

# The Research on the Coordination of Urban Planning and Land Use Planning — the Case of Langfang City

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**ABSTRACT:** This paper analyzes the laws and regulations of urban planning and land use planning, then presents the contradictory and uncoordinated condition. Regarding to the conflict of the two planning in the practical, we offer some suggestions in order to keep them harmoniously developing. Authors take Langfang city as an example and discuss about the coordination of urban planning and land use planning, then offer proposals for the two kinds of planning.

**KEYWORD:** Urban planning; Land use planning; Coordination; Langfang city

In 2004 and 2007, National People's Congress respectively has adopted a decision and revised The Land Administration Law of the People's Republic of China and Urban and Rural Planning Law of the People's Republic of China (the original City Planning Law). Because of different administrations, different guidelines and principles, different planning purposes and methods, the two kinds of planning eventually lead to some differences in the spatial arrangement, and even contradictions and conflicts (Sun Tian, et al, 2011). In order to strengthen the seriousness of the planning, to ensure the effective implementation of the plan, how to coordinate or unify the two kinds of planning become the problem that need to be solved urgently. In the past few years, many scholars have done some researches on how to coordinate the two kinds of planning (Wu Guancen, et al, 2006; Cao Ronglin, 2001), and put forward some methods. But there is few city examples in research, and some relevant laws and regulations have revised. This paper researches how to coordinate the two kinds of planning based on the latest laws and regulations.

## 1 THE RELATIONSHIP OF URBAN PLANNING AND LAND USE PLANNING

### 1.1 Urban planning and land use planning

To achieve the economic and social development goals of the city in a certain period, the government needs to determine the property, the scale and the direction of development of the city, utilize urban

land reasonably, coordinate urban space layout and implement comprehensive deployment and overall arrangement of each construction.

Land use planning is starting from the overall and long-term benefits, taking all the land for the object in the region (generally administrative area units), and adjusts reasonably land use structure and the layout. It centers on utilization, and dose coordination arrangement and long-term planning on land development, land utilization, land management and land protection.

### 1.2 The relationship of the two planning

Urban planning guides urban construction, while land use planning guides land utilization. But urban construction can't do without land, and land utilization can't also separate itself from urban construction. Urban planning belongs to developmental planning, reflecting the character of planning and market. It starts from the needs and convenience of life, and focus on the development (Hu Jun 2010). Land use planning belongs to project planning, reflecting the characters of project. It constraints and guides need by supply, and focuses on the control. According to the above-mentioned facts, the essence of the two inharmonious rules is the contradiction of project and planning.

## 2 MAIN DIFFERENCES OF THE TWO KINDS OF PLANNING EXISTING

### 2.1 *The differences in statistical methods of planning parameter*

#### 2.1.1 *The differences in statistical methods of demography*

In urban planning, urban population is the all people who live in or are equivalent to live in built-up area, use and consume water, electricity, gas, road and other infrastructures. It not only contains non-agricultural population but also contains agricultural population and floating population (temporary period more than one year) in built-up area.

In land use planning, the urban population refers to the population of permanent residence (including agriculture census register population and non-agriculture census register population), temporary resident population (more than half a year).

Therefore, because of different predicted range, predicted population in urban planning is obviously larger than that in downtown in land use planning.

#### 2.1.2 *The differences in statistical methods of land use index*

In urban planning, per capita index of constructive land is based on City Land Classification and Land Use Planning and Construction Standards. It doesn't take into account the cultivated land quantity in planning period and the reserved area of cultivated land in planning target years.

In land use planning, per capita index of constructive land is divided into urban settlement land index and rural settlement land index. In order to guarantee dynamic balance of total cultivated area, the summation and average of land for construction are limited to cultivated land indexes.

### 2.2 *The differences of land use classification*

Urban planning adopts the classification system of "Urban Land Classification and Land Use Planning and Construction Standards (GB50137-2011), divided into categories, classes and subclasses three levels of classification system, and 10 categories, 46 classes, 73 subclasses in total.

According to the latest regulations in The General Office of the Ministry of Land and Resources Issued on the County Township Land Use Planning Overall Guidance Notice (2009 No. 51): land use planning adopts three-class classification system for the planning base. There are 3 categories, 11 classes and 33 subclasses.

