
On the choice between the international and China spatial planning system patterns

Cai Yumei Gao Ping Wang Jing Liao Rong

(China Land Survey and Planning Institution, Beijing, 100035)

Abstract: National space planning system is one management tool for land space, which is formed in some certain periods of society and economy development. This paper summarized some typical cases of space planning systems selected from Germany, Japan, Britain and USA, and analyzed some important factors as management system, economic institutions, economic development stage and resources endowments which influence the national space planning system in China. Based on the summary and analysis above, this paper proposed the suggestions for China's national space planning system.

Key words: space planning system, patterns, China

China has been engaged in land use planning and urban planning as its space planning for many years, during the continuous process adjusting to the demands of social and economic development in the recent years, the guiding and controlling functions for space use have been strengthened to some extent. The planning for principal function regions, according to space development ways, has divided the territory of China into four land use categories as development forbidden region, development control region, key development region and development optimize region. So, we can see the rapid development of various space planning and the growth of interrelation, connection and coordination among them. Objectively, we need to establish a standard and well-disciplined space planning system. This paper summarized the characteristics of space planning in some developed countries, discussed some factors which influence the pattern choice for space planning system in China, and proposed the suggestions for the establishment of space planning system accord with the national situation of China from the point of view of space planning system.

1. Patterns of international space planning system

The relation of land use planning and urban planning to space planning and territory planning is different in different countries. From the relation of land use planning and urban planning, we summarized the following four patterns of the space planning in the typical countries.

1.1 The vertically decomposed German pattern

Germany is a country where launched the earliest space planning in the world. According to its “ space planning laws ”, (Raumordnungsgesetz ROG) and “ space

planning regulations ” (Raumordnungsverordnung RoV) , there are many detailed stipulations for the tasks, principles, concepts concerning space planning, the constrain roles requested by space planning, the making procedure of space planning at state level and the levels below, the contents of space planning which needs to be coordinated and the contents of space planning at federation level. The space planning in Germany is divided into four levels, the federation level, state level, region level and small town level. The planning at small town level then is divided into two categories, i.e., land use planning (preparation, Bauleitplan) and construction planning (compulsory guide planning for construction, Flaechennutzungsplan) . The core of land use planning is to determine the land use layout within the limits of small towns (city area), including construction land use, public land use or public facilities land use within the limits of small towns, local traffic land use or cross areas traffic land use, land use for prevention of harmful impacts on environment (separation belts) according to “ federation shelter laws against atmosphere pollution ”, land of water areas, ports land use, water conservancy facilities land use and land use for flood control and flood discharge and so on.

1.2 The Japanese pattern of space planning paralleled to land use planning

After the Second World War, the land use planning in Japan was separated from the territory land use planning. In 1974, “ laws for territory land use planning ” definitely regulated that the national and regional land use planning ought to be made at every levels. The territory land use planning was based on the direction of the territory land use, it has played an administration guide role in land use practice, from the point of view of development, use and protection of land resources, the territory land use planning fixed the basic outline plan for land use principles, land use amount, land use layout direction and the implementation measures. The national land use plan was divided into three levels, i.e., the national level, the prefecture level and local level. The central government is responsible for the making of the territory land use planning, the basic thinking of national land use, various goals for land use, outlines of every region and the measures for the implementation of various goals are included in the contents. Prefectures and local governments are responsible for the making of their basic land use plans. All areas, as urban areas, agricultural areas, forest areas, natural parks and natural protection areas, have their land use plans aiming at adjustment of land use direction, definition of land use direction, principles and constrains of land use. The limits of planning in urban areas are more or less the same as the urban areas planned by the territory land use planning, the urban planning law is only applicable to the urban planning areas.

