

# Analysis of Evolution of Urban and Rural Land Use Planning System in Modern China from the Perspective of Ingestion and Originality

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**Abstract:** The urban and rural land use planning in modern China evolved by continually absorbing international planning theories and concepts based on the domestic practice of land management and planning. During the period of planned economy, China learned from the successful experience of the Soviet Union in social and economic development, as well as urban and rural land use planning. During the period of economic transformation, the land use planning system was influenced by foreign experience other than the Soviet Union. This paper reviews the impacts of learning from foreign countries on urban planning, land use planning, territorial planning, and major functional zoning planning at different times since the foundation of the PRC. It explains the evolution process of relevant planning through integrating foreign experience and domestic innovation, and eventually establishing a planning system with Chinese characteristics and adapt to national conditions. In the end, the paper attempts to put forward some enlightening suggestions for the ongoing territorial spatial planning reform.

**Keywords:** Urban and Rural Land Use, Planning, Evolution, International Experience, Territorial Spatial Planning Reform, China

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The urban and rural land use planning in modern China evolved by continually absorbing international planning theories and concepts based on the domestic practice of land management and planning. With the transition from a planned economy to a socialist market economy, China turned from copying the Soviet planning model to learning and absorbing planning experiences from other developed countries and regions, so as to facilitate the development and improvement of the land use planning system. From the perspective of being influenced by overseas experience, this paper focuses on the development of urban planning, land use planning, territorial planning and major functional zoning planning. In addition, it puts forward a few enlightening suggestions on the establishment of territorial spatial planning system in the context of State Council Institutional Reform.

# **1 Urban planning: from copying the Soviet planning model to introducing the western ideas**

## **1.1 Copying the Soviet planning model under the uncompensated land use system in planned economy**

In the early days of the P. R. China, urban planning started under the direct guidance of experts from Soviet. With the introduction of the planning model of the Soviet Union as a whole, the master planning system was initially established <sup>[1]</sup>, which laid an important foundation for urban planning in that period <sup>[2]</sup>. Influenced by the mainstream industrial rational planning thinking of the Soviet Union, that socialist cities were all industrial cities, and that industrial production was the priority of planning, the urban planning thoughts of the Soviet Union had two typical characteristics. First, urban planning was the extension and specification of the national economy. Second, their socialist cities featured industrial production and corresponding industrial land layout <sup>[3]</sup>. In China's First Five-Year Plan (1953-1957), the key tasks were to concentrate efforts on the construction of 694 large-and-medium-sized industrial projects, among which 156 were financially and technically aided by the Soviet Union <sup>[2,4]</sup>. At that time, land use was a key component of urban planning which served industrial production and workers' living. Under the direct guidance of the Soviet experts, a series of planning activities carried out in China, including selections of industry sites, layouts of industrial and living area, arrangements of infrastructure and the overall city planning and its implementations <sup>[5]</sup>, which all facilitated the development of industrial construction and the formation of a number of new industrial cities. In terms of site selection, relative factories were coordinated and arranged together so as to save land and improve efficiency. Facilities and infrastructures for both production and residing were simultaneously planned, designed and developed <sup>[3]</sup>. According to the pollution levels, greenbelts of different width were built between industrial and residential areas. During the 1st and 2nd Five-Year Plans, a number of major cities completed their planning and redevelopment. Shenyang, Wuhan and Harbin adjusted their zonings and industry layouts and restructured road networks to strengthen connections between different zones; they built new villages for workers based on the expanded industrial zones. Some new industrial cities such as Luoyang, Lanzhou, Xi'an, Chengdu, Baotou, were built using the Soviet Union's concept of parallel development for producing and living areas, as well as their theories of residential district planning. The planning treated old and new urban districts as a whole and emphasizing historical context protection <sup>[5]</sup>. Some other

cities, like Zhuzhou, Pingdingshan and Maoming, were planned close to resource destinations and key industrial sites. They adopted functional zones of industrial, residential, transportation and recreation, and formed dispersed and self-contained “producing + living” integrated units <sup>[6]</sup>. The land use planning in this period manifested the Soviet Union’s theories of “balanced distribution of productive forces” and industrial district planning <sup>[7]</sup>, which were married with domestic urban planning ideas and facilitated most of Chinese cities’ construction. Therefore, urban planning began to have a clear role, and the first generation of planning professional team appeared, and a modern urban planning system started to take its form.

