

# Research on the Method of Spatial Planning System Coordination

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## Abstract

On the basis of recent research, this paper analyzed the dilemma of the Spatial Planning System. Suggested problem of the spatial planning coordination will be an important task for a considerable period of time. Which not only need the consistent range of spatial governance, but also the functional coordination of Space governance. However, the problem of planning coordination has not solved, more attention is needed to concern the coordination of these two aspects of change.

**Keywords:** Spatial planning system, Spatial governance, Coordination

## 1. Introduction

As the variety and complexity of planning in China, from national to local level, the overlap, contradictions, conflicts and even out of touch "plan to fight" phenomenon is particularly prominent. Currently, the integration of multi-angle study of the planning has started, but systematic research framework has not been established in the field of Spatial planning coordination. Many studies still in the decentralized and isolated state .

## 2. The emergence and development of the spatial planning system

Different countries have different understandings of space planning, and thus the formation of the different spatial planning system[1]. Which are constituted by the national economy and social development planning, regional planning, main-functional zone planning, urban planning, land use planning , environmental planning and other plannings. China's planning system can be divided into national, provincial, city and county level, township level and community (village) level in the longitudinal direction; and

can be divided into different industries plannings such as land use planning, urban and rural planning, marine planning, environmental planning, water resources planning in the horizontal direction; and can be divided into the natural economy, space governance, major issues, independent specialized in the property; and can be divided into strategic planning, regional planning, master planning, detailed planning, special planning, project planning on the level. These plans attempt to guidance and regulation different levels and different perspectives on economic development, urban construction, land resources, environmental protection, space utilization. Which play an important role in leading social and economic development to achieve efficient allocation of resources and protection.

Throughout the course of the development of China's planning system, it is not difficult to find that the traditional planning system which is guided by the National Development Plan, has been gradually transformed into a new planning system that take the national economic and social development plan as a strategic guide, the main-functional zone as the base, other plannings such as land-use planning, urban and rural planning, environmental planning, as the support foundation.

## 3.The era plight of the spatial planning system

According to an incomplete statistics, there are at least 83 kinds of planning authorized by law in China, they are generally called "planning"[2]. And according to another study by the State Development and Reform Commission, show that in the "Tenth Five-Year Plan", the relevant departments under the State Council compiled 156 plannings for the sector, provincial, prefectural (city) and county levels, local governments prepared the "Tenth Five Year Plan" that focus on professional planning are more than 7300[3]. But from national to local level, the overlap, contradictions, conflicts

and even out of touch "plan to fight" phenomenon is particularly prominent. As an important part of the state planning system, the planning uncoordinated issues has seriously affected and restricted the planning effectiveness to play, and thus become an important reason to cause the waste of land resources, space management disorder, and environmental protection out of control. Although the congress had the request to improve the planning system, give fully guiding role of national development planning, industrial policies in macroeconomic regulation, and many planning researchers have did a lot of exploration on the planning coordination[4]. But there are still many problems in actual operation. By the impact of institutional fragmentation, driven by sectoral interests, convergence of improper and other factors, related research is also difficult to get rid of the positioning to be "castles in the air", or an armchair strategist.

While discern the full process of the establishment and development of the spatial

planning system in China, is not difficult to find that the spatial planning system has continuously adjusted with the principal contradiction and the core issues of the different periods. From the single decision-making by urban planning in early, to urban planning and land use planning in parallel, and now has gradually transition into a new system, which main-functional zone planning - land use planning - urban planning - environmental plan and other regulations make participatory collaborative governance(Table.1). But the new spatial planning system must take full account of the various types of objectives, functions, features and other factors, should not blindly misinterpreted and ignored their respective core interests[5]. Today, the state planning system is gradually improving, The problem of the spatial planning coordination will be an important task for a considerable period of time.

Time sequence	Principal contradiction	Spatial planning system	Core issues
Period of rapid development (1978-1986)	Market & plan	Urban Planning	City Construction& Economic growth
period of continuous innovation (1986-2000)	Developmentand construction& Resources Protection and Use	Urban Planning&Land use planning	The red line of Cultivated land& Land indicators
period of Adjustment (2000-2008)	Socialequity &Environmental pollution	Main-functional planning&Urban Planning&Land use planning	Scientific Development&Living environment
Period of the update and transition (2008-)	The distribution of benefits and interest	Main-functional planning&Urban Planning&Land use planning&Environmental Planning	Sustainable development

Table 1: The course of the spatial governance system

#### 4. The basic idea of the reconstruction of the spatial planning system

At present, the main-functional zone planning, urban planning, land use planning and environmental planning play a leading role in the urban space management and space governance. Although these four types of

planning under the different departments, but these implement a common governance, control and guidance on the development of urban space, and also co-established a public policy system in the region space management.