1.3 The British pattern of integrated urban-rural planning

Britain is the earliest country for the legislation of urban-rural planning in the world. By “ the law for the planning and compulsory purchase ” issued in 1004, it established the planning system with more elasticity and the relevant ability in general. Its planning system which was adapted to its administrative system (after 2004) was also divided into three levels, i.e., the central level, regional level and local level. Planning Policy Statements (PPS) for every field were compiled by the State, with

the policy orientation, within the PPS, many documents are included as the documents for planning policy (PPS) , the documents for mineral policy (MPS) , guide points for mineral planning (MPG) , announcement and parliament documents as well. For the regional levels, they are responsible for the compilation of Regional Spatial Strategies (RSS), focused on regional development and land use. The organization for the regional planning is responsible for the compilation of Regional Spatial Strategies (RSS) (it is called also SDS in the Great London area), the determination the development in the future 10 to 15 years, and the demands of land use. The governments of prefecture and towns are responsible for the compilation of Local Development Frameworks (LDF), including local development schemes (LDS) , local development documents (LDD) and social participation documents (SCI) .

1.4 The free style American pattern

The United States of America is a federation country, it never has the nationally united planning system and the national planning. But, things are different from one state to another. Some states have complete planning at every level, however, for some other states, they only make planning at some local levels, so, there is diversity character in the planning in USA. The administration setting of American government is composed of federation government, state government and local government. The regional plans, the state comprehensive plans or land use plans and the county comprehensive plans are typical plans. The typical regional plan is the plan for Tennessee valley in early time. Among the state plans, Hawaii comprehensive plan in 1961 divided its land use into four land use categories, urban land use, rural land use, agricultural land use and reserved land. Most of the counties have their comprehensive plans.

2.The factors influencing the patterns of national space planning system

2.1 The governmental management organization

The Bureau for Territory Land Planning of Japan is responsible for territory land planning and territory land use planning. Japanese government is composed of the organizations at three administrative levels, i.e. the central government, prefecture government and local government. In Germany, it is the Ministry of Federation Communication-Construction and Urban Development within the federation government that is responsible for the affairs of space planning. The government in each state is not the same. For some states, it is the ministries of environmental or natural protection and agriculture which are in charge of space planning (such as North Wiesbaden State), however, for some other state, it is the ministries of economy, communication and regional development are in charge of space planning (such as Hessen State). The administrative organization in German government is divided into five levels, that is, federation level, state level, regional level, county level and small town level, but four levels for space planning. In Britain, the communities and local governments are responsible for urban-rural planning, but its administrative system is composed of three levels, that is, the central government, prefectural government and town government (there are some differences in the

government structure in England). The administration structure of American government includes federal government, state government and local government. The administration structure below state government is set by state constitution and state law, there are many administrative organizations below the state level. Normally, the States has municipality government, county government and town government. Municipality government refers to the government set by the city, it is not under the leadership of state government. The county government is the deputy organization of the state government, it is subordinate to state government. The towns and some rural areas are mainly those areas where have so few jurisdiction from above that they are not qualified to be the areas adhered to cities, but, they could be determined towns and rural areas after ratification by state government, and they can establish the corresponding governments.

2.2 economy system

The differences of economic systems among the countries determine the corresponding differences of the space planning patterns. For example, Japan is a market economy country dominated by bureaucratic administration, its space planning is not only with a complete system, but also has a very close relation with the relevant plans. But, for Britain, it is a country with mixed market economy, its urban-rural planning system focuses on guide principles at state level, but stresses the legal effects of the planning at lower levels. Germany is also a market economy country but with social orientation, its space planning at federation level is comparatively macro, but the space planning at lower levels is concrete, particularly for the planning at town levels. For United States, it is a country with free market economy, it has not its national space planning right now, but some regional problem oriented plans, the comprehensive plans compiled by counties are equivalent to territory land plans.

