

## Chapter 5

# Comprehensive Regionalization for China's New Urbanization Development

Regional differences in the current and future urbanization development in China are substantial. In regard of that, promoting New Urbanization in China shall not follow a universal approach. Instead, such a development must objectively adhere to location and category-specific principles and adopt differentiated urbanization development models [1]. Comprehensive regionalization is often used in geography to better understand regional differentiation and provide location-based strategies for regional development. Such approach, however, is rarely deployed in research addressing human and social problems relating to urbanization. In March 2014, China published the National New Urbanization Plan (2014–2020), which calls for scientific and reasonable planning of New Urbanization in which appropriate comprehensive regionalization could play a significant role. Specifically, comprehensive regionalization will first categorize regions with similar development conditions, foundations, goals, and modes, and then generate targeted development strategies, goals, modes, and paths for each category. In particular, our regionalization plan uses the six current regionalization categories, namely, primary New Urbanization region, food production region, agricultural, forestry, and pastoral mixed region, poverty contiguous region, ethnic autonomous region, and national key ecological function region, as the classification basis for New Urbanization. By employing principal component analysis, clustering analysis, and overlay analysis (the quantitative analysis), combined with the national main function area planning, China's ecological regionalization, China's comprehensive agricultural regionalization, and China's urban agglomeration pattern (the qualitative analysis), we determined five top-level New Urbanization regions, namely, urban agglomeration region, food production urbanization region, agricultural, forestry, and pastoral mixed urbanization region, poverty contiguous urbanization region, and ethnic autonomous urbanization region. Among the 5 top-level regions, there are 47 urbanization subregions. Our study discusses the features and key problems for

each region. This study for the first time introduces a regionalization practice for New Urbanization. Such practice fills the gap of providing regionalization for New Urbanization in China, enriches the theoretical studies of New Urbanization, and provides invaluable reference for healthy and sustainable urbanization in China.

## **5.1 Foundation and Process for Comprehensive Regionalization of China's New Urbanization**

### ***5.1.1 Research Progress on Comprehensive Regionalization for New Urbanization***

Regionalization is a traditional and important work of geography research [2]. The founder of Regional School of Geography, Hettner (A1 Hettner), noted that the "region" in terms of its concept is a continuous decomposition of the whole entity. A geographic regionalization is a process that keeps decomposing the whole into spatially connected parts. In the meantime, different types of regions can be distributed separately. Nearly a century, since the beginning of the nineteenth century when the founder of modern geography, Humboldt (A.V. Humboldt), pioneered the world isotherm, studies of regionalization in most countries mainly focused on geographical division of natural ecosystems, with little regard to a human beings and how human beings function in an ecosystem. Since the 1920s and 1930s to the end of the twentieth century, in order to reconstruct the postwar urban and regional land space system as well as in response to the sustainable development mission due to rapid industrialization and urbanization, Germany, Japan, Britain, France, and other developed countries began to focus on national comprehensive spatial planning, the differentiation law of their regional systems, and function zoning. The scientific study of regionalization gradually shifted from the natural system to ecosystems and eventually to the coupled social-economic-resources and environment complex system. In those countries, they have established a complete set of spatial planning system at the national and the regional level, and also including various departments. For instance, Germany has its "spatial development planning." France has an "integrated service planning." The UK has a "national planning policy guidelines (PPG: Planning Policy Guidance)." Japan has a "national comprehensive development plan." South Korea has a "comprehensive planning for land construction." [3–5]. Regionalization studies gradually shift from cognitive regionalization to emphasizing on both cognitive and application-oriented regionalization.

Regionalization studies in China have progressed considerably since the 1950s. The study fields have been gradually expanded. Results and types of studies have been enriched. Study approaches have been diversified as well. By a simple search from the most comprehensive knowledge database in China, [www.cnki.net](http://www.cnki.net), the literature that is related with "regionalization" covers close to 40 subjects, including six different national regionalization types. They are China's physical geography