However, for specific regional space, in the face of such a complex range of spatial governance plannings, if that is not a clear structure, we will inevitably fall into a very

confused situation of planning and management(Figure.1). Therefore, the coordination of spatial planning must seize the space governance in the core issues.

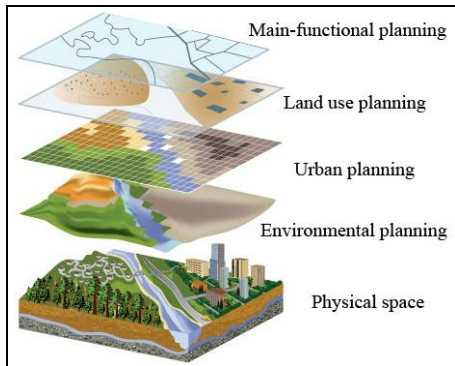


Fig.1: A variety of governance zoning

Spatial governance is the core of the space planning. The implementation of spatial planning coordination must take spatial governance as the basic point. Indeed, different types of spatial planning has a different space governance in the zoning. For example, the main-functional zone planning, takes capital, land, labor, technology and other production factors as the basic principles. According to the resource and environment carrying capacity, existing development density and development potential, and consider the future of population distribution, economic layout, land use and urbanization patterns, land space is divided into optimized development, key development, restricted development and prohibited development of the four types of main-functional zone, and its essence is the regional development policy. Specifically, the different types of space governance partition are both similarity and difference[6]. However, the implementation of the basic point of the spatial planning coordination is that all types of space governance "seeking common ground while reserving differences" type of reconstruction.

#### 4.1 Consistent range of spatial Governance

Spatial planning coordination should first be established on the basis of the unified space range. But currently, these plans which played a leading role in the urban space management such as the main-functional zone planning, urban and rural planning, land use planning and environmental protection planning has a difference delineation of the governance area.

For example, Main-functional zone planning is composed of the national main-functional zone planning and provincial main-functional zone planning, which can be divided into national and provincial two-level preparation[7]. On national level, the four kinds main-functional zone do not cover the entire territory, the regional scale of optimized development zone, key development zone, restricted development zone take county-level administrative region as the basic unit, and the scale of the prohibited development zone is determined in accordance with the statutory range or natural boundaries. The main functional areas at the provincial level planning should be determined according to the planning of the national main functional areas. Ensure the consistency of the number, location and scope be the same type. But the delineation of the zone of urban planning in the space governance is clear that the planning area is the cities, towns and villages built-up areas, as well as urban and rural construction and development needs, which must implement the planning control area[8]. The specific scope of the planning area prepared by the People's Government in the organization overall urban planning, town overall planning, the township planning and village planning, delineated according to the economic and social development needs. Therefore, some scholars have pointed out that for the overall urban planning, to achieve full coverage of the planning control on land within the urban planning area, which emphasizes the planning area corresponding to all regions. In addition, the delineation of the land use planning, environmental planning are also take all the regional space as the base. Therefore, to achieve spatial planning coordination, we must first harmonization of all kinds of space governance in the scope of the partition boundary. The authors suggest that take the urban domain-wide as the basis of the rule Zoning, unified governance area, but not mandatory uniform arrangements for the governance unit, different types of planning can still in accordance with their respective functional divisions way. Among these, the main-functional planning is not rigid emphasis on the overlay zoning because of its planning policy attribute, and the urban planning, land use planning, environmental protection planning should ensure that the docking of the space range of governance, any space within the plots in the region are at least clear governance properties conferred by these three

types of planning, and this can be achieved through GIS and other software (Figure.2).