2.3 economic development stage

Britain is an early industrialized country in the world, but it is in its period of post-industrialization, it started very early its integrated urban-rural space planning. After the Second World War, the economic development of Japan could be roughly divided three stages, i.e., stage of economic revival (1946-1960), stage of high growth of economy (1960-1980) and the stage of steady growth of economy (since 1980). Correspondingly, the territory land use plans in 1960s and 1970s were correspondent to the patterns of strongpoint development which were proposed by “ the first national comprehensive development plan ” (1962) and the large scale project development patterns proposed by “ the second national comprehensive development plan ” (1969), which included new network, industries and environmental protection. In 1980s and 1990s, the territory land use plans of Japan were correspondent to the patterns of “ settlement idea ” proposed by “ the third national comprehensive development plan ” (1977) and the patterns of “ exchange network idea ” proposed by “ the fourth national comprehensive development plan ” (1987), these plans focused on the creation of multiple polar land use and strengthened the construction of recreation program areas, the development patterns of “ participation and coordination ” by “ the fifth national comprehensive

development plan ” (1998) focused on the composition of territory land structure with multiple axles.

2.4 resources endowment

In 2005, the total land area of Japan is 0.38 million km², the total area of agricultural land use is 0.30.2 million km² accounting for 80 per cent of the total land area, the total area of construction land use is 317 ha accounting for 8 per cent of the total land area. The per capita agricultural land is 0.037 ha. According to the statistics (the standards in the category of Department of Agricultural Economy) by the Ministry of Agriculture, USA in 2002, the total arable land of USA is 177 million ha, 19.5 per cent of the total land area; 236 million ha for grassland, which is about 25.9 per cent of the total land area; the total forest land area is 261 million ha, which is about 28.8 per cent of the total land area, the total land area for special use is 119 million ha accounting for 13.1 per cent of the total land area, urban land use area 24 million ha accounting for 2.6 per cent of the total land area, the total area for other land use including desert, wet land and wasteland is 92 million ha, about 10.1 per cent of the total land area. The per capita arable land is about 0. 62 ha. From the data in 2000, the total area of residence and communication land use in Germany accounted for 12 per cent of the total land area, but the area of agriculture and forest land use surpassed 85 per cent (arable land area in total is 11.9 million ha), another 3 per cent of the area is for water area, idle land or wasteland. Its per capita arable land is 0.14 ha. It is clear that the pressure from arable land protection task is not heavy for USA and Germany. For USA, it more stresses on the ecological function of its arable land, for Germany, it protects its arable land as the ecological space, but for Japan, the arable land protection is the most stressed task in its planning.

3.The basis for the choice of space planning system of China

3.1 administrative system

The sixth organization reform in 2008 determined that the State Council is composed by 27 ministries, including the State Development and Reform Committee, the State Energy Committee, the Ministry of Land Resources and Natural Resources, the Ministry of Environmental Protection, the Ministry of Housing and Urban-Rural Construction, the Ministry of Communication and Transportation and the Ministry of Agriculture. The administrative levels are five, i.e., national level, provincial level, municipality level, county level and township level. The characteristic of administrative organization structure in China is not the structure composed by large and strong ministries, this characteristic determines the diversity in the space planning in China, meanwhile, this structure also shows the importance of enhancing the coordination of the space planning.

3.2 economic system

At present, the socialism market economy system has been established primarily, the fundamental role in the resources allocation played by market has been obviously promoted, the macro control system has been greatly improved. In 2002, matured socialism market economy system was established. It is better for the space planning

to avoid the overall coverage pattern of the planned economy. We have to take the pattern for the space planning which aims at controlling external effects and realizing public interests.

3.3 economic development stage

From industrialization theory point of views, China has entered into the middle stage of industrialization. If looks at from the industrial structure evolution point of view, China has entered into a new stage of the heavy and chemistry industry development, the characteristics of this stage are that it is adapted to the need of consumption structural promotion, it is based on market, more technological factors, added value and strong sustainability have been greatly promoted. If looks at the reversed curve of S for the urbanization, the urbanization rate of China was 44.9 per cent in 2005, the urbanization of China is in the rapid development stage. The key issue of this stage is how to deal with the contradiction between resources protection and development, so, to establish a perfect space structure and coordinate space policies will be the most important thing for this stage.