Into the 1960s, the domestic political and economic environment changed continuously, and Sino-Soviet relations deteriorated gradually. As a result, urban planning in China lost direct financial and technical supports from the Soviet Union. Thanks to the foundation laid by the former Soviet model in the last decade, a team of planning professionals in China has been established. They still utilized Soviet planning methods but considered more domestic circumstances under the planned economy. Urban planning in China began a relatively independent exploration. Following the requirement of “extensive dispersion with localized concentration” over the Third Front Movement, Chinese urban planners explored new types of planning models, such as an industry-agriculture mixed mining city in Daqing, a pinwheel-cluster model in Hefei, and a mountain belted cluster model in Panzhihua.

The urban planning influenced by the Soviet Union was the extension and specification of the national economic plan. It was closely tied to the planned economy and political powers, emphasized the spatial functional separation and allocation, which promoted the industrial construction in the early days of the P. R. China. The strict function division of urban lands and rational coordination can optimize land use and avoid interference between different functions <sup>[8]</sup>. In 1953, a handbook “Urban Planning: Technical and Economic Indicators and Calculations” was introduced from the Soviet Union into China, providing common technical indicators as a reference in planning practices <sup>[9]</sup>.

## **1.2 Regulatory detailed planning created upon the paid land use system: Introduction and transformation of zoning experience from the United States**

During the time of the unpaid land use system under the planned economy, detailed planning in China was impacted by the large-scale

public construction projects under the Soviet public ownership economy. It was limited by plot subdivisions, rearrangements of pipelines and roads<sup>[10]</sup>, and designations of property lines, showing a rigid form of planning. Since the development density derived from this method often violated the laws of market economy and lacked flexibility and elasticity, the plans were not very operable and practical. The theories and practices of zoning in the US was profound, despite the first zoning regulation put in place in Germany in the late 19th century. Since the first citywide zoning resolution implemented in New York in 1961, a series of management tools were created to enhance the flexibility of zoning, including plot ratio, bonus plot ratio, and transfer of development rights. In 1980, the Association of Women in Architecture visited China and introduced a brand new concept of zoning. In the same year, the National Urban Planning Conference was held, in which it was resolved that all cities should make and revise their master plans and detailed plans.

In the early 1980s, Shenzhen City began to levy urban land use fees in response to international conventions of foreign invested constructions. In 1982, following the international planning practice of processing industrial park, Shanghai Hongqiao Development Zone divided the entire area into several plots, and proposed eight indicators for each plot to specify land use. It was a management-focused land development planning that directly served for development negotiation<sup>[10]</sup>; the prototype of regulatory detailed planning in China began to appear. In 1987, Tsinghua University introduced the idea of zoning in the detailed planning of the central area of Guilin, where the name of “regulatory detailed planning” was formally proposed. The central area was divided on three levels: district, tract and parcel. For each parcel, land use, development density and environmental requirements were specified by twelve indicators, and the basic methodology of regulatory detailed planning was initiated<sup>[11]</sup>. One year later, the central city planning of Wenzhou learned from both domestic and international best practices and formed a relative complete set of regulatory detailed plans, which symbolized the infant development of this type of plan. In 1991, the “Measures for Formulating City Planning” clarified the contents and requirements of the regulatory detailed planning.