regionalization (natural regionalization, natural comprehensive regionalization, natural ecological regionalization, meteorological regionalization, agricultural meteorological regionalization, terrain and geomorphology regionalization, hydrological regionalization, soil regionalization, biogeography regionalization (vegetation cover regionalization, and zoogeography regionalization) etc., China's eco-environment regionalization (ecological regionalization, ecological function regionalization, ecological hydrological regionalization, water and soil conservation regionalization, environmental function regionalization, water environment function regionalization, oceanic function regionalization, atmospheric environmental function regionalization, and urban noise environment regionalization, etc.), China's natural disaster regionalization (flood, landslide, and other disasters' danger regionalization, seismic regionalization, etc.), China's economic regionalization (economic regionalization, rural economic regionalization, agricultural regionalization, forestry regionalization, mineral resource regionalization, population regionalization, transportation regionalization, building climate regionalization, arable land protection regionalization, eco-economic regionalization, and ecotourism regionalization, etc.), China's administrative regionalization (administrative regionalization), China's space management regionalization (main function regionalization, land use regionalization, regional planning, and restricted area regionalization, etc.). Proposing these regionalization types has profound historical background. They are both a scientific generalization of the then studies and closely related with the then socioeconomic development level and demands. From in-depth study of the literature, we can see that prior to 1980, the majority of the regionalization studies focused on physical geographical fields, and served mainly agricultural development. For instance, Zhu Kezhen's "China's Climatological Regionalization" (1929) is the start of China's studies on regionalization [6]. Huang Binwei's "China's Comprehensive Natural Regionalization" provides the classic methodology for China's comprehensive natural regionalization [7, 8]. During this period, studies on natural regionalization were more fruitful [9–16], but still mainly focused on one single geographic element (land, vegetation, climatology, etc.). In the meantime, studies on economic and social regionalization remained relatively weak. Although China had introduced the regionalization and planning theories from the former Soviet Union, theoretical and practical research on regionalization and planning remained stagnant after 1990 [17]. On the other hand, in the 1980s, as China's socioeconomic system experienced reform and rapid development, studies on economic regionalization (including land use planning and regional planning) had grown significantly due to the demand of national development [18]. Studies such as the National Land Planning Outline, Regional Land Planning (prepared by the State Planning Committee), China Regional Development Theory under the theoretical guidance of "Point-Axis" theory, China's economic regionalization [19], China's rural economic regionalization [20] had made great progress. During this period of transition, China's economic regionalization was somewhat mixed with planned economy, hence the national economy division was dominated by a mixture of planned, regionalized, and

planning activities. The object of regionalization started to shift from the early fuzzy economic system to the actual physical geographic space. In 1992, the Chinese-characterized market economy was established in China. The uncertainty of the markets made the “planned” regionalization of the planned economy era harder to be implemented, which called for new transition of economic regionalization. In 1998, China's regionalization theories and practices started to diversify. Physical geographers started to explore the possibilities to integrate human beings into natural regionalization studies to develop comprehensive regionalization [2, 21, 22, 23]. The development of our understanding of the eco-environment also promoted a national guidance ecological function regionalization to be issued in 2002. Since 2006, as China started to focus on a series of mistakes during China's regional development, the promotion of scientific development, and the so-called “five balanced” development becoming the mainstream thoughts, a series of influential national-level regionalization case studies were proposed, which enables great progress of China's regional planning as well. At the same time, the national main function regions were created and become new members of China's regionalization. After 2010, as China entered a fast-paced urbanization growth stage, rapid urbanization faced the challenges of connotative transition, ecological civilization, and New Urbanization planning with the central government setting the bottom line and red line from both the strategic and tactic levels. The purposes of regionalization also shifted to serve sustainable New Urbanization development under the background of globalization and ecologic civilization.

Overall, with the transformation and upgrading of China's economic development and urbanization, China's comprehensive regionalization practices is gradually transferring from comprehensive natural regionalization to comprehensive economic regionalization. We must admit that the various regionalization practices in the past had played crucial roles in protecting China's eco-environment and promoting its socioeconomic development at certain historical stages. These practices, however, paid rather limited attention to the regionalization for “people-oriented” urbanization. The *National New Urbanization Planning (2014–2020)* issued by the State Council in March 2014, specifically proposed that we must implement differentiated urbanization development mode under local conditions [1]. To do so, we need first a complete set of scientifically reasonable comprehensive regionalization plans for New Urbanization. Apparently, actively promoting comprehensive regionalization studies for New Urbanization is the strategic necessity for scientifically implementing the *National New Urbanization Planning (2014–2020)*. It is also a realistic demand for promoting the 62 experimental locales of exercise New Urbanization strategies. Such studies can fill in the gaps of national New Urbanization regionalization, enrich and complete China's comprehensive regionalization system, provide better guidance to implement the *National New Urbanization Planning (2014–2020)*, and promote local-conditions-respecting, sustainable, and healthy development of New Urbanization in various regions. The studies will also contribute significantly to China's urbanization security, food security, ecological security, and sociopolitical stability.