In the two types of land use classification standards, the similar names or same name differ a lot, resulting that the two kinds of planning are

difficult to be compared on the land use. In addition, further requires of classification criteria in the two kinds of planning are also different.

### 2.3 *The differences in spatial control*

In seventeenth stipulate of Urban and Rural Planning Law, the content of urban planning and town planning should contains developmental layout, functional zoning, land use layout, comprehensive traffic system of urban and rural, and all kinds of special planning. The planning region can be divided into forbidden construction region, limited construction region, suitable construction region and had built region and formulated corresponding rules.

In land use planning, administrative region is divided into permitted construction region, conditioned construction region, limited construction region and forbidden construction region. It controls space in construction land use region, and explain the partition and control of layout rule and spatial control.

### 2.4 *The differences in computer technology*

In urban planning, Sketchup and CAD are usually used to make planning. Sketchup combines characteristics of drawing sketch and computer model which are considered as two traditional design methods. It is easy to operate, convenient and wonderful drawing performance. In land use planning, geographic information system (GIS) software is in common use as a mapping tool. It is a spatial information system combined digital mapping and database management. It can manage the attributes and the vector data of land use data. And it's easy to form a variety of planning schemes. It can also make all kinds of special maps and results, form a database and manage the data uniformity and dynamically.

## 3 RESEARCH AND ANALYSIS OF THE TWO KINDS OF PLANNING COORDINATION

### 3.1 *Coordination in statistical methods of demography*

At first, it should reach an agreement on demography. Using the survey data of Unified Public Security Bureau, Statistics Bureau, Planning Commission and other departments. Secondly administrative region of both statistics must be the same. Population forecasting model of the two kinds of planning should be used according to the actual situation, and choose appropriate model after the comprehensive analysis of various forecasting methods, to improve the accuracy of prediction. And

the population of temporary period over half a year can be counted into demography.

### 3.2 *Coordination in construction land*

Per capita construction land index should be determined according to the related factors of common standard, superior land use indicators, city grade etc. The two kinds of planning should use the unified standard. Per capita city construction land should be in consistent with the Urban Land Classification and Land Use Planning and Construction Standards (GB50137-2011). Towns, rural per capita construction land should be in consistent with the Town Planning Standards (GB50188-2007).

### 3.3 *Coordination in classification of land use*

There are some solutions to the same name but meaning different in construction land use classification. For using the different standards of the two kinds of planning in land use classification, we should adjust and improve the two sets of classification standard. We should solve the situation of the same name's ambiguity phenomena in two classification land. According to the similarities and differences about the previous analysis, we should take The Status of Land Use Classification (GB/T21010-2007) (Land Planning Classification and Meaning) all land class as the basic classification standard, establishing classification standard with concordant nature of land use or interchangeable correspondence. Built-up area should take City Land Classification and Land Use Planning and Construction Standards land use classification as classification standard. The more detailed or scale greater levels of planning, more detailed classification should be. The total scale of construction land should be based on the center city scale in land use planning. Internal and detailed planning or control planning should take city planning as standard.

### 3.4 *Coordination in space control*

The space control in city planning should be partly adjusted and coordinate with the scope in land use planning. The urban planning should be made more detailed regulatory requirements, data should be more accurate, the range should be more detailed than the land use planning. Such as putting forward the area of each region, and the boundary of the control region and so on. Land use planning can be based on the land suitability assessment infrastructure layout, and macroscopically designated spatial control regions in order to macroscopically control the overall urban planning

and urban construction activity. The two kind of planning should be coordinated in space planning. Suitable construction region and had built region in urban planning should be in consistent with permitted construction region, conditioned construction region in land use planning. And forbidden construction region, limited construction region in urban planning should be in consistent with that in land use planning. Use control rules should also be consistent. if there is conflict, it should give in national policy and local government regulations.

### 3.5 *Co-compatible computer working*

Drawing on the computer, GIS, CAD and Sketchup can be combined together for drawing surface features modeling. CAD and Sketchup are usually used in the overall urban planning, while GIS are usually used in land use planning maps and database construction. CAD and Sketchup are easy to use and linked with GIS conveniently. So we can use Sketchup for 3D modeling surface features, then import it into ArcGIS for visualization and query and analysis operations.