In 1992, the 14th National Congress of the Communist Party of China proposed to establish a socialist market economy system, which significantly changed the investment channels, development stakeholders, construction methods, and other construction mechanisms of urban development. The original detailed planning under the planned economy became hard to operate in the new situation<sup>[12]</sup>. In order to serve the municipal operation and land development under the market economy,

the regulatory detailed planning continued to be improved. One of the representative example was the statutory graphic standards employed by Shenzhen in 1996, following experience of Hong Kong and the United States<sup>[13]</sup>. The “Urban and Rural Planning Law” adopted in 2007 further clarified the legal status of regulatory detailed planning and treated it as the basic rule for setting planning conditions on the right to use state-owned lands. In 2010, based on local practical experiences, the “Measures for the Preparation, Examination and Approval of Regulatory Detailed Plans on Cities and Towns” was promulgated and implemented in the following year.

Overall, the regulatory detailed planning in China was first introduced from the concept of zoning; however, the substance learned from the US was very limited, because of the distinctions in political and land management systems. Primarily using domestic practical experiences, a set of planning management measures suitable to Chinese condition were then gradually established. The regulatory detailed planning abides by the public ownership of land to determine the future land use and building density; it is a tool to regulate market development behavior, while certain discretion can be allowed in practice<sup>[14]</sup>.

## **2 Land use planning: from studying the rural land consolidation of the Soviet Union to establishing the land use regulation system in China**

### **2.1 Land use planning under planned economy: Learning from the Soviet Union rural land consolidation planning**

In the early 1950s, land use planning was introduced into China from the Soviet Union, which was known as “land consolidation” and later renamed “land planning”. At that time, land planning focused on improving agricultural production capacity, and it was essentially rural land use planning, mainly including site selection of rural residential areas and business centers, allocation and internal plan of agricultural production land, as well as arrangement of rural transportation and irrigation networks. Since 1954, state-owned farms in Heilongjiang, Xinjiang, Hainan and some other provinces successively carried out land use planning<sup>[15]</sup>. Under the specific guidance of experts sent by the State Farm Department of the Soviet Union, Friendship Farm in Heilongjiang Province introduced and applied the land consolidation theory and engineering technology of the Soviet to carry out land planning and consolidation based on the Soviet’s standards and requirements of the state farm<sup>[16]</sup>. Soviet experts also went to Xinjiang, Hebei, Guangdong and other places to guide planning and land consolidation. In the 1960s,

in accordance with requirements of the development of heavy industry, rural land planning aimed to provide the appropriate land organization conditions, in order to meet the needs of agricultural mechanization and electrification.

## **2.2 Master land use planning under market economy: Establishing the land use regulation system**

In 1992, Deng Xiaoping put forward the goal of socialist market economy during his inspection tour of Southern China, injecting strong impetus into the economic and social development. In the early stage of the establishment of the socialist market economy system, the economy grew extensively, and some coastal cities experienced the “real estate boom” and “development zone boom”. Thus, land became an important asset of local governments. Under such development upsurge, the rate of arable land reduction reached a peak. In 1994, Lester R. Brown, an American scholar, published a report “Who Will Feed China?”, and the problem of drastic reduction of arable land became highly concerned by the central authority. In 1996, the State Council promulgated the “Notice of Strengthening Urban Planning”, calling for efficient and rational use of land and strict control of city size. In 1997, the Central Committee of the CPC and the State Council promulgated the “Notice of Further Strengthening Land Management to Protect Arable Land”, and proposed requirements for the preparation of master land use plans aiming at protecting arable land and achieving the dynamic balance of the total amount of arable land. To protect the cultivated land, achieve the dynamic balance of the total amount of cultivated land, and so on, and propose a series of requirements for the preparation of the overall plan for land use in the new era. By the end of 1996, most of China’s provinces, autonomous regions, and direct-administered municipalities have completed the compilation of the first round of master land use plans at the provincial level, and the prefecture, county, and township-level master plans were also carried out extensively. Meanwhile, the “Land Administration Law” was revised accordingly, stating that the State is responsible for the land use regulation and master land use preparation, which strengthened the overall management and control capability of the master land use plans on urban and rural land-use. In 1999, the State Council issued the “Outline of the National Master Land Use Planning (1997-2010)”. By the end of 2000, the five-level plan from the State to towns has been largely completed for implementation. As a result, China has established a top-down supervision planning preparation system that has essentially aims to direct demand with land supply limitation,

and that fully respects arable land protection, while developing the planning implementation system around land use regulation. This laid a foundation for the technical system and institution construction for the master land use planning in Modern China. Land use regulation first appeared in Germany and the United States. Germany used zoning approach to divide the city into several functional zones, while the US added density limit. After World War II, a large number of land use regulation tools were created, including controlling urban sprawl, protecting agricultural land, guiding land use and development via zoning, density and FAR regulations, and managing land use behaviors through planning permits <sup>[17]</sup>.