### 5.1.2 *Qualitative Foundation and Path for Comprehensive Regionalization*

Based on the previous regionalization practices, we chose the five types of regions, namely, the primary region for New Urbanization, food production region, agricultural, forestry, and pastoral mixed region, poverty contiguous region, and ethnic autonomous region, as the bases for regionalizing the different types of urbanization in China. The national key ecological function regions are not included in the regionalization plans for New Urbanization so that they can continue to provide ecological and environmental functions. In the meantime, based on the current urbanization level and predicted future levels, from a qualitative perspective, we regionalize China's New Urbanization into five comprehensive development regions, namely, the primary urbanized region, food production region, agricultural, forestry, and pastoral mixed region, poverty contiguous region and ethnic minority autonomous region (Table 5.1 and Fig. 5.1). Within each region, there are a few subregions. To ensure the protection of national key ecological function regions, the regionalization plans must respect the current regionalization designation for ecological function areas. Any regionalization of urbanization must strictly exclude areas that belong to national key ecological function region.

**Table 5.1** Thoughts of China's comprehensive regionalization of New Urbanization

No.	Basis	Priority	Name of regionalization	Urbanization level	Target
1.	Urbanization	First	Urban agglomeration area urbanization development regions (I)	Very high	Improve quality
2.	Food production	Second	Major food-producing area urbanization development regions (II)	High	Improve speed
3.	Agriculture, forestry and pastoral area	Third	Agriculture, forestry, and, pastoral area urbanization development regions (III)	Middle	Integrated development
4.	Poverty contiguous	Fourth	Poverty contiguous area urbanization development regions (IV)	Low	Increase income
5.	Ethnic minority autonomous	Fifth	Ethnic minority autonomous area urbanization development regions (V)	Very low	Stable

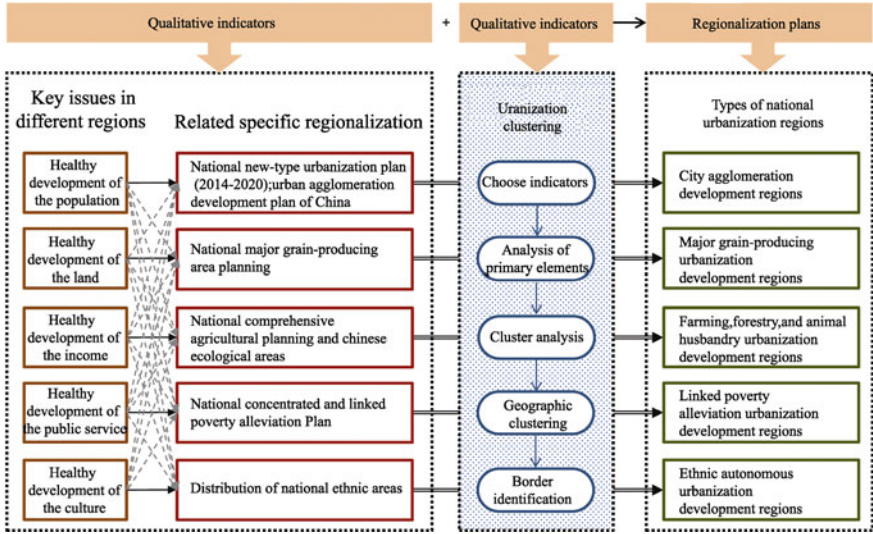


Fig. 5.1 Methods and ideas for designing a comprehensive regionalization plan for New Urbanization in China

**5.1.2.1 The First Priority Region: The Primary Urbanized Regions for Development of Urban Agglomerations**

Using the *National Primary Function Area Planning* and *National New Urbanization Planning (2014–2020)* as the macro guidelines, following the distribution of China’s urban agglomeration spatial organization pattern [24], we shall choose the highly urbanized regions as the key regions for future urbanization. These regions are regions that either are currently or will eventually develop to urban agglomerations. These regions are the primary spatial units for China’s New Urbanization. These regions will be categorized based on which urban agglomerations they belong to. They are the regions that will lead China’s New Urbanization development and the first priority regions for urbanization. As of now, there are 20 urban agglomerations with different sizes and different developing states [25] (also see Chap. 4 for details). They are the highest and most developed urbanized regions in China today.