## 4 AN EMPIRICAL STUDY OF LANGFANG CITY

With the Metropolitan integration and the rapid development of the Bohai region, economic development has made great achievements in Langfang. But the current land use planning singly focuses on management ideas of construction land use control and protection of farmland. Resource and environmental protection and economic construction should be placed equal important position. In urban planning, urban-rural dual structure features is prominent, it has large urban-rural differences. Langfang has built or is about to build a number of major infrastructure, and take up a large proportion of arable land, which has brought great difficulty to urban and rural planning and land protection. Therefore, the planning will need to be coordinated and controlled through the urban planning and land use planning.

### 4.1 *Comparison of the two kinds of planning*

Through analysis and calculation of land use and urban planning of Langfang, and exploring on the following aspects in detail, comparing the differences between the two kinds of planning, the result is that the content of land use planning and urban planning in Langfang is basically unanimous, but there still are some differences (Table 1).

Table 1. Comparison of the two kinds of planning in Langfang city

Items of comparison	Land use planning	Urban planning
The land layout of urban construction	To build a multi-zone supported, regional developmental pattern of "Two belts—A axis —A center ".	With the center of Langfang as the core, the surrounding area is intensive development circle. Form a multi-zone supported, regional "Two belts — A axis — A center".
Population size in city	440.67 million in 2010, 530.26 million in 2020.	440 million in 2010, 530 million in 2020.
The level of urbanization	46.6 % in 2010, 56.6% in 2020.	50% in 2010, 65% in 2020.
The total amount of construction land	1191 Km <sup>2</sup> in 2010, 1276 Km <sup>2</sup> in 2020.	118.0 Km <sup>2</sup> in 2020
Population size in central urban	90.00 million in 2010, 118.00 million in 2020.	85.00 million in 2010, 118.00 million in 2020.
Construction land in center city	118.0 Km <sup>2</sup> in 2020	118.0 Km <sup>2</sup> in 2020
The planning period	Base year in 2005, planning year in 2020.	Base year in 2006, planning year in 2020.
Planning scope	administrative area	Center city, country city, town and industry zone

## 4.2 Coordinated solutions about the two kinds of planning

### 4.2.1 To coordinate regulatory system

Land use planning from the perspective of region considers whole regional land use issues, the urban planning disposes reasonably urban construction land with regional planning guidance. The two kinds of planning should be based on economic, transportation and other conditions in Langfang and under the jurisdiction of the district and county, then combine with the Beijing-Tianjin Planning. Langfang city planning in comprehensive layout aspects such as city scale and construction land should be consistent with the land use planning. The detailed planning in internal construction land should refer to the urban planning.

### 4.2.2 To coordinate management system

First, each departments should keep close cooperation. Second, found in Langfang City Planning Board and the Advisory Committee. Third, public participation should play an more important role in formulating planning.

### 4.2.3 Coordinate preparation system

First, coordinate the planning period. Second, coordinate demographic. Third, coordinate land for construction. Fourth, coordinate spatial planning and planning environmental assessment.

## 5 THE PROPOSAL TO COORDINATE THE TWO KINDS OF PLANNING

### 5.1 establish committee to coordinate the two kinds of planning

To improve planning and management system need the urban planning departments communicate with the land departments, establish unified preparation

institutions of the two kinds of planning, establish Planning Board and the Advisory Committee and give the right of review and supervise to Planning Board and the Advisory Committee.

### 5.2 Coordination on the authorized strength technique

Authorized strength rules and standards should be coordinated (Lv Weijuan, et al, 2004). The planning process should consider coordinating with other relevant planning, especially the strategic planning and guiding idea, planning space structure, population size, cultivated land amount and the construction land standards, environmental impact, infrastructure, land use classification and combination of computer mapping on the CAD and GIS.

### 5.3 Enforcement of laws and regulations

Focus on the implementation of planning. once planning has been approved, it has legal effect. We should strengthen the enforcement of administration, law and supervision.

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