Beginning from 2003, the state council has deployed land market governance and rectification focusing on a comprehensive inventory of development zones, involving land use policies into macroeconomic regulation and control. The Decision of the State Council on Furthering the Reform and Intensifying the Land Administration (No. 28 [2004] of the State Council) marked the start of the third round of master land use plan revision. The plans aim to strengthen the macroeconomic control role of land management, guarantee arable land lines, optimize the land use structure, utilize land in a scientific and rational manner, and protect ecology. In 2008, the “Outline of the National Master Land Use Planning (2006-2020)” approved by the State Council proposed to adopt the urban and rural construction space regulation system. Four spatial regulation zones—areas suitable for development, areas for conditional development, areas for limited development, and areas prohibited for development—were defined by three lines: scale boundary, expansion boundary, and non-construction boundary. The comprehensive implementation of the spatial regulation of construction land developed from land use regulation indicated that the master land use planning gradually turned to a comprehensive regional planning, based on land resource utilization.

### **3 Territorial planning: from studying the land consolidation of Europe and Japan to the development-conservation-consolidation unity of China**

#### **3.1 Territorial planning in the early stage of Reform and Opening-Up: Introducing ideas of land consolidation from Europe and Japan**

During the post-World War II recovery and reconstruction period, many European countries carried out territorial planning focusing on spatial alignment of industry construction and urban development. In the 1960s

and 1980s, urban environment deteriorated with rapid industrialization and urbanization, and the territorial planning received unprecedented attention. During this period, Japan formed four national comprehensive development plans; Netherlands compiled four national land plans; France conducted a comprehensive land planning and divided the country into several interconnected areas.

After the Reform and Opening-Up, China began to pay attention to each role of land resource development, utilization, and protection in the overall development of the nation. The former Soviet rational planning model employed the construction and engineering methods as the technical system of urban land distribution, and thus it lacked comprehensiveness and flexibility. Therefore, the planning community began to analyze the advantages and disadvantages of the Soviet model, and concurrently introduce experience of developed regions such as Europe and Japan. In 1978, the senior leaders of the central government visited Western Europe for the first time and were greatly inspired by their land consolidation. Upon return, they proposed to enhance the comprehensive coordination and planning management of land development and conservation; as well, they set the comprehensive coordination of economic development, population, resources, and environment as the essential task of territorial planning <sup>[18]</sup>. In 1981, the 97th meeting of Secretariat of the CPC Central Committee proposed to improve land consolidation and to engage legislation and planning. After the State Council Institutional Reform in the following year, the State Development Planning Commission took the lead in compiling a national territorial planning <sup>[19]</sup>. From 1982 to 1984, pilot projects for regional territorial planning were carried out in more than 10 areas, including Beijing-Tianjin-Tangshan region, and Yichang, Hubei. Upon the pilot project results, there became a proposal of the national strategy of territory development and consolidation, and the layout conception of productive forces <sup>[20]</sup>. The Outline of National Territorial Planning began to compile, with a reference of Japanese experience. As of 1993, 26 provinces and municipalities across the country completed the preparation of territorial planning.