**5.1.2.2 The Second Priority: Food Production Regions and Their Urbanized Areas**

After the regions for urban agglomerations are designated, based on China’s *Comprehensive Agricultural Regionalization Program* and *National Food Production Spatial Distribution*, we delineate China’s primary food production areas, and propose the second urbanization priority is urbanization in food

production areas. We specifically propose that urbanization in these regions must ensure China's food security. The primary purpose for these regions is food security; implementing New Urbanization is the secondary purpose. Urbanization levels in these regions are relatively high.

#### **5.1.2.3 The Third Priority: Urbanization Regions in the Agricultural, Forestry, and Pastoral Mixed Regions**

After the first and second priority regions have been identified, we continue to use China's Comprehensive Agricultural Regionalization Program and National Food Production Spatial Distribution, combined with the production conditions in agricultural, forestry, and pastoral mixed regions and their physical geographic foundations, to propose urbanization regions in agricultural, forestry, and pastoral mixed regions. This is the third priority region for implementing New Urbanization strategies. The primary goal of urbanization in this region shall focus on integrated rural and urban development. Integrated rural and urban development shall be the primary purpose for this region's urbanization. Their urbanization level is at the medium level.

#### **5.1.2.4 The Fourth Priority: Urbanization in Poverty Contiguous Regions**

After the previous three priority regions, based on the national poverty contiguous regional planning and spatial distribution, we propose New Urbanization in poverty contiguous regions, and clearly indicate that the primary purpose for urbanization in these regions is to reduce poverty. This is the fourth priority urbanization region. Reducing poverty and eventually developing these regions are the top goals for urbanization in these regions. Urbanization level there is at a relatively low level.

#### **5.1.2.5 The Fifth Priority: Urbanization in Ethnic Autonomous Regions**

After the previous four priority regions, based on the spatial distribution of national ethnic minority autonomous region, fully taking into consideration the specific requests of the 5 provincial-level, 30 prefecture-level and 120 county-level ethnic minority autonomous regions, we propose urbanization regions in ethnic minority autonomous regions to fully integrate the ethnic minority regions into the national New Urbanization strategical plans. This is the fifth priority region (or rather, the fifth category as this priority does not indicate any ranking connotations). For instance, urbanization shall be strengthened and supported in these regions such as Tibetan autonomous areas, Hui autonomous region, Mongolia autonomous regions,

Korean autonomous regions, Zhuang autonomous region, Uygur autonomous region, and Tujia autonomous region. The primary goals of urbanization in ethnic minority autonomous regions are to ensure prosperity and stability of these regions. Urbanization levels might vary based on the historical development of the various regions within this category.

## **5.2 Principles and Approaches of Comprehensive Regionalization for New Urbanization**

### ***5.2.1 Principles of Comprehensive Regionalization for New Urbanization***

This study first sets out a series of principles for New Urbanization regionalization. Details are as follows.

#### **5.2.1.1 Principle of Comprehensiveness**

This indicates that regionalization for urbanization must comprehensively consider population allocation, urbanization level, social and economic development conditions, local natural conditions, and the nature and development direction of cities. In addition, regionalization must also consider the similarity and differences, and the degrees of such similarity and differences of regional characteristics.

#### **5.2.1.2 Principle of Dominance**

Regionalization must consider various aspects of the regions under consideration (as per the principle of comprehensiveness). To ensure successful regionalization, we must identify one or a few dominant elements that characterize the region. The principle of dominance does not mean that other aspects are not important in regionalization, but the one or a few elements might best separate regions apart, while other elements still plays significant roles in defining the region.