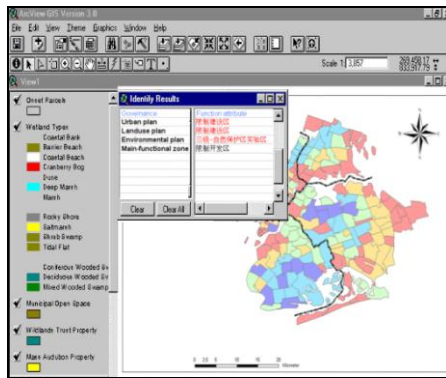


Fig.2 Governance of spatial planning by GIS

#### 4.2 Functional coordination of Space Governance

A geographical space, the different spatial planning given the different divisions, and to adopt a different strategy of governance. Between the requirements of a number of governance conflict, space control system result in the disorderly development of space, so the coordination of space governance function is particularly important[9]. Specifically, the main-functional planning according to the region's resources and environment carrying capacity, existing development density and potential for development, coordinate planning for the future population distribution, economic layout, land use and urbanization patterns, land space is divided In order to optimize the development, such as optimized development zone, key development zone, restricted development zone, prohibited development zone. Based on resources and environment, engineering geology, the urban space is divided into to prohibit construction areas, limiting construction area, suitable for construction areas and built-up areas, by urban planning., in

order to through the establishment of space access system to ensure the effective implementation of the space control. Land use planning in accordance with national socio-economic requirements of sustainable development and the local natural, economic and social conditions, according to the strict protection of basic farmland, and control the construction of non-agricultural occupation of agricultural land; to improve land utilization; to co-ordinate the arrangements for various types of regional land; protection and improve the ecological environment to ensure sustainable use of land; occupation of arable land developed and reclaimed farmland phase equilibrium principle of land into agricultural land, construction land and unused land[10]. Environmental planning from the view of the overall space, planning area is divided into different functions according to the characteristics of the natural environment and economic and social development, environment unit. Generally classified as three levels[11], first from the macro to the natural climate, geographical features divided nature area; then according to the type of ecosystem types and ecosystem services division of ecological sub-region; Finally, the importance of ecosystem services, eco-environmental sensitivity divided into ecological functional areas with ecological and environmental problems.

Therefore, the space under the rule of the functional position of the same block must be coordinated. Through comparison of the functions of various divisions, the author established the space governance function table (Table.2), in order to achieve the coordination of zoning functions for the study reference, the type of governance which can not be mutually compatible with the "#".

Spatial Planning	Code	Types of governance	Zoning functions			
Main-functional planning	A1	optimized development zone			C1	D1 D2 D3
			A1	B1	#	D1 D2 D3
					C3	D1 D2 D3
	A2	key development zone			C1	D1 D2 D3
	A3	restricted development zone	A1	B2	C2	D1 D2 D3
					#	D1 D2 D3
				C1	D1 D2 D3	

	A4	prohibited development zone	A1	B3	C2	D1 D2 D3
					C3	D1 D2 D3
					C1	D1 D2 D3
			A1	B4	C2	D1 D2 D3
					C3	D1 D2 D3
Urban Planning	B1	built-up areas			C1	D1 D2 D3
	B2	suitable for construction areas	A2	B1	#	D1 D2 D3
					#	D1 D2 D3
					C1	D1 D2 D3
	B3	limiting construction area	A2	B2	C2	D1 D2 D3
					#	D1 D2 D3
	B4	prohibit construction areas			C1	D1 D2 D3
			A2	#	C2	D1 D2 D3
					#	D1 D2 D3
					C1	D1 D2 D3
A2			#	C2	D1 D2 D3	
				#	D1 D2 D3	
Land-use planning	C1	construction land and			C1	D1 D2 D3
			A3	B1	C2	D1 D2 D3
	C2	unused land			C3	D1 D2 D3
					C1	D1 D2 D3
	C3	agricultural land	A3	#	C2	D1 D2 D3
					C3	D1 D2 D3
					C1	D1 D2 D3
			A3	B3	C2	D1 D2 D3
					C3	D1 D2 D3
					C1	D1 D2 D3
Environmental Planning	D1	The first level			C1	D1 D2 D3
			A4	B1	#	D1 D2 D3
	D2	The second level			C3	D1 D2 D3
					C1	D1 D2 D3
	D3	Third level		#	C2	D1 D2 D3
					C3	D1 D2 D3
					C1	D1 D2 D3
			A4	B3	C2	D1 D2 D3
					C3	D1 D2 D3
					#	D1 D2 D3
		A4	B4	C2	D1 D2 D3	
				C3	D1 D2 D3	

Table 2 : Comparison of the governance zoning

## 5. Conclusion

The problem of the spatial planning coordination will be an important task for a considerable period of time, which not only need the consistent range of spatial governance, but also the functional coordination of Space governance. However, the problem of planning coordination has not solved, more attention is needed to concern the coordination of these two aspects of change.

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