provide an effective and high-coverage public services system:

- 1) The public systems are divided into nine categories: education, medical services, physical exercise, culture preservation, business and public affairs. Under each division, there are more than 100 detailed services.
- 2) For the larger size towns, it is a 1+17 system, which means that one town is equipped with 17 different public services:

1+17: one bigger town and 17 public services table<sup>24</sup>

Table 10 1+17 Service System

Public Services		Quantity	Contents
Public Management System	Urban and Regional Planning	1	The comprehensive planning; county or town based land use planning, and town area controllable development

<sup>24</sup>刘副市长田园城市报告



			principles
	Urban Management	1	Rural area property rights trading center; labor and social security, tax, the Home, birth control, and law assistance center
Public Services System	Convenience center	1	Forest service center
	Regional agriculture service center	1	
	Recreational center	1	
	Professional skills training center	1	
	"211" project	1	Track and field, lighting in playground, swimming pool and gym
	Standard school	1	
	Standard clinic center	1	
	Charity shelter	1	
Municipal Center	Water supply system	1	
	Waste water collection and sewage treatment	1	
	Solid waste collection and treatment	1	
	Public toilets	1	
	Park and theme parks	1	
	Bus stations	1	
	Sanitation center	1	

3) Towns in general have a 1+13 system that includes 6 public services and 7 governmental municipal services

1+13 service system

Table 11 1+13 Service System

Public Services Facilities (six items)		Government Municipality (7 items)	
Comprehensive services center		Water supply system	
Police Station		Sewage collection and treatment	
Standard School		Gas system	
Nursery		Solid waste collection	
Standard clinic		Electric system	
Nursing Home		Bus Stations	
		Fire Station	

- 4) New communities in rural areas have a 1+10 system, where one village has 10 public services

Figure 12 Community Clinic Center



1+10 service system

Table 12 1+10 Service System

Project	Description
Labor Health Station	Provide services, convenience and information
Sanitary and Birth Control Clinic	Birth control services office
Recreational Services	Child care, libraries, meeting space
Police Office	
Gyms for local population	
Local grocery stores	
Agricultural supplies stores	
Agricultural products trading stores	
Kindergartens	
Public toilets	

### 3.3.3 How to Sustain the Future Development

#### 3.3.3.1 Rural Area Management

Chengdu, like most of the developing cities in China, faces a land and development dilemma. In 2009, the agricultural land areas in Chengdu were 9,307 km<sup>2</sup>, 76.78% of the total land in Chengdu City, that by then was 12,120 km<sup>2</sup>. The land left for construction usage was 2,400 km<sup>2</sup> with 1,080 km<sup>2</sup> belonging to the state and 1,320 km<sup>2</sup> belong to the rural community.

It is estimated that by 2020, Chengdu's total land for construction will be 2,593 km<sup>2</sup> with an increase of 193 km<sup>2</sup> compared with 2009. 1,576 km<sup>2</sup> will be owned by the state, and the rural communities will own 1,017 km<sup>2</sup> areas.

The charts show the changes<sup>25</sup>:

**Table 13 Chengdu's Projected Land Use**

		2009	2020
Agricultural Lands (km2)		9,307	9,114
Construction Lands (km2)	State Owned	1,080	1,576
	Community Owned	1,320	1,017
Others		413	413
Total Land Areas (km2)		12,120	12,120

The increase in development means decreasing agricultural land. Currently, the construction land is 2400km<sup>2</sup>, compared with the total population of 13 million. Chengdu government faces one of the hardest development problems. By 2020, there will be a limited space for the growing population so there will be a higher demand for urban construction..

The Chengdu government has developed specialized district development schedules.

**Table 14 Specialized Zone Development**

"198" ecology and modern industry comprehensive area	Ecology and modern industrial services
Tianfu New Cities	Ultra-modern industries and tourism industry based on cultural heritage

<sup>25</sup> Based on the assumption that there is no change in the total land areas.

Xinglong County	Economic fruit, trees, vegetables, and agricultural tourism
Yongan County	Specialized fruits, cultural tourism industries, tourism industries
Hejiang County	Specialized fruit, agricultural industries, and tourism
Huanglongxi County	Ancient town tourism, service industries
Yongxing County	Ecological agriculture, stock base
Jitian County	Agricultural products, food manufacturing, and business trade

### **3.3.3.2 Urban Area Management**

Chengdu city puts most of its efforts into facilitating development in urban areas, the centralized economic districts. Chengdu government divides urban areas into different economic development zones and makes detailed economic-boosting policies.

#### **1) Accelerating industrial development:**

- To establish functional zones, each functional zone has particulate industry development orientation
- To aimed at the high-technology development and improving the level of manufacture
- To use the energy and other natural resources intensively and scientifically
- To attract more foreign investments and to developing the brand industries

#### **2) Accelerating Chengdu City's hub development:**

- Aviation hub development
- Railway hub development
- Logistics hub development
- Main highway hub development
- City public transportation development
- Alleviate the traffic congestion

### **3.3.3.3 The Garden City's Land Economy**

Chengdu developed the World Modern Garden City Demonstration Line to help the local economy.