#### **5.2.1.3 Principle of Consistency**

Consistency refers mainly to the dominant elements of regions during regionalization. For instance, regions that are categorized together must be in general consistent in regional development environment, development directions, or urbanization level, etc.



#### **5.2.1.4 Principle of Regional Continuity**

This principle basically indicates that regionalization must not create scattered pattern of regions. Each category of the regionalization must be spatially continuous. Even if some small patches of region within showing relative dissimilarity, they shall still be considered part of the larger region.

#### **5.2.1.5 Principle of Agreement with Administrative Regionalization**

This often refers to either when the boundaries between two specific regions are fairly complex or the differences between them are not prominent but there are administrative boundaries, regionalization boundaries in such case shall consider adapting to administrative boundaries.

### ***5.2.2 Research Approaches for Comprehensive Regionalization for New Urbanization***

Based on analyzing the factors affecting the development of China's urbanization, we choose 13 primary indicators, namely, per capita GDP, per capita investment, the proportion of manufacturing employees, the proportion of employees of producer services, the proportion of employees of consumer services, average years of education, the proportion of professional and technical personnel, per capita revenue, the proportion of migrants, number of hospital beds per 10,000 people, welfare programs per 10,000 people, distance to the railway, the terrain undulation, and water abundance, to conduct a principal component analysis. The results of principal components analysis are then used for cluster analysis, and clustering results are mapped with Arc GIS 10.1. Finally, combined with the spatial pattern of China's urban agglomerations, comprehensive agricultural regionalization, main function area planning, and ecological regionalization, we attempt to provide a proposal for a comprehensive urbanization regionalization.

The data for comprehensive regionalization are obtained from the "China Statistical Yearbook" (2013), "National main functional area planning," "national New Urbanization plan (2014–2020)," "national food security and medium to long-term Plan (2008–2020)" "China's Rural Poverty Alleviation and Development Outline (2011–2020)," China's urban agglomeration development plan, China's comprehensive natural regionalization, China's comprehensive agricultural regionalization, and China's ecological regionalization.

#### **5.2.2.1 Principal Component Analysis**

Data for the selected 13 indicators across all the regions were fed into SPSS 19.0 for principal component analysis. The five principal components with eigenvalues over

**Table 5.2** Eigenvalues and variance contribution rate

Principal components	All principal components			The retained principal components		
	Eigenvalues	%	Cumulative %	Eigenvalues	%	Cumulative %
1	4.855	34.682	34.682	4.855	34.682	34.682
2	2.183	15.596	50.277	2.183	15.596	50.277
3	1.332	9.517	59.794	1.332	9.517	59.794
4	1.199	8.562	68.356	1.199	8.562	68.356
5	1.003	7.162	75.518	1.003	7.162	75.518
6	0.719	5.135	80.653			
7	0.631	4.506	85.159			
8	0.508	3.632	88.791			
9	0.345	2.461	91.252			
10	0.310	2.212	93.464			
11	0.291	2.077	95.541			
12	0.226	1.615	97.157			
13	0.220	1.574	98.731			
14	0.178	1.269	100.000			

**Table 5.3** Retained principal component loading matrix

Indicators	Principal components				
	1	2	3	4	5
Per capita GDP	0.771	-0.130	-0.083	0.441	-0.056
Per capita investment in fixed assets	0.638	0.105	-0.207	0.551	0.069
Proportion of manufacturing employees	0.460	-0.464	0.477	-0.086	-0.033
Proportion of producer services employees	0.790	-0.126	0.221	-0.333	-0.048
Proportion of consumer services employees	0.692	0.382	0.083	-0.328	0.050
Average years of education	0.593	-0.424	-0.372	-0.303	-0.052
Proportion of professional and technical personnel	0.780	0.314	-0.005	-0.317	0.016
Per capita revenue	0.814	0.001	0.010	0.447	-0.053
Proportion of the migrants	0.810	0.136	0.223	0.033	-0.184
Number of hospital beds per 10 thousand people	0.464	0.354	-0.320	-0.228	0.272
Number of welfare beds per 10 thousand people	0.107	-0.216	0.172	0.075	0.932
Distance to the railway	0.012	0.634	-0.349	-0.051	0.083
Terrain	-0.155	0.852	0.117	0.129	-0.012
Water Resources Abundance	-0.091	0.426	0.737	0.065	0.014

1 (as per convention) were retained (Table 5.2). These five principal components explained accumulatively 75.58 % of the total variance. We deem it appropriate to approximate the original 13 indicators with these five principal components. By examining the loadings of these five principal components (Table 5.3), we designate these components as socioeconomic component, terrain component, water resource component, per capita fixed asset investment component, and welfare component. Their contributions are 34.68, 15.60, 9.52, 8.56, and 7.16 %, respectively.

