

Chapter 2

Relevant Theories on New Urban Area Development

2.1 Garden City Theory

At the end of the nineteenth century, Ebenezer Howard from England, who specialized in city planning, unconventionally developed the Garden City Theory, which has significantly influenced new urban area construction and overall city planning of many countries in the world for more than 100 years.

In *Tomorrow: a Peaceful Path towards Real Reform* (1898), Howard holds that people should build an ideal city with all the rural and urban advantages, which he calls the garden city. Virtually, the garden city is a combination of city and country. In 1899, he founded the Garden Cities Association to spread his theory. In 1902, Howard republished his book entitled *Garden Cities of Tomorrow*. The next year he founded a company called Garden City Co. Limited and raised funds to purchase a patch of land 56 km away from London, where the first garden city, Letchworth, was established. In 1920, a second garden city, Welwyn Garden City, was started about 36 km northwest of London. The establishment of garden cities aroused worldwide attention, and many European countries rushed to follow suit.

In 1919, after consultation with Howard, the Garden Cities and Town Planning Association of England gave a clear definition of a Garden City. It was designed for health, life, and industry, and its size shouldn't be larger than what was enough to sustain a rich social life. It should be surrounded by a permanent belt of agricultural land. The land of the city was to be owned by the public and entrusted to a committee.

The garden city Howard has conceived includes two parts—the city and the country. Around the city is the agricultural land where the citizens often obtain provisions of fresh produce. Residents of the garden city live there and work there. All the land is owned by the people collectively and is leased when they want to use it. The city's income comes solely from the rent. Added value gained from construction and inhabitation on the land still belongs to the collective. The size of the

town must be limited so as to make it as convenient as possible for every household to have access to the natural space in the countryside.

Howard not only put forward the idea of the Garden City, but also applied detailed consideration in order to bring it into reality. He made specific suggestions on the source of funding, distribution of land, revenue, and expenditure of the urban finance, management, and administration of the Garden City.

Howard made a concrete planning for his ideal city and drew a diagram of it. He suggested that the total area of the Garden City should be 6,000 acres (1 acre = 0.405 ha). The city, with a coverage of 1,000 acres, is at the center; the agricultural land around it covering an area of 5,000 acres, including an agricultural college and sanatorium, besides cultivated land, pastures, fruit farms, and forests. Agricultural land is a reserved greenbelt, never to be abused. Of the 32,000 residents on this land, 30,000 people live in the city and another 2,000 people live scattered in the country. If the population of the city exceeds the restrictive size, it is necessary to build another new city. The garden city has a circular plane surface, whose semi-diameter is about 1,240 yards (1 yard = 0.9144 m). A park of about 145 acres is at the center, from which six main roads radiate outward, dividing the city into six regions. The outer region of the city is used for the construction of all kinds of factories, warehouses, and marketplaces. With one side facing the outermost ring road and the other side accommodating a ring-shaped railway branch line, transportation is very convenient (Fig. 2.1).

Howard also conceived the idea that several garden cities should form a city group around the central city, which he called “urban agglomerations free of slums and smoke”. With a recommended population of 58,000 people, the size of the central city should be a bit larger, together with its area. The cities should be linked by railway.

Concerning urban problems in modern society, Howard proposed pioneering planning ideas. In terms of city planning issues such as city size, layout structure, population density, greenbelt, and so on, he put forward a series of ingenious ideas, which made a relatively complete ideology of city planning. Garden City Theory has important enlightenment value for modern city planning and exerts a great impact upon some succeeding city planning theories, for example, Organic Decentralization Theory and Satellite Towns Theory. It also provides important guidance for the formation of some significant urban planning schemes and laws.

2.2 Satellite City Theory

The idea of Satellite City originated in England. It is Taylor from America who formally presented and used this concrete concept. Satellite city refers to some towns built outside big cities. They not only supply job opportunities but also offer perfect residence and public facilities. At the suburbs of big cities or other places nearby, the towns, with relative independence, are newly built or expanded to decentralize the population and industry of the central city. They are called “satellite