- 1) Comprehensive Demonstration: modern city, modern countryside, modern industries, ecology and natural environment, cultural and historical heritage preservation and development, humanized planning. Demonstration lines are specially designed to show the newly developed urban-rural form, industry development zones, social harmony and the garden-like community environments.
- 2) Coordinated Integration Development: coordinate city planners with local planners. The work includes: urban and rural planning, land use consolidation, environment improvement, new town developments, modern agricultural industries, and traditional rural trading markets reform.
- 3) Highlighted features: Chengdu also expects to create diversity among each Demonstration line by showing the distinctive industries.
- 4) Short and long-term goals coalition: City encourages the decisions makers to consider reality before making long-term decisions.

#### **3.3.3.4 Future Development**

- 1) Finish the Chengdu Strategic Development Plan
- 2) Continue work on the Chengdu Comprehensive Plan
- 3) Incorporation different regions
- 4) Improve the planning and implementation in rural areas
- 5) Complete the city green city strategy, city transportation plan
- 6) Make city design principles, improve city's physical form
- 7) Complete each strategic zone

### **3.4 Assessment of Chengdu's Garden City**

Chengdu's Garden City project is a combination of Chinese city development and Howard's vision of Garden City. The Chengdu government has put their originality and creativity into this experimental city-planning project.

#### **3.4.1 The New Rural Development**

The Chengdu government made good progress in the process of re-constructing the new rural areas. Rural area construction is considered one of the most difficult jobs in Chinese city planning because of following reasons: the historical impact of the landscape features in the countryside; the relatively low education level of the rural populations; inadequate resources and input from the town government; deep-rooted cultural traditions and life-style in the countryside and a solely agricultural industry.

The Chengdu government is reforming internal planning system and conduct the countryside development by combing separated rural areas

- 1) Top down planning system

The Chengdu government withdrew the power from local planning departments so the city can make comprehensive planning policies by incorporating the roles from local planning departments.

## 2) Land collecting policy

The local government claims the rights to use the land that rural residents live on or occupy. The residents will be compensated with financial and technological support in building new houses.

The following scenario is the most common method the local government uses to claim the residents' land.

**Figure 13 Visualization of New Countryside Development**



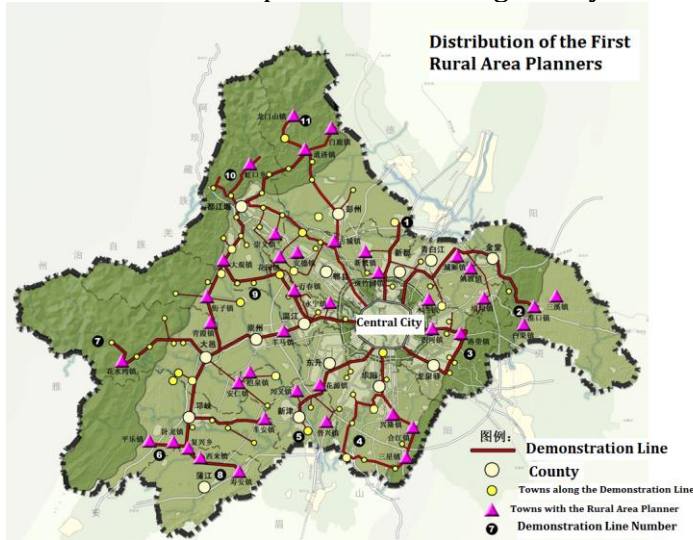
*In most rural areas in Chengdu, there lacks scientific planning to direct the use of the land, except that agriculture lands are designated by the government for the growing of crops. Individual households use the rest of the land at their own discretion. Dwellings, housing, and private gardens are scattered.*

*The local government wants to change the fragmented settlement of the rural residents. They help to build new rural community by moving separated households together and providing centralized utility supplies like water and electricity. The lands that are previous occupied by rural residents will be collectively used for new developments. It is a population migration on a town scale. It will change the life-mode of the traditional Chinese rural residents.*

The new land collecting policy is a government intervention of the naturally growing countryside settlements. It helps to redistribute the land use in rural areas and bring landscapes changes in rural areas. The Chengdu government is promoting



the rural-property protection and the urban-rural identity system to increase the population flow. In addition, the Chengdu government is attempting to reverse the current “city” planning situation by assigning more planners working directly with the rural residents in the countryside. The following map shows the distribution of the first rural area planners in Chengdu City.



Chengdu government tries to implement the following standards in the new countryside development.

- Effectively use the rural land
- One hundred percent coverage of the basic infrastructure services of the local residents
- Improve the living condition by give financial and technological support
- Build education, health care, recreational institutes.
- Change the social structure. Lands could be rented to agricultural companies for economic crops. Males leave the countryside for better jobs in the cities while the female will stay home, taking care of child and elders.
- Encourage countryside tourism industry. Local residents can take advantages of city people’s desires to go to the countryside and explore nature by conducting family business like restaurants, inns, and organic farms
- Attract potential investors. Chengdu is a city with abundant natural resources and the local residents use favorable land polices to attract foreign investors to fund their various local industries.