The territorial planning developed by summarizing the lessons from the economic development and land utilization since the founding of PRC, and learning from international experience of land development and consolidation. As can be seen from the academic research work at that time, the concepts of territorial planning was largely influenced by those of western developed countries. A number of scholars studied the experience of land consolidation overseas. Taking the United States as an example, the northeastern part of the Atlantic Ocean was developed first, then development took place



southward along the Atlantic Ocean and westward along the Great Lakes. In the 1930s, Midwest was extensively developed. After the 1960s and 1970s, the development focus shifted to the Southwest <sup>[21]</sup>. The land remediation in France aimed to solve the imbalance of regional economic development, including long-term planning and detailed three-year or five-year implementation plans <sup>[22]</sup>. Some other scholars introduced former comprehensive national development plans in Japan <sup>[23]</sup>. Regarding the territorial planning practice, Chinese professionals visited West Germany, Japan, Poland, and other countries to acquire knowledge and experience. West Germany set up a land consolidation planning agency and ensured its implementation through federal legislation, while establishing a complete planning system, including outline of federal regional remediation plan, outline of state regional plan and state regional development plan, regional remediation plan local development plan and urban construction master plan, and urban building master plan <sup>[24]</sup>. In Poland, the National Planning Commission was responsible for the preparation of territorial plans, which coordinate spatial development planning and economic development plan. The spatial planning of the state, province, and city linked to each other, integrating sectoral planning and comprehensive planning, urban planning and rural planning <sup>[25]</sup>. Japan also promulgated a law and established an agency to conduct comprehensive land development orderly, on a basis of the land resource inventory <sup>[23]</sup>. Since 1962, Japan has compiled three national comprehensive development plans successively, which played a positive role in coordinating economic development, adjusting regional industrial structure, forming a modern transportation network, and improving the national landscape <sup>[26]</sup>. In 1988, China and Japan jointly compiled the “Hainan Comprehensive Development Plan (draft)”. In 1992, Japan International Cooperation Agency and Jiujiang, China completed the “Jiujiang Comprehensive Development Plan (draft)” <sup>[19]</sup>. They both reflected the important role of Japanese experience in the development of territorial planning practice in China.

It is worth mentioning that during this period, planning in China still paid great attention to Soviet planning, probably due to the socialist system and public ownership of land <sup>[2]</sup>. The Soviet Union cared much of rational layout of land planning and productive forces, and established a number of regional production complexes with comprehensive development of natural resources <sup>[27]</sup>. Because territorial planning is a product of the planned economy reform, it was very similar to regional planning in terms of nature, content, and tasks. Moreover, the *Handbook of Soviet Regional Planning and Design* was translated into Chinese and published, which introduced the theory, practice, and methods of Soviet regional planning <sup>[19]</sup>.

### **3.2 Territorial planning explored in the 2010s: Coordinating and enhancing development, conservation, and consolidation**

The preparation of “Outline of National Territorial Planning (2011-2030)” began in 2011. Under the new situation and the new system, the national territorial planning focused on rational development and resource protection. In accordance with the requirements of government organizing, experts leading, department collaborating, public participating, and scientific decision-making, the “Outline of National Territorial Planning (2016-2030)” was compiled and approved by the State Council in early 2017. The outline indicated that the national territorial plan is a strategic, comprehensive, and fundamental direction of the territory development, resource and environment protection, land consolidation, and supportive system construction. It guided and regulated various activities involving the development, protection, and remediation of the territory. It also led and coordinated all other specialized territory planning. The target is to promote and coordinate development of clusters, protection by groups and comprehensive remediation. The current territorial planning promotes factor-type territory use regulation, as well as reflects the idea of enhancing protection of region-type territory. The classification of region-type of territory reflects the thinking of studying land space from the perspective of subject cognition, while the factor-type of territory reflects the thinking of understanding land space from the perspective of object existence <sup>[28]</sup>.