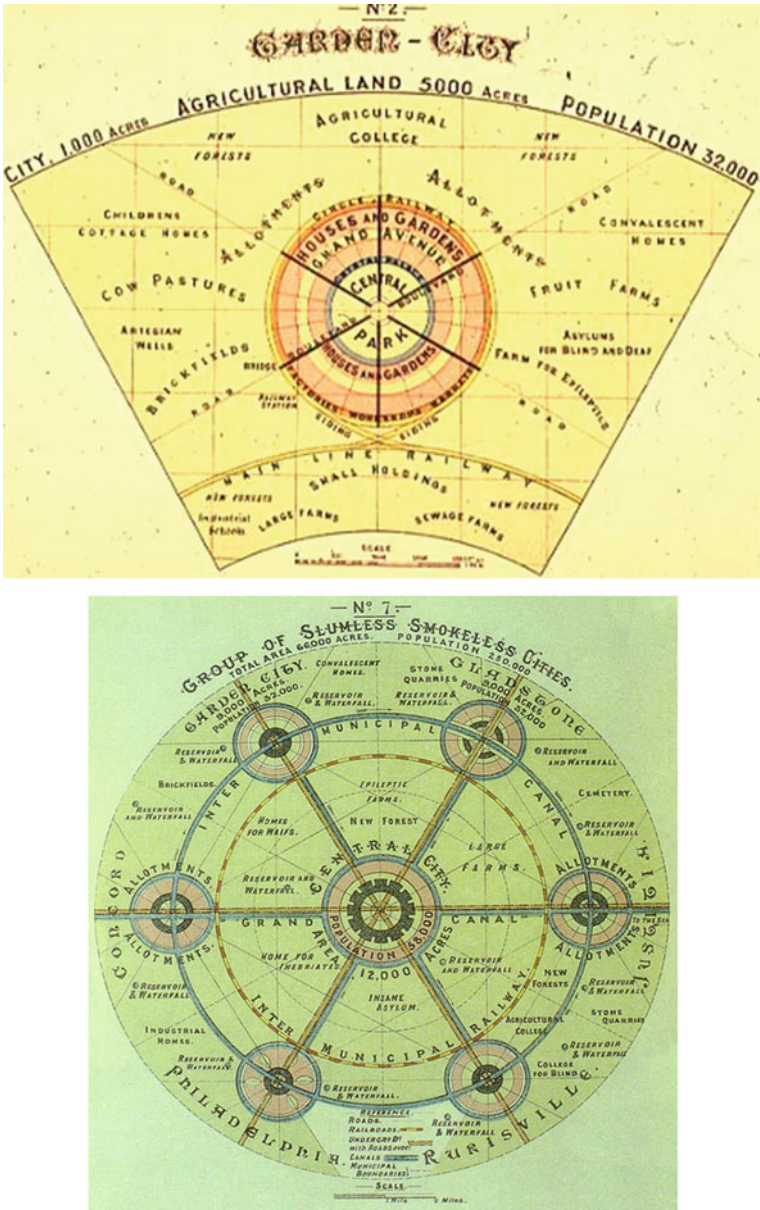


Fig. 2.1 Howard's Garden City

towns” because they surround the central city, resembling satellites. Despite a little independence, satellite towns thrive by keeping a certain distance from the central city, but still remain closely related with each other in terms of administration, economy, culture, and life.

Satellite City Theory originated from Garden City Theory developed by Ebenezer Howard, a British social activist. He believed that around the central city there should be some smaller towns, which resemble satellites around a planet. According to Howard, when the second garden city, Welwyn Garden City, was planned, he had called it a “satellite town”. During the 1920s it was suggested in the advisory planning for London made by R. Unwin, a British architect, that population and employment be evacuated to nearby satellite towns. The term “satellite town” became popular and has been widely used ever since. Around the 1930s, London County Council used the term “quasi-sovereign satellite city”, which referred to a residential area with the characteristics of a dormitory town London suburb. According to the Greater London Plan initiated and composed by Patrick Abercrombie in 1944, eight towns were to be built in Outer London so as to evacuate the excess population; they were called satellite towns first and new towns later. The first generation satellite towns are dormitory towns: people live there but travel to work in the main city. The second generation satellite towns have some factories and public facilities where people can work close to home. The third generation satellite towns, almost independent of the main city, supply employment opportunities and the center is modern too. The fourth generation satellite towns nowadays have a multi-centered and open city structure, in which the satellite city and the main city are connected by high-speed traffic lines so that the function of the main city can be extended to the satellite cities. The major purpose of building satellite towns is to control overpopulation of big cities, disperse some industry and population, and, in the meanwhile, offset population attractiveness of the big cities towards the surrounding area.

Satellite City Theory, as a kind of positive urban planning theory, has a history of over 80 years. The satellite city is an inevitable product of modern city development. By sharing some functions of the central city, it is an extension of urban function. On the one hand, satellite towns are closely related to the central city; on the other hand, they are relatively independent. At the international conference held in Amsterdam in 1924 it was listed as one way to restrict the vicious expansion of big cities. It is generally considered that satellite towns can block the free population influx into big cities to some degree although it is relatively inefficient to evacuate the overcrowded urban population. This is testified by the experience of many countries that it is difficult for satellite towns with a single urban function to achieve any desirable effect.