### 3.4.2 Demonstration Line

The Demonstration Line development is Chengdu’s original projects. It chooses specific areas to focus on their developments. There are 11 demonstration lines in Chengdu’s Garden City. The following are only parts of the whole projects.

Figure 14 Master Plan of The Demostration Lines

### 3.4.2.1 Tianfu Avenue—Dongshan Speed Road—Shuanghuang Road Demonstration Line

Main Route: Tianfu Avenue—Dongshan Speed Road—Chengren road—Zhenggong Road

Industries: modern services industries, ultra-modern industries, cultural tourism industries

Landscape features: there is an axis in the Tianfu New City, representing urban features

Overall Design: intensified design: towns are connected either sparsely or closely by urban landscaping features

Figure 15 Tianfu Demonstration Line



Figure 16 Visualization Development







#### ***3.4.2.2 Chengqing Tourism Channel***

Route: Guanghua Avenue—Wenjiang City Core—Chengqing Tourism Channel

Length: 39km

Overall Design: Modern urban form, modern countryside, modern industries, cultural recreation, ecological environment

**Figure 17 Chengqing Demonstration Line**



Figure 18 Visualization Pictures



Figure 19 Visualization New City Center



**3.4.2.3 PengBai Road—PuXin Road Demonstration line**  
Industries: modern agriculture, countryside tourism



Overall Design: urban agriculture, seasonal landscape features, cultural-featuring towns, historical heritage, and diverse culture

The image contains two hand-drawn landscape sketches. The top sketch depicts a city skyline with various colored buildings (purple, blue, yellow) situated on a green hill. A river flows in the foreground, and there are trees and smaller buildings on the left. The background shows rolling hills under a light blue sky. The bottom sketch shows a river flowing through a valley. A small village with white buildings is nestled on a hillside. The landscape is characterized by green fields, trees, and distant mountains. The sky is light blue, and the overall style is artistic and illustrative.



Figure 22 Proposed Residential Design



Figure 23 Proposed Residential Design



Figure 24 Proposed Countryside Design



#### 3.4.2.4 North Roads Demonstration Line

Location: North commercial and agricultural demonstration

Route: Sanhuan Road—North Xingandao—Mengyang Town

Length: 24KM

Longshu Road—Chengqingjing Speed Road—Tangba Road Demonstration

Function: International logistics and modern manufacturing

Chenglong Road—Donger Road—Chengluo Lu Demonstration

Function: modern automobile manufacturing and tourism tourism

Figure 25 North Road Demonstration Line



#### 3.4.2.5 Dajian Road Demonstration

Function: modern manufacturing and modern countryside

Qionglai Demonstration

Function: ancient town culture and ecological tourism demonstration

Guanghua Road—Chenwenqiong highway—Dashuang Road Demonstration

Function: recreational tourism and historical culture

Figure 26 Dajian Demonstration Line





### 3.5 Comparison of the two Garden City Ideas

#### 3.5.1 Consistency

As I addressed in the beginning of this chapter, Ebenezer Howard's Garden City idea wasn't chosen at the beginning of Chengdu's city development. Instead, Chengdu's Garden City project is a continuation of concurrent city development projects in Chengdu.

Chengdu's government leaders chose Howard's Garden City idea because of the similarities between Howard's Garden City idea and Chengdu's vision of its future city development: city in the garden and social justices

##### 3.5.1.1 Goals in Common

Howard's Garden City and Chengdu's Garden City have shared goals:

- 1) To preserve the natural environment and to create a garden-like living and working environment.
- 2) To accelerate social justice
- 3) To integrate urban and rural development

##### 3.5.1.2 The Public Owned Land

Chengdu and Howard's land policies are consistent: the land is publically owned and the public municipality endows the residents with the rights to use the land.

Howard thought that the public could own land, it could help keep land prices even and make sure that people who have a modest income can afford to own their own house.

In China, under the socialist system, land belongs to the state. Land in China is categorized as construction land, or non-construction land. Chengdu's land policy is to use of construction land collectively and convert parts of non-agricultural land into construction land. In that way, more land can be used for the city's future development.

In general, Howard saw public-owned land as a method to control the land price and advocate social justice. Chengdu's land policy is based on China's national structure. Under the system of Socialism, land belongs to the public, and the public is represented by the Party and its government.

#### ***3.5.1.3 Integrated Infrastructure Construction in Rural and Urban Areas***

Both Chengdu and Howard aims to improve the city infrastructure to create an integrated rural and urban physical infrastructure system. Howard believed that by establishing a standard infrastructure system, it would help to attract more investors and keep local residents living in their hometown.

In Chengdu, the need to integrate the development of the city and countryside is very demanding. Due to historical reasons we talked about in Chapter Two, there exists deep-rooted segregation between China's city and countryside. Plus the economic-growth orientation supports city's development. The gap between the city and countryside is so huge that it causes social tension. To help correct the imbalance between China's city and countryside, Chengdu city integrated the rural development with urban areas.

#### ***3.5.1.4 Traffic System***

Both Garden Cities attempt to create convenient and effective traffic systems. The traffic systems are to connect within and outside the cities. Howard and Chengdu both propose accessibility to their traffic systems and encourage pedestrians inside the city.