### **4 Major functional zoning planning: Quasi-territorial planning inspired by European spatial planning**

Into the 21st century, economic globalization changed the traditional pattern of spatial development, and the sustainable development received more and more attention. Living quality gradually became one of the determinant factors of a region’s competency. In this context, The “European Spatial Development Perspective” (ESDP) was approved in 1999 by the Informal Council of Ministers of Spatial Planning of European Commission. As a strategy to achieve a balance and sustainable regional spatial development, ESDP guides development policies of each member state by integrating European Union, transnational, and regional policies, thereby transforming pure land use and spatial layout into comprehensive planning <sup>[29-30]</sup>. Spatial planning once again acquired global focus of attention. Marked by the promulgation of the “Planning and Compulsory Purchase Act (2004)” and the revision of the “Planning Policy Statement 1: Delivering Sustainable Development (2005)”, the United Kingdom established an interlinking spatial planning system oriented to policy coordination,

consist of national, regional, and local level plans, hence formed a complete system of mutual connection <sup>[31]</sup>. Based on the original Western German territorial and regional planning, Germany established a system of federal territorial planning with a high degree of local autonomy <sup>[32]</sup>, consisting federal framework plan, state development plan, regional plan, and municipal land use plan <sup>[33]</sup>.

There are some similarities of spatial planning systems of these western developed countries and regions. First, integration of urban and rural development and coordination of regional development are of high significance. For example, the EU treated urban-rural integration and regional balance strategies as the basic guidelines of ESDP <sup>[34]</sup>; in 1998, the “Study Program on European Spatial Planning” (SPESP) also indicated a trend of increasingly diversified functional linkage between urban and rural area, sluggish traditional dual system, and strengthening concept of functional zones <sup>[35]</sup>. Germany emphasized the balanced regional development and valued urban networks synergy in the “Regional Planning Guidelines”. Second, public participation is an essential part in the planning process. Taking the United Kingdom as an example, regardless whether the central government has strong or weak interventions on local planning, it attaches great importance to the social decentralization. Public participation has always played an important role in spatial planning <sup>[34]</sup>. Third, legal and economic means jointly ensure the planning implementation. For instance, spatial planning in Netherlands is mainly implemented through county level land allocation plans. Should a county government fail implementing a plan, the statutory land allocation plan would be prepared for this area <sup>[36]</sup>. In Germany, federal legal documents include The legal documents at the highest level of the Federal Republic of Germany include “Federal Building Code”, “Federal Spatial Planning Act”, “Plan Sign Ordinance”, etc <sup>[37]</sup>. In addition to legislation and policy making, the competent authorities of spatial planning has funding to coordinate and guide development of each state <sup>[38]</sup>.

In the process of reviewing lessons from previous territorial planning preparation and envisioning development planning reform, the National Development and Reform Commission proposed the idea of major functional zoning in 2003, referencing international experience and regional coordination thinking, to enhance the guidance capacity of spatial planning. the “Outline of the 11th Five-year Development Plan for the National Economy and Society (2006)” explicitly proposed major functional zones as a channel to facilitate regional coordinating development. From the perspective of adaptability to large-scale industrialization and rapid urbanization, the territory was divided into four zones, the principal functions of which determined spatial policies and

development disciplines, in order to establish an optimal spatial structure. Subsequently, a series of work meetings were held, and major functional zoning planning was carried out at different levels led by the National Development and Reform Commission. At the end of 2007, the plan was submitted for approval. Four years later, the “National Major Functional Zoning Plan” was officially promulgated, and each province successively issued its own major functional zoning plans. This planning identified the major function of the regional territory development on the basis of evaluating resource and environment capacity, and attached importance to resource and environmental zoning. Thus, it was naturally a “regional” type planning.

## **5 Conclusions and discussion**

Since the founding of PRC, the government has formed an urban and rural land use planning system that is comprehensive, complicated, practice-oriented, and accommodative to the state circumstances. The ideas and methodology of urban planning, land use planning, territorial planning, and major functional zoning planning are generally in line with state institutions, and are consistent with the requirements of social and economic development in the different stages. On one hand, development of planning system with Chinese characteristics sprouted from domestic practice and exploration. On the other hand, it has learned broadly from successful international practices. Therefore, it can be seen as a unity of originality and ingestion.