### 5.2.2.2 Cluster Analysis

After obtaining the five principal components, they were further analyzed using cluster analysis in SPSS. The initial clustering analysis clustered all the regions to 5–11 different clusters. After visualizing the various clusters in ArcGIS, we determined that a five-cluster scenario is more appropriate and agrees with the current urbanization level in China well (Fig. 5.2). The regionalization approach for urbanization using principal component analysis and cluster analysis with relevant indicators satisfies the principles of comprehensiveness, and dominance. Such

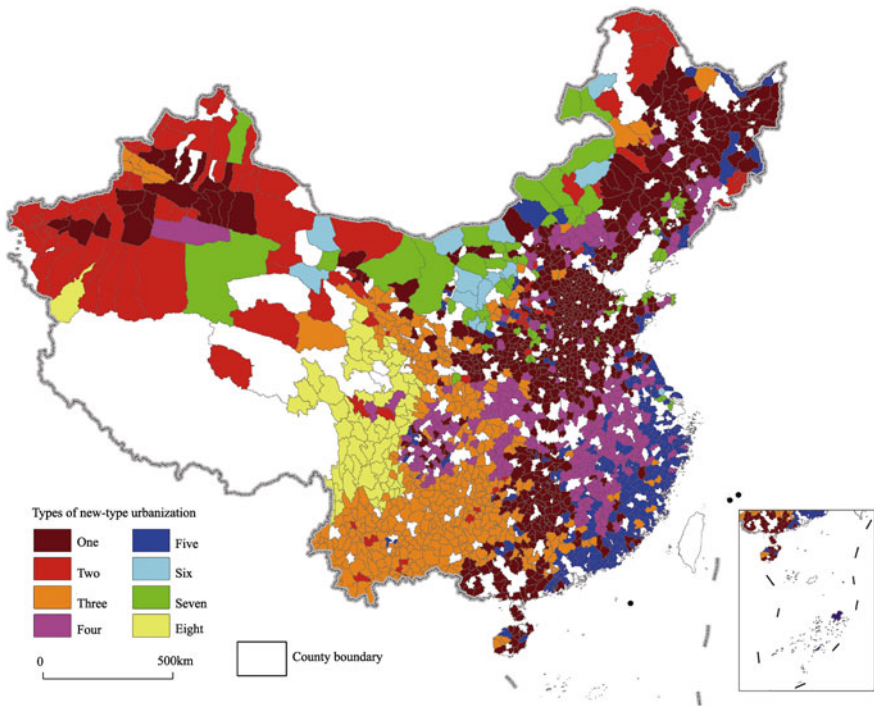


Fig. 5.2 Cluster analysis results for China’s urbanization development regionalization

approach, however, falls short on the principles of consistency and regional continuity for a comprehensive regionalization. For instance, there are quite a few counties that are clustered to other categories different than their background category. For this matter, the current approach for urbanization regionalization needs to be adjusted combining with administrative boundaries, classification boundaries of other relevant planning and regionalization.

### **5.3 The Basic Schemes and Promoting Approaches for Comprehensive Regionalization for New Urbanization**

#### **5.3.1 *The Basic Schemes for Comprehensive Regionalization for New Urbanization***

As per our previous discussion, the basic schemes for comprehensive regionalization for New Urbanization are determined via first identifying the six general categories of regions, namely, primary urbanized region, food production region, agricultural, forestry, and pastoral mixed use region, poverty contiguous region, ethnic autonomous region, and national key ecological function region. After the six general categories of regions are identified, we applied principal component analysis, cluster analysis, and overlay analysis, by collectively considering National Main Functional Area Planning, China's ecological regionalization, comprehensive agricultural regionalization, and spatial patterns of China's urban agglomerations, to eventually regionalized five grand categories of regions and 47 subregions for urbanization (Fig. 5.3). The five grand categories of urbanization regions are urban agglomeration area urbanization development regions (I), food production area urbanization development region (II), agricultural, forestry, and pastoral mixed used area urbanization development region (III), poverty contiguous area urbanization development region (IV), and ethnic autonomous area urbanization development region (V). The position for each grand category in China's urbanization is shown in Table 5.4, and position for each subregion is show in Table 5.5.