#### ***3.5.1.5 Humanized Design Standard***

Howard and Chengdu follow the people-oriented design principle. Howard believed the peoples' need should be first priority and Chengdu deemed the People-Oriented Development as one of the leading principles.

#### ***3.5.1.6 Diverse Architectural Styles***

Both Garden City projects encourage diverse styles in buildings and sculptures. In terms of landscape and building design, both Garden Cities have input from multiple sources: investors, architects, engineers, landscape architects, city planners, and policy makers.

#### ***3.5.1.7 The Semi-Public Municipal System***

Howard proposed a semi municipal system in which there are no strict separations between state-owned and private-owned businesses. In Chengdu, the Chinese style economic strategies are that the state has control of important business and resources while private investors are allowed to conduct private business freely in the markets. Compared with Howard's Garden City, the Chinese economy still retains strong socialist characteristics that the state government holds the rights to vital resources. The good points are Chengdu's government is trying to provide more freedom and favorable policies to encourage private investors.

### 3.5.1.8 Their Preferred Development Modes

Both Howard and Chengdu have similar models for future city development. City municipality will rent the land to investors and encourage prospective developers to co-operate with local governments. Public municipality will support infrastructure development and the investors will support constructions of residential, business, commercial and recreational buildings. When the population increases, Howard is more rigid about building another Garden City, while Chengdu plans to deepen its development and explore more real-estate projects to expand the city boundary.

### 3.5.1.9 Regional City Planning Idea

Howard and Chengdu want to develop a city-planning mode that can be a reference for other cities' planning. Howard wanted to create a social city with the same concept as Garden City. A social city can be seen as a garden city group which includes six medium sized garden cities and one bigger garden city in the center. Each city is self-supported and self-sufficient while at the same time, between different cities, they are collected by roads and railways.

Chengdu's Garden City project is established with the same principles. Chengdu municipal areas include Chengdu inner city area and 15 medium-sized cities and hundreds of small-sized cities. Each city has its population base and supporting industries. Between cities, traffic systems help them keep connected. In regards of regional city planning, Chengdu government is consistent with Howard's Idea of social garden city.

Figure 27 Chengdu Greenway Layout



## 3.5.2 Inconsistency

### 3.5.2.1 Historical Background

The Garden City idea was created in the late 19th century when Great Britain went through the Industrial Revolution and an urban expansion process. Most of the cities had problem associated with mass production and the rural to urban migrations. Cities were over-crowded, heavily polluted, and workers lived in poor conditions.



Howard believed the root of these city problems was the social structure. In individualistic and capitalistic countries when everyone is aimed at maximizing benefits and ignoring other peoples' welfare and rights.

Howard wanted to create a new society where everyone was equal and enjoyed the freedom to pursue their dreams. One of the methods to reach his social ideas was to change the land ownership from private-owned to public-owned in such ways as to eliminate the breeding bed of discrimination and suppress. Garden city is the ideal society where people can live together in harmony without segregation of classes. It is a society that requires everyone to have a high social consciousness and moral standards.

Chengdu's Garden City aims to facilitate social and economic development. Chengdu's Garden City is still consistent with China's current main development strategy: Economic development is the first priority. Chengdu's Garden City also focuses on the protection of environment and humane society. Sustaining the city's fast-growing GDP is the Chengdu government's first concern.

#### **3.5.2.2 Goals**

Howard's Garden City was aimed at limiting the over-growth of big cities (like London), while Chengdu's Garden City is aimed at expanding the city's influence economically, politically, and socially.

Howard tried to release the population pressure in big metropolitan areas by converting people to Garden Cities. Chengdu's Garden City project aims to facilitate the city's future social and economic development, and increase the city's influence in the nation and around the world. Howard tried to redistribute population so the big cities could have space to breathe, and the small cities could have changes to develop, and the remote countryside could maintain their local residents and develop without having to depending on big metropolitan areas.

Chengdu's Garden City aims to develop into a mega-scale, world-class metropolitan district like Hong Kong and New York City. Garden City is one of city approved development methods for a city to attract more investment, more business, and more social elites.

On one hand, Chengdu will be like a magnet: as the center of western China, it can attract most investments and international industries as well as the resources for development. On the other hand, it is like a radiator: it keeps sending out its influence to cities around it.

Chengdu has no intention of shrinking its city scale. Downtown is still heavily crowded, and building more inter-states highways will not solve traffic congestion. The construction of a new downtown center or surrounding developing areas is not designed to distribute the population and business in old Chengdu, but to attract a greater population and more business.

### **3.5.2.3 Social Reforms**

Howard and Chengdu City planners have different social reform ideas. In Howard's Garden City, he made it clear that in the Garden City, there is no individualism or capitalism. Government and private sectors can cooperate and supervise each other. Government can carry out legalized regulations in regards to everyday activities, and, the individuals in Garden City along with private organizations, can supervise the government's work and decide whether the public sectors are doing a good work or not. If satisfaction happens, the private sectors can take the power from the government. Howard intentionally avoided talking about the police power in Garden City. It is another point that Howard made regarding the flexible power structure in Garden City. Garden City is a class-free society where no class differences exist.