The current tendency of satellite towns is that the size of the city is becoming larger and larger; the distance from the central city is becoming further and further. This plays an important role in enhancing production corporation, supplying employment opportunities, balancing the male and female labor force, improving the quality of public facilities, and reinforcing the independence of satellite city.

2.3 Organic Decentralization Theory

Organic Decentralization Theory concerns urban development and spatial layout structure which Eliel Saarinen, a Finnish town planner, developed to cope with the various problems brought about by over-expansion of the big cities. According to Saarinen, cities disintegrate step by step: new towns do not abruptly separate from the central city but move away organically.

The overall Saarinen's theoretical system can be mainly manifested in his *The City—Its Growth, Its Decay, Its Future* published in 1943. He applies his knowledge about living organisms and the human body to research about cities and believes that a city, having the same inner sequence as the living organisms, is also an organism. A city is also made up of many cells with certain gaps in between. A living organism grows up by constant cell reproduction and each cell expands towards space nearby. Such space is reserved for cell reproduction in advance and thus can make the growth of the organism more flexible and less dangerous.

Saarinen maintains that, to control the decay of modern cities and promote urban development, three goals should be achieved. First, transfer all kinds of activities of the run-down area to suitable places according to a proposed plan. Second, renovate the above-mentioned emptied area and convert it for other most suitable purposes. Third, protect the value in use of both the old and the new. Therefore, organic decentralization is to divide the crowded areas of the big city into a couple of centralized units and then organize them into "correlated and functional concentrated points in activities". In this way, the originally dense urban area breaks up into individual towns separated by greenbelts.

Organic Decentralization Theory holds that some public and urban administrative department must be deployed at the center of the city. Both heavy and light industries should be evacuated out of the urban center. Because of the evacuation, a lot of empty land of large acreage in the city center should be used to increase green land and supply housing for those who have to work at the central area of the city, such as technicians, administrators, and dealers, so that they can enjoy family life nearby.

According to Organic Decentralization Theory, areas for personal daily life and work or "routine activities" as called by Saarinen should be aggregated. Areas for infrequent "occasional activities" (for example, competitions and performances), not needing to be restricted to a certain site, should be dispersed. Daily activities are taken on a certain domain as much as possible, the amount of traffic is reduced to a minimum, and mechanized vehicles are not always necessary. In daily life, people should travel on foot and make full use of modern transportation. Commuting to areas for occasional activities is no problem even if the journey is a little long, because in the green land beyond the domain of routine activities are major traffic roads, on which people can travel back and forth at high speed.

In 1915, Saarinen and Bethel Jung, entrusted by a private developer, made an expansion plan of 170,000 people for a Finnish Helsinki New Town Munkkiniemi-Haaga, also known as the "Greater Helsinki" plan. Conforming to the

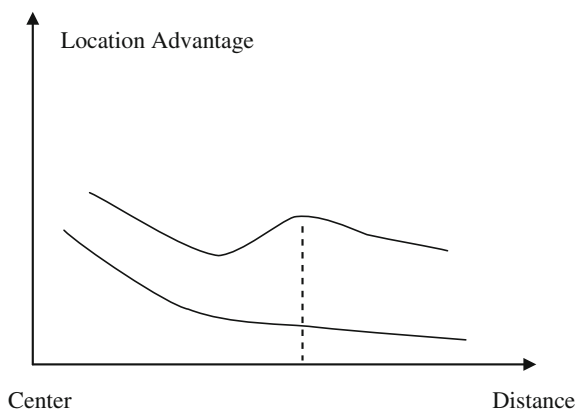
principles of Organic Decentralization Theory, it asserts that quasi-independent towns should be set up near to Helsinki, and the city should be given directed guidance to control its further expansion.

After World War II, many big cities in the West guided by Saarinen's Organic Decentralization Theory adjusted their urban development strategies and formed a healthy and orderly development mode. Greater London Plan and Grand Paris Plan are considered to be the most famous examples. Greater London Plan, completed in 1945, made an overall arrangement of spatial order for the metropolitan region around inner London. To attain the goal of evacuation, over ten new towns were to be built to receive the overspill population of London and help the postwar reconstruction by relieving the pressure of the city. Successful population evacuation should give credit to these new towns which broke down the function of London and supplied job opportunities at the same time. Later, although the government changed several times, the planning was carried out all the same, and a series of new towns were built. Since 1960, however, many scholars began to doubt the simple practice of the Organic Decentralization Theory applying rules of other subjects mechanically into city planning.