Now in the year of 2019, the management function of urban and rural land use planning is undergoing a fundamental transformation. The newly established Ministry of Natural Resources, which is responsible for promoting the “integration of multiple plans”, including urban and rural planning, land use planning, and major functional zoning planning, is seeking to build a unified framework of preparation, implementation, and supervision of territorial spatial plans. In the new period, the territorial spatial planning should comply with the pursuit of Ecological Civilization and act as a principal, directive, and regulatory role in urban and rural land use management. With regulation-and-utilization oriented objectives, responsibility distribution and implementation approaches as premise, we suggest to build a planning system of one master planning with four special planning, and five levels with three categories, and to advance the launch of the conservation and development boundary system<sup>[39]</sup>. Specifically, the master planning is applicable to three categories of region, the nation and provinces, prefectures and counties, and municipalities under county level. In one aspect, the preparation, implementation and monitoring of master planning utilizes a top-down regulation via quota,

boundary, and directory management. In another aspect, it explores a bottom-up approach referencing public participation in community planning in developed countries. This will allow more effective and flexible supporting measures to better satisfy the needs of local development and public interests while complying with upper-level policies. Special planning includes resource conservation and utilization planning, territorial consolidation and ecological restoration planning, major infrastructure and public facilities planning and landscape protection planning, etc. In a specific situation, one or more special plans can be selected to compile based on the requirements of master plan.

The conservation and development boundary system involved in the master planning is categorized into protection group and development group, to integrate rigid regulation and flexible management. The former contains three “prime” (permanent prime farmland, prime grassland, and prime forest, including natural forest and ecological forest), one “water” (rivers, lakes, wetlands, etc.), and two “lines” (ecological conservation line and natural coastline). The latter include two “boundaries” (urban growth boundary and village construction boundary), one “district” (industry cluster district), and five “networks” (transportation, energy, water, information, and safety). The detailed contents of relevant planning are proposed as followed. National and provincial master planning plays a key role in strategic guidance and regional coordination. It should clarify primary spatial arrangements, objectives and tasks of special planning, and major functions of county-level municipalities. For the prefecture and county level, draw a blueprint for the entire region based on integration of master urban plan and land use plan, and clarify the ecological redline, permanent prime farmland line and urban growth boundary. For large municipalities, refine functional zoning, development density zoning, and unit zoning to guide regulatory detailed planning in the centralized construction area within the urban growth boundary (particularly central urban area), while define regulatory zoning and units outside of urban growth boundary. For small-size municipalities and those with delicacy management capacity, we suggest implementing spatial arrangement of “three prime, one water, two lines; two boundaries, one district, five networks” described above.

Planning of or inferior of county level can be compiled as unit planning or town planning, which have factual management capacity. The basic step is to implement the protection and development boundary system. Conduct regulatory detailed planning within urban growth boundary, and town planning (or unit planning) and village planning outside of the boundary. It is important to integrate various natural resource planning and special

planning, to jointly implement natural resources monitoring, and to promote establishment of rural construction and planning permit system. **UPL**