In Chengdu's Garden City, the government leaders have a different interpretation of social reform. Chengdu's social reform is about changing the city's economic structures, as well as about redistributing the work forces among various markets. Chengdu is trying to take the opportunity of Garden City to attract more high-technology industries and change the economic bases from manufacturing based to service industry based. In a high-technology society, workers don't need to work together in assembly lines. Instead they can work in different places but stay connected through the Internet and phone-lines. The reforms in economic structures and labor distributions will allow Chengdu to establish a garden-like working environment.

### **3.5.2.4 Social and Demographic Characteristics**

There are fundamental differences in both the Garden Cities in terms of social and demographic characteristics.

Howard's Garden City was built on vacant land. Its population base was comprised of local residents, and people emigrated back from the surrounding big cities. Compared with Chengdu's Garden City, Howard's city is more linear. His ideas were for the problems of the 19<sup>th</sup> century London.

Howard's Garden City set specific limitations on its scale and population. He even mentioned in his books that the real Garden City would be different, according to each situation.

In Chengdu, city development is their first priority. One goal of Garden City is to grow into world class mega city.

Howard expected a healthy immigration of people to Garden City. He mentioned that the migration should be based on the "scientific principle," to avoid having a community with a single class of people. To illustrate his points, he used the

metaphor, “*if we stocked the farm with creeping and climbing plants, without any trees of firmer growth for them to entwine round, the plants would matte confusedly together.*”

In Chengdu’s Garden City, the planners and final decision makers don’t need this additional chapter in their comprehensive plan. There are two reasons: first, Chengdu has a more dense population than any cities in Great Britain. Once a new community and city is built, people naturally flow there. Second, most of the industrial zones already have their population base and some are over one million. There is no need for the local government to worry about creating a community with only single social status.

#### **3.5.2.5 Land Require**

Howard’s Garden City was built on vacant land that was purchased on the open market. The initial organizers generated money from issuing Garden City bonds to the public.

In China, land (as well as other constructional resources) is the property of the state. Garden City is a city planning projected initiated by the government, so the government can designate the land for the construction. Unfortunately, during the process of claiming land, injustice and violation are unavoidable due to China’s top-down decision-making structure.

#### **3.5.2.6 Commercial Policies**

The two Garden Cities have different commercial policies.

Howard proposed the local option to protect the local markets and encourage a self-sufficient economic system. He provided reduced rents to local business owners and granted local residents the right to choose the business and services they favored.

Chengdu aims to attract more investors to boost its economic development. Right now, Chengdu has had over 20 foreign companies open up branches there. To attain its goal of being one of China’s commercial and business centers, Chengdu needs more foreign investments. This process is initiated and implemented by the government.

#### **3.5.2.7 The City Municipal Structures**

Howard’s Garden City residents enjoy the freedom of choosing to live or not live in the garden city, and the municipal government is selected by the local residents, giving residents the opportunity to run the city they live in.

In Howard’s Garden City, the municipality has limited power when compared with Chengdu’s Garden City. China’s political system starts with top-down hierarchy

principles. The Party is the ultimate decision maker of all the policies in China. Besides the collective power structure, the state-run businesses are the main participants in the markets, deciding the distribution of a city's construction and important resources.

All the natural and social resources are in the direct or indirect charge of the Chinese government. The resources companies are run by the government, for example, the electric company, oil company etc. As both policy makers and business entities, the state-owned businesses wouldn't have any competitors in the markets. Under the state monopoly system, there won't be enough opportunities for the public to state their opinions.

## 4 Chapter Four: Findings and Discussion

Chengdu's Garden City represents China's new city planning trend: cities try to find the Chinese-style city planning route by incorporating advanced city planning ideas from other cultures.

In the previous chapters, discussion included inconsistencies between Chengdu's Garden City and Howard's Garden City ideas. In this chapter, we attempt to discover the reasons behind the inconsistency and develop a conclusion of how to fix the problems haunting Chinese City planners.

### 4.1 The Political Structure<sup>26</sup>

The organizational framework bearing on China's urban development is complex, for there exist two intertwining sets of urban hierarchies, each with their own rationale. The table shows the current political structure in China<sup>27</sup>.

Table 15 China's Administration Structure

1	National Capital (Beijing)
33 Provincial Level	22 Provinces (sheng)/4 municipalities/5 Autonomous regions/2 Special administrative regions
333 Prefectural Level	17 Prefectures (diqu)/ 283 Prefecture-level cities (dijishi)/30 Autonomous prefectures (zizhizhou)/3 Leagues (meng)
2,858 County Level	1,464 Counties (xian)/885 Districts/ 367 County-level cities (xianjishi)/ 117 Autonomous counties (zizhixian)/ 49 Banners (qi)/3 Autonomous banners (zizhiqi)/ 3 Special district (tequ)/1 Forestry areas (linqu)
40,859 Township Level	19,141 Towns (zhen)/14,646 Townships (xiang)/6,686 Subdistricts (jiedaobanshichu)/1,098 Ethnic Township (minzuxiang)/181 Sumu (sumu)/ 2 District public offices/1 Ethnic Sumu (minzusumu)
Village Level (informal)	Villages, many of which were sites of production brigades and production teams

#### 4.1.1 Vertical Structure

The columns in the table above show the vertical structures in China's political system. Sectors in the same municipal power level have independent power and they only respond to the levels above them.