2.4 Theory of Urban Agglomeration Economies

Agglomerate economy theory is the classical principle of urban and regional economy theories. In 1909, the German economist Alfred Weber published his masterpiece *Industrial Location Theory*, in which he first mentioned that analysis and research of economic agglomeration's role should be strengthened. He defined agglomerate economy as benefit or economy gained from production or sale because of the production being carried out at the same place according to a certain scale. Agglomerate economy refers to "all kinds of benefits brought about by clustering of economic activities (not limited to a single industry) in space." It is a kind of systematic force to improve efficiency and reduce cost through economies of scale and scope. When multiple industries flock towards the city, agglomerate economy appears. This is urban agglomeration economy. At the early stage of agglomeration, agglomerate economy shows obvious effects: diseconomies of agglomeration are very weak and it is agglomerate economy that attracts the flow of population, commodities, and information. When it reaches a certain scale, a city is formed. Then the city expands its size more quickly. However, when the scale develops to a certain degree, the gradually robust diseconomies of agglomeration constantly impair the role of agglomerate economy. At this time, the inputs of marginal utility decrease progressively, and even aggravate the process of agglomeration towards decentralization, for example, the rocketing price of urban land, increasing congestion cost, serious destruction of ecological environment, etc. As a result, some of the urban enterprises and residents gradually move away and usually form a new agglomeration at the suburbs (Fig. 2.2).

Fig. 2.2 Changes of the urban agglomeration area (center)



Either agglomerate economy or diseconomies of agglomeration is a process of advantage location selection of resources, a process of economic factors moving and flocking towards the location providing the biggest advantage. Formation of new agglomerate centers is a result of evolution and adjustment of urban spatial structure. The process not only optimizes the structural upgrading transformation and adjustment of the original city center, but also drives coordinate development of the overall functions at urban areas.

2.5 Urban-Rural Integration Theory

As early as 1847 Engels had raised the concept of “urban and rural integration” in *The Principles of Communism*. However, in the city developmental theory field, it is Ebenezer Howard, a British social activist, who first put forward such an idea. In *Tomorrow: A Peaceful Path Towards Real Reform*, along with Garden City Theory, he also advocated to “replace the old social structure of urban-rural division with the new social structure of urban-rural integration”. “City and country have their own advantages and corresponding disadvantages although urban-rural integration can avoid the disadvantages of both.” “City and country must get married, and the happy combination ignite new hope, new life, and new civilization.” Urban-rural integration mainly has the following characteristics. Location of a Garden City should occupy agricultural land as little as possible. Whoever purchases urban land must set up or join a stock company. Urban population size should be limited to about 32,000 people. Land of Garden City should encompass a certain amount of agricultural land. Another new Garden City can be built nearby.

Arthur Lewis, an American scholar, is the first development economist who studied the influence of dual structure on economic development. In *Economic Development with Unlimited Supplies of Labor* (1954), he points out that developing countries usually have two totally different economic sectors: modern

industrial sector and traditional agricultural sector. The central center of economic development is the structural transformation from traditional agriculture to modern industry. McGee, a famous Canadian scholar, raised the concept of “desakota” (desa means “village”, and kota means “city”), which is used to describe the result of the dual action the city and the country have taken at the same place and time. It is neither rural nor urban but both rural and urban. Moreover, “with the emergence of desakota, metropolitan areas in the real sense come into being and rural-urban continuum become more urbanized at all levels.” That is to say, urbanization based on regional integrated development, in essence, is coordinated and integrated development between urban areas and rural areas.

Urban and Rural Integration Theory, as a goal concept for regional development, is becoming more and more widely accepted. It maintains that urban-rural integration, as an ideal development goal, gradually comes true in the long-term process of continuous optimization of regional social economy. This is a two-way process. This positive two-way evolution can take place between the city and the country and between the city and the region by absorbing advanced and healthy elements and discharging backward and undesirable elements of either. Under the condition of highly developed productive forces, urban and rural integration is a process in which the city and the country are combined together, share resources, market, and mutual environments with each other, and, finally, achieve a coordinated development in economy, society, and ecology. Urban and rural integration needs overall regional effort: on the one hand, reinforce the construction of the boundary network system between the city and the country and guide reasonable layout of regional space; on the other hand, rely on improving urban function and enhancing urban radiation, removing the obstacles of system and mechanism and encouraging the city to support the country.

The New Urban Area Development

A Case Study in China

Shao, Z.

2015, XXXV, 417 p. 42 illus., Hardcover

ISBN: 978-3-662-44957-8