##### **5.3.1.1 Urban Agglomeration Area Urbanization Development Region (I): 20 Sub-regions**

1. Basic composition: Urban agglomeration area urbanization development region (I) is the primary area for China's New Urbanization. This region is composed of 5 national-level urban agglomerations, 9 regional-level urban agglomerations, and 6 subregional urban agglomerations [26]. Specifically, this region includes 20 subregions, namely, Beijing-Tianjin-Hebei Urban Agglomeration I<sub>1</sub>, Yangtze River Delta Urban Agglomeration I<sub>2</sub>, Pearl River Delta Urban Agglomeration I<sub>3</sub>,

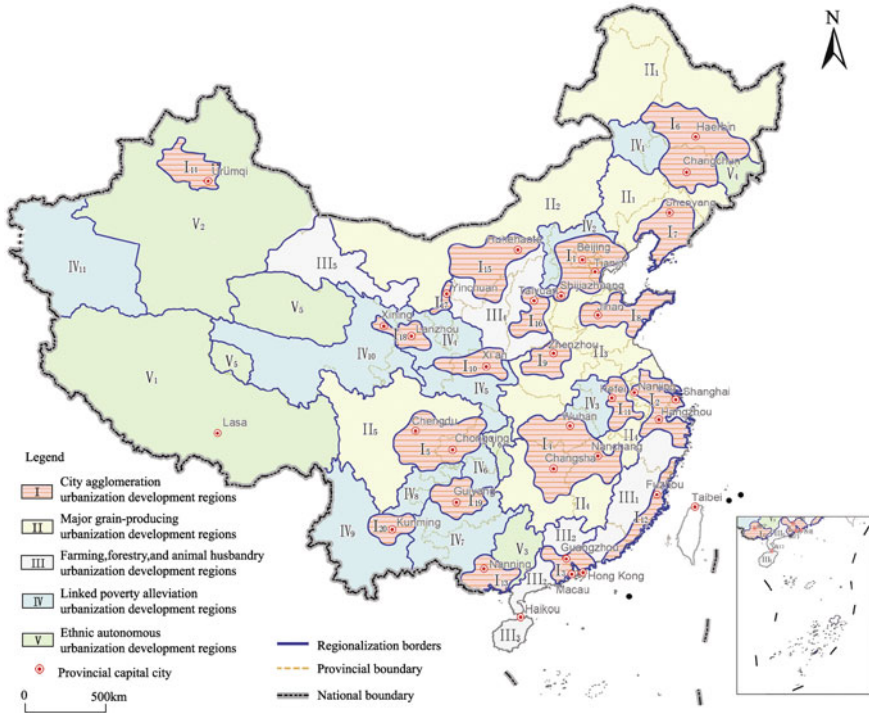


Fig. 5.3 Comprehensive regionalization plan for China’s New Urbanization

Middle Yangtze River Urban Agglomeration I<sub>4</sub>, Chengdu-Chongqing Urban Agglomeration I<sub>5</sub>, Harbin-Changchun Urban Agglomeration I<sub>6</sub>, Central and South Liaoning Urban Agglomeration I<sub>7</sub>, Shandong Peninsula Urban Agglomeration I<sub>8</sub>, Central Plain Urban Agglomeration I<sub>9</sub>, Guanzhong Urban Agglomeration I<sub>10</sub>, Jianghuai Urban Agglomeration I<sub>11</sub>, West of Taiwan Strait Urban Agglomeration I<sub>12</sub>, Southern Guangxi Urban Agglomeration I<sub>13</sub>, North Slope of Tianshan Mountain Urban Agglomeration I<sub>14</sub>, Hohhot-Baotou-Ordos-Yulin Urban Agglomeration I<sub>15</sub>, Central Shanxi Urban Agglomeration I<sub>16</sub>, Ningxia Yellow River Urban Agglomeration I<sub>17</sub>, Lanzhou-Baiyin-Xining Urban Agglomeration I<sub>18</sub>, Central Guizhou Urban Agglomeration I<sub>19</sub>, and Central Yunnan Urban Agglomeration I<sub>20</sub> (Table 5.5). Each subregion is the core strategic region for their corresponding provinces or regions, and also the strategic core region for New Urbanization development, and primary carrying region for urbanizing rural population. In the meantime, this region is also the most polluted region that requires intensive treatment.