<sup>26</sup> (Kirkby, 1985)

<sup>27</sup> [http://en.wikipedia.org/wiki/Administrative\\_divisions\\_of\\_the\\_People%27s\\_Republic\\_of\\_China](http://en.wikipedia.org/wiki/Administrative_divisions_of_the_People%27s_Republic_of_China)

One of the shortcomings of the vertical structure is the lack of supervision. The lower municipality sector takes orders and receives supervision directly from the higher-level sector. It can easily trigger corruption and bribery or low quality work without a third part to balance the interests.

Another shortcoming of this top-down system is that the highest municipality in an independent administrative district has the absolute power to make the final decision. It excludes the input and participation of other interest groups. In a lot of cases, the final decision makers lack the necessary knowledge about city planning, in a way that the credibility of their decisions would be worth questioning.

#### **4.1.2 Horizontal Power Structure**

As showed in the table, municipal sectors in the same row have equal administrative power. They operate independently and cooperate with each other on cross-disciplinary projects.

Each municipality sector has its specific responsibilities and clear separation regarding traditional city county affairs. However, in the field of city planning, in which most projects need cooperation from several government departments, the grey area left behind from the traditional separation of administrative powers is gradually revealed. For example, the Land Bureau and the land-use planners in the Planning Department can have inconsistent standards regarding city planning projects.

Another problem in the horizontal power system is the different departments may either redo work due to different standards, or work may be left behind or end up not being done at all.

#### **4.1.3 Lack of Effective Communication among Different Municipal Sectors**

The communication between different sectors either is top-down or on the same level, and is not quite mature. Confusion and contradictions sometime happen.

The three problems discussed above are intertwined in nature. The centralized power structure limits the final decision to the highest municipal, in that sense, the corporation and communication between the lower level municipal sectors are not as necessary as if the decisions are made by a board committee which represents each of the independent municipal sector. On the other hand, the loose connections of horizontal power structures contribute to the rigid political hierarchy.

### **4.2 Economic Dominance in City Planning**

#### **4.2.1 The Only Standard for a Good Planning Project**

Since the 1978 conference confirmed that economic development was the first priority in China's development, economic benefits have become the most important standard in evaluating a city planning project.

In Chengdu's Garden City project, GDP growth plays an important role in deciding "good" or "bad" planning projects. While under this system, policy makers won't be able to make a long-term sustaining decision.

#### **4.2.2 Legal Regulation Lags Behind**

The construction process develops faster than the process of legal regulations. Many parts in the planning, like land use and environment protection, and illegal hiring of construction works and under-aged workers, are not regulated or fully developed so people take advantage of holes in the planning system.

#### **4.2.3 The State Governments Take Charge of City Planning**

In China, land is divided into state-owned and community-owned. Community-owned lands are in rural and suburban areas, and they are the property of collective economic organizations. Farmers don't own the farmlands, although they can use them. Turning rural land into state-owned land, then into construction land, means profits. According to the national Land Administration Law, compensation for farmland appropriation for construction should be, at most, "30 times the average annual output in the previous three years." In reality, the benefits coming from land development are much greater than the money paid for the land modification.

Since the investment company owns the right to use the land, they can build residential or economical infrastructures in the land, and in many cases they co-operate with the local authorities. During that process, decisions are made either among different levels of the governments, between the government and the investment company, or within the different investment companies. Decision making is limited to few people who are in power to minimize conflict.

The next phase is the investment company tries to attract people to buy their buildings, houses, to rent factory sites, the spaces in commercial areas. This process is accompanied by other economic performances, both domestically and internationally, like the stock market prices, gas prices, and especially the land prices. As previously discussed, with high demand for housing and jobs, the investment companies will get good return within several years. During that period, a medium sized city would be established.

In analyzing that process, the farmers or previous city dwellers own the land and they build the city. On the surface, it is the government and investment companies, but ultimately it is the public that builds the city. Government uses the taxes paid by the public and the investment companies to not only get their investments back, but also to benefit from that process by earning profits. It is the public that pay the bills, though.

As a planner, it is very important to understand that we are creating the future homeland of the public. They are spending their life-savings to supporting the city planning throughout the country, so we should continuously seek a better way to direct the process.

### 4.3 Inadequacies in Planning Education

China's traditional urban planning education can be categorized into two fields: the first is engineering-based, either civil engineering or architecture. It focuses on architectural training and design. Planners are prepared to design a physical structure, but they are not prepared for social, political, economic and environmental constraints and consequences. The second type is built upon geography.<sup>28</sup> The urban planning is a sub-branch, like urban geography and economic geography. Compared with the planning programs in America, Chinese planning programs lack training on broader issues like land use, social policy, historic preservation, transportation, housing and economic development.

City planning was regarded as the similar training to achieve the “city beauty” for a quite a long in Chinese city planning history (see chapter two). Master plans were to lay out a perfect propaganda for the city but lack the detail to inform the public. This tradition still influences Chinese planners' education today.