3.4 resource endowment

China is a country with a huge area for its territory, but, in general, China faces some problems in its resources endowment, as low quality arable land, low per capita arable land, and limited reserved arable land, these problems and the huge population scale determine the important position of arable land protection in our land use planning. According to the data from the land change survey, in 2009, the total area of arable land is 122 million ha, accounting for 12.8 per cent of the territory land, the per capita arable land 0.093ha, but USA and France have a higher per capita arable land. Resource endowment has an important impact on the contents of space planning.

4.The suggestions for the space planning system pattern in China

4.1 To establish the space planning system which aims at the leadership position of the territory land plans, under its integration, the connection between the existing plans and the territory land plans should be constructed.

Related with the administrative system of China, the urban plans in the space planning have experienced the transition in the recent 30 years around, the former urban plans focused on the urban construction only, but the new ones focus on the modernity of urban development. Right now, we have primarily established the following five planning systems, as the urban system planning, city planning, small town planning, township planning and village planning, as well as the comparative complete law and regulation systems. For land use planning, we have also formed the following five planning systems, i.e., the land use planning systems for state, province, city, county and township. In 2005, in the document issued by the State Council “ Some Suggestions for the Promotion of the Planning Compilation Work of National Economy and Society Development ”, the establishment of management system at three levels (state level, province level and city and town level) for the three category planning was proposed, these three category planning refers to general planning , planning for special purpose, and regional planning. Meanwhile, planning

normally acts as the public management function of government, these three category planning is becoming more or less the same in their system and contents. To take the development of territory land planning as the starting point, we need to establish the space planning system which aims at the leadership position of the territory land plans, under its integration, the connection between the existing plans and the territory land plans should also be constructed.

4.2 The contents of national space planning and their adaptation to the economic system and development stage

To construct the pattern of territory space planning which is adapted to socialism market economy system is the inevitability for the deeper reform of economy. The socialism market economy system requests that market should play more important and more fundamental role in resources allocation. The macro adjustment role of the state should be more perfect, the social management and public service functions by government should improved. The space planning should have a strong function as a basic market force, which can be used to remedy market failure, and which can be used to allocate resources effectively, and which can be used to promote the sustainable development of society and economy. At the same time, it should be responsible for the mitigation of the contradiction between the development and the resource protection during the period of rapid industrialization and urbanization in China.

4.3 To strengthen the technological coordination in the compilation of space planning

We have to form the dynamic and renewed mechanism for data, and to discuss and establish the basic integrated, open and dynamic platform of space data because of the need of comprehensive arrangement and coordination of the space investigation, reviews and the relevant research results by different organizations and different levels; and the need of the identity for basic space data and social and economic data. We also need to gradually establish the coordinated and identified standard system for space planning, such as, the classification system of urban-rural land use, regional division system of land use, so, we can have the identity of significance contained in the basic concepts and their transform character. Finally, based on the adaptation and the analysis of the space skills which have their own advantages and could be mutually replenished, the methods for fixation of space scale and space division, we may form an integrated techniques and method system for space planning.

4.4 To strengthen the policy coordination in the compilation of space planning

It is the very important aspect to keep the practical operation of space planning system, for this purpose, we need to manage the same space areas by different space planning from different scale and angles, and to coordinate the policy measures adopted by various space management. For the implementation of land use plan, we mainly adopt the following measures, that is, the management of land use plans, the preliminary scrutiny of construction programs, and the approval of the use transition of agricultural land. For the urban-rural plans, we have mainly adopted the planning license, which includes the suggestion report for the site selection of construction

project, the license for the planning of construction land use, and the license the planning of construction engineering, we called it as “ one report and two licenses institution ”. The implementation measure for the key function region planning is more macro, according to the different function regions, we adopted a series of differentiated policies for finance, investment, industry, land, agriculture, population and environment. Vertical land use plans and urban plans should be ratified by different administrative levels. In correspondence to the functions of their own administrative organization, the different space plans adopted different implementation policies. It is important for us to establish the implementation system, which may play the role in the horizontal connection between the different plans and in the vertical integration and coordination between the plans at different levels.

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