## References

- [1] 赵民, 郝晋伟. 城市总体规划实践中的悖论及对策探讨 [J]. 城市规划学刊, 2012(3): 1-9.
- [2] 赵晨, 申明锐, 张京祥. “苏联规划”在中国: 历史回溯与启示 [J]. 城市规划学刊, 2013(2): 107-116.
- [3] 李益彬. 新中国建立初期城市规划事业的启动和发展 (1949—1957) [D]. 四川大学, 2005.
- [4] 陆大道. 中国工业布局的理论与实践 [M]. 科学出版社, 1990.
- [5] 李百浩, 彭秀涛, 黄立. 中国现代新兴工业城市规划的历史研究——以苏联援助的 156 项重点工程为中心 [J]. 城市规划学刊, 2006(4): 84-92.
- [6] 曹洪涛, 储传亨. 当代中国的城市建设 [M]. 中国社会科学出版社, 1990.
- [7] 彭秀涛, 荣志刚. “一五”计划时期工业区规划布局回顾 [J]. 四川建筑, 2006(增刊 1): 44-46.
- [8] 侯丽. 社会主义、计划经济与现代主义城市乌托邦——对 20 世纪上半叶苏联的建筑与城市规划历史的反思 [J]. 城市规划学刊, 2008(1): 102-110.
- [9] 黄立. 中国现代城市规划历史研究 (1949—1965) [D]. 武汉理工大学, 2006.
- [10] 徐钜洲. 中国 1980 年代城市规划思潮 [J]. 城市规划, 2018, 42(8): 3-4; 5-38.
- [11] 鲍世行. 规划要发展管理要强化——谈控制性详细规划 [J]. 城市规划, 1989(6): 42-46.
- [12] 汪坚强. 中国控制性详细规划的制度构建 [M]. 中国建筑工业出版社, 2017.
- [13] 杜雁. 深圳法定图则编制十年历程 [J]. 城市规划学刊, 2010(1): 104-108.
- [14] 陈珑. 对美国区划制度的一些认识与探讨 [J]. 北京规划建设, 2008(4): 109-110.
- [15] 梁学庆, 吴玲, 黄辉玲. 新中国 50 年土地 (利用) 规划的回顾与展望 [J]. 中国农业科技导报, 2005(3): 13-16.
- [16] 宋超, 惠富平. 建国初期苏联援建国营友谊农场的积极意义 [J]. 中国农学通报, 2007(5): 500-504.
- [17] 林坚. 土地用途管制: 从“二维”迈向“四维”——来自国际经验的启示 [J]. 中国土地, 2014(3): 22-24.
- [18] 胡序威. 中国区域规划的演变与展望 [J]. 城市规划, 2006(增刊 1): 8-12; 50.
- [19] 吴次芳, 潘文灿. 国土规划的理论与方法 [M]. 科学出版社, 2003.
- [20] 魏心镇. 国土规划的理论与方法 [J]. 地理科学, 1985(3): 193-200.
- [21] 吴传钧. 国土整治与国土规划 [J]. 瞭望, 1982(9): 27.
- [22] 吴万齐. 国土规划浅谈 [J]. 建筑知识, 1982(2): 5-7.
- [23] 张文奎. 战后日本农业国土资源的开发与利用 [J]. 现代日本经济, 1982(3): 28-32.
- [24] 于振汉, 郝凌云, 范正一. 德意志联邦共和国国土整治与区域规划 [J]. 地理科学, 1986(1): 99-100.
- [25] 吴新哲. 波兰国土规划的考察与反思 [J]. 经济地理, 1989(3): 236-239.
- [26] 黎福贤. 对编制全国国土总体规划纲要的几点认识 [J]. 地理学与国土研究, 1988(2): 31-35.
- [27] 宋平. 宋平同志在全国国土总体规划纲要讨论会上的讲话 [J]. 计划经济研究, 1986(10): 1-5.
- [28] 林坚, 刘松雪, 刘诗毅. 区域一要素统筹: 构建国土空间开发保护制度的关键 [J]. 中国土地科学, 2018, 32(6): 1-7.
- [29] 蔡瀛, 朱国鸣. 如何为协调城镇密集地区的发展提供有效抓手——从实施的角度看《珠江三角洲城市群协调发展规划》的编制 [J]. 城市规划, 2006(6): 9-14.
- [30] 唐子来, 张雯. 欧盟及其成员国的空间发展规划: 现状和未来 [J]. 国外城市规划, 2001(1): 10-12.
- [31] 罗超, 王国恩, 孙靚雯. 中外空间规划发展与改革研究综述 [J]. 国际城市规划, 2018, 33(5): 117-125.
- [32] 张孜, 陈烈, 慈福义. 国外空间规划特点及其对我国的借鉴 [J]. 世界地理研究, 2006(1): 56-62.
- [33] 吴志强. 德国空间规划体系及其发展动态解析 [J]. 国外城市规划, 1999(4): 2-5.
- [34] 朱金鹤, 崔登峰. 发达国家国土空间规划对中国主体功能区规划的借鉴与启示 [J]. 世界农业, 2012(8): 17-20; 40.