The problems we discussed previously are closely intertwined with each other. For example, in the government's hierarchical system, the city major or the Party's Secretary will be the final decision maker in a city's development. In most cases, their inadequate knowledge of city planning doesn't help to them choose a sustainable path.

### 4.4 What Can Chengdu's Garden City Teaches?

#### 4.4.1 Fix Dual Structures of City and Countryside

After the foundation of the Republic of China, the government issued a series of policies to limit the immigration from rural areas to the city. The separation of urban and rural identity impeded the people working and living in the city. After three or four decades, the major labor forces aged 50—70 years old in rural areas were 36% of the total labor forces in China, while they only contributed to 10% of the total output value. Plus, younger generations who were born after the 60s went to the city to seek more opportunities, which made the gaps between rural and urban wider. There are two sections that need to improve: education and job opportunity. On one hand, it is necessary to make sure every child has the equal

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<sup>28</sup> Wang Xinhao Emeritus Roger J. Barry ShengHuang, *The Education and Continuing Education of Urban Planners*. A paper presented at The Urban Development and Planning in China: China Planning Network (CPN) 3<sup>rd</sup> Annual Conference, June 14-16, 2006



access to education. On the other hand, if there is the same opportunity in the countryside as in the city, it would help keep rural populations stay home and contributing to the development of their hometown.

#### **4.4.1.1    *New Countryside Development***

Chengdu government has introduced a new mode of countryside development. They use the abundant natural resources in Chengdu to attract investments and develop their tourism industry. Since changing the industrial structure in rural areas, farmers are not limited to their fields, they can rent their land to agricultural company and open up family-run restaurants and motels. The industries in rural areas are more diverse. Not only can it increase the cash flow in the countryside, it can also change the single agricultural industry in the country and bring in more diversity to the market.

#### **4.4.1.2    *Integrate Infrastructure in Urban and Rural Areas***

The reasons for the separation between China's city and countryside are deep-rooted in Chinese history. The gap between them is one of the most obvious consequences.

Chengdu started their rural and urban integrated infrastructure development in 2003. The Chengdu government cooperated with the local government of each town updated the infrastructure system in its rural areas. Each household got access to electricity, running water, central sewage, natural gas and internet. There were two advantages: First, it was easier to manage for the rural committee. Second, it could attract more prospective investors to start building new businesses.

#### **4.4.2    *To Create a Multi-Standard Planning Evaluation System***

As we have learnt from the western city planning experiences, city planning needs to switch their focus to the practical integration of services through budgeting, land markets, and management.

It is necessary to introduce more standards in the system of evaluating a city planning project. Natural environment protection, natural resources preservation, public participation, sustainable land use, etc, should be as important as the economic standards in the evaluation system.

On the other hand, it is not helpful for the government to use propaganda to exaggerate their city planning project. The goal is to inform the public correctly and realistically.

The publication also should address the parts which cannot be shown in pictures. The publication should also address parts like resistance of natural disasters, city mitigation ability, the maintenance after construction is completed, etc.

#### **4.4.2.1    *Introduce More Interest Conflicts***

In China's current mode of city planning, there are two main contributors: the government and the investors. The lack of other participants in the process of making decisions and implementing the projects causes discrimination and illegal sacrifice of certain un-spoken interest groups. The solutions can be categorized as passive and proactive:

The passive method is for the government to initiate public participation projects and encourage each interest group to join the open discussion. For example, Chengdu government sent planners to the countryside to collect ideas and feedback from the local residents for the new countryside development.

The proactive method is to give the power to different groups. The city would set up committee of representatives from each interest group to make decisions, instead of the government. The interest groups should include the government, investors, local residents, environmentalist, historians, public facilities, transportation impact analysis, soil condition evaluation etc. The final decisions would be made by the committees and each member would enjoy equal rights, where no one is more superior than another.

#### **4.4.3    *Encourage Inter-Disciplinary City Planning Education***

In regards to China's city planning education system, it is important to build a multi-direction city planning curriculum. It has been suggested to combine traditional city planning courses with sociology, land use issues, and engineering. It is necessary to change the conspicuous propaganda modes and train the prospective city planners to think critically.

#### **4.4.4    *Change the Decision Making Mechanism***

Another suggestion after reviewing the differences between Howard and Chengdu's Garden City projects is to decentralize the decision-making process. The traditional decision making mode is that the lower city workers generate the information and higher authorities make decisions by themselves. The implementation process is that the higher authorities give orders and the lower city workers do as much as they can to fulfill the orders. The advantages of this mode are improved efficiency and eliminating the different voices.

The advantages are obvious and sometime harmful: First, it makes the presumption that the land and other public resources belong to the city government or to the person who makes the final decision. Second, there is no supervisory system to

make sure the process is transparent and clear. Third, there is no transition for current city planning projects once a new city major or new Party Secretary gets appointed. For example, the previous Chengdu Party Secretary initiated the World Modern Garden City projects; however, when a new Party Secretary was appointed the name was changed to World Eco Garden City. The top leaders in an independent administrative area expect political achievements for their career, with less focus on the continuance of current city projects. Fourth, final decision makers do not have the necessary knowledge to make decisions correctly, while those who are capable have no chance to have their voice heard. For example, the so-called face-saving projects is common, where the city major approves of building a city-round bike path where parts of bike paths ends up not being used or there is no future maintenance.

To change the situation, the decision making process should to be modified to include more interest parties. However, under China's current political system, transforming the decision making process may touch on sensitivities, considering the Party's leadership position: it would spread the Party's power to other social entities. It may not sound realistic.

#### 4.4.5 The Scientific Land Use

China's ambitious socio-economic development plan was set by the 16<sup>th</sup> Communist party congress, through which the leaders expected China's urbanization rate to grow from 35% to 55%. At least 15 million farmers and other rural residents are expected to migrate into cities every year until 2020. Combined with the 7% of agriculture land China owns, the Chinese government will face the most difficult land policy in the world<sup>29</sup>.

China presently has lost of 6.4 percent of arable land in 11 years, mainly due to urbanization. A survey made in 145 cities by the Institute of Geographic Sciences and National Resources Research under the China Academy of Science showed 70% of new construction in large and medium-size cities is on arable land. "The figure is 80.9% percent in some western areas."

The scientific use of land is necessary for the sustainable land development. The first step is to start city development control. Chinese cities are developing at such an un-preceded rate that it wouldn't be easy to implement development control methods. So, instead of requiring each developing city to cut their new city planning project, the alternative can be to update the standards for city development construction. Cities should switch the city development focus from quantity to quality. The supervisory sectors in the city development should improve the criteria and make sure that face-saving projects are not allowed.

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<sup>29</sup> David Pimentel Mario Giampietro" Food, land, population and the U.S. Economy", retrieved from <http://dieoff.org/page40.htm>

Another method is to improve the utilization of each acre land. Abandoning the ineffective massive-scale constructions and improving the centralized use of natural resources.

Finding a sustainable way of using land may sound contrary to China's current consuming-incentive policies. However, limiting the use of land and other natural resources doesn't mean lowering the standard of living, it encourages an intensive use of energy and resources, reducing the resource waste.

#### 4.4.6 Introduce Bottom-Up City Planning Policy

In China, the dominating policy is top-down. In the field of city planning, both organizational structure and information processing are from the top to the bottom. The top-down structure is closely connected with China's hierarchy political systems.

In Chinese city planning, the top leaders will deliver a highly concentrated order, like "increasing the average income of rural residents," the submissive governmental departments will accept the message piece by piece and deliver an more detailed order to the departments that are underneath them. In the end, the interpretation and implementation of the top leader's message will be to first define rural residents and rural areas, collect the data from different groups' income level, define different groups' income sources, etc. With this basic information, some other basic departments need to meet the requirement to increase the income level by using various methods: first, redefine the data to include people who work in the city but hold rural residency in the rural resident base; second, integrate the rural areas within the city's municipal area and reduce the overall population of rural residents; third, help rural residents establish local businesses; fourth, provide technical support to increase the production on agriculture land, etc.

In bottom up policies, detailed information is gathered and similar data is grouped. The simple data can grow into more complex and complete information by continuously collecting different data and grouping similar data. Using a similar case as the one described in the top-down system: a rural residential neighborhood reports the poor quality of the road connecting the countryside to the farmer's markets in the larger towns. Similar information keeps flowing into the District Committee, so the committee presents the information to the high government. The higher government gathers information on the poor road condition, poor irrigation system, no schools for kids etc. This information is grouped to improve the infrastructure system in rural areas and is presented to the higher department analyze this problem, along with relationship to losing labor force in rural areas, income imbalance between rural and urban residents, development gaps, etc.

As describe above, the top-down process is to break a simple order into detailed and complex information. The bottom up process is to collect simple information and to

group it by similar logic, and have it evolve into complex and complete information. The benefits of introducing bottom up policies are:

First, the bottom up policies follow the premise that people who work in higher level government have greater ability and access to more information, and generate more complex messages. It is easier to have higher government to analyze the problem and generate ideas.

Second, the wider the lowest information base is the better the information can be collected. In the city planning field, it is important to get as many groups included as possible, so no one will lag behind or get neglected. The bottom up policies will serve as a platform for each social group to report their ideas and concerns.

Third, the policies will help improve the efficiency of city planning. The first-hand information is a true reflection of the social problems that need to be addressed or improved. The government can save time and money conducting research on what the local residents need in city development.

Fourth, it can improve public participation. The public will put more attention on their hometown's development and consciously supervise the city development.

#### 4.5 Final Words

Ebenezer Howard's Garden City represents a social idea. It requires each individual living in the society to have a socialism morality and capitalistic work ethic. Howard believed that by living in his Garden City, private businessmen would not be profit-seeking but more public-conscious, public workers would be unselfish and very dedicative to serving the community, and each individual in Garden City would be content with their life and is free of conflicts of interests. Under today's social and economic contexts, no society can meet the standards required to build Garden City. That is why, as a city planning concept created 150 years ago, Garden City is still unachievable.

Garden City has been interpreted numerous times in different city planning projects. Its value and vitality in city planning history is doubtless, when different interpretations of the original ideas are used to meet each city's reality. The necessary modifications don't disqualify Garden City's value, even as an unrealistic social utopian idea. It will continue its function as a city planning idea to direct future city development.

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