**Table 5.4** Statistics for the five grand categories of urbanization regions in China (2012)

Code	Name	Area/ %	Population/ %	Population density/ (persons/km <sup>2</sup> )	Urban population/ %	Urbanization level/%	GDP/ %	Economic density/ (10,000 RMB Yuan/km <sup>2</sup> )
I	Urban agglomeration area	25.82	62.83	339.87	78.42	45.43	80.57	1420.5
II	Major food production area	20.8	18.97	120.65	10.02	30.43	13.02	284.91
III	Agriculture, forestry, and pastoral area	6.21	6.77	132.65	4.73	27.16	4.12	298.53
IV	Poverty contiguous area	18.25	8.82	67.48	4.04	21.91	1.13	28.18
V	Ethnic minority autonomous area	28.92	2.61	12.6	2.79	36.6	1.16	18.26
	National level	100	100	139.68	100	34.61	100	455.25

Table 5.5 Statistics for the 47 subregions of urbanization in China (2012)

Code	Name	Area/ %	Population/ %	Population density/ (persons/km <sup>2</sup> )	Urban Population/ %	Urbanization level/%	GDP/ %	Economic density/ (10,000 RMB Yuan/km <sup>2</sup> )
I	<b>Urban agglomeration area</b>	<b>25.82</b>	<b>62.83</b>	<b>339.87</b>	<b>78.42</b>	<b>45.43</b>	<b>80.57</b>	<b>1420.50</b>
I <sub>1</sub>	Beijing-Tianjin-Hubei	1.90	6.30	462.77	10.11	60.48	9.06	2169.77
I <sub>2</sub>	Yangtze River Delta	1.14	6.33	772.48	11.28	66.50	16.17	6430.00
I <sub>3</sub>	Pearl River Delta	0.58	2.25	546.01	4.71	71.83	8.62	6819.93
I <sub>4</sub>	Middle Yangtze River	2.94	8.44	401.59	8.35	36.33	7.32	1135.07
I <sub>5</sub>	Chengdu-Chongqing	2.50	8.07	450.08	10.32	43.86	5.31	965.17
I <sub>6</sub>	Harbin-Changchun	2.92	3.46	165.70	4.23	41.84	3.74	583.97
I <sub>7</sub>	Central and South Liaoning	1.22	2.77	317.64	4.11	52.85	4.49	1674.91
I <sub>8</sub>	Shandong Peninsula	1.17	4.68	556.21	5.31	46.29	7.47	2896.22
I <sub>9</sub>	Central Plain	0.61	3.39	773.13	3.00	30.29	3.06	2273.18
I <sub>10</sub>	Guanzhong	0.93	2.19	330.07	2.05	32.02	1.58	773.44
I <sub>11</sub>	Jianghuai	0.74	2.27	427.28	2.73	41.25	2.02	1242.69
I <sub>12</sub>	West of Taiwan Strait	0.87	3.90	625.27	3.50	39.52	4.10	2144.65
I <sub>13</sub>	Southern Guangxi	0.76	1.69	312.22	0.91	38.37	0.98	587.25
I <sub>14</sub>	North Slope of Tianshan Mountain	0.62	0.31	70.14	0.70	76.60	0.56	410.48
I <sub>15</sub>	Hohhot-Baotou-Ordos-Yulin	3.08	1.11	50.43	1.25	38.52	2.35	347.61
I <sub>16</sub>	Central Shanxi	0.93	1.48	221.96	1.73	40.16	1.27	622.67
I <sub>17</sub>	Ningxia Yellow River	0.54	0.37	93.94	0.50	46.89	0.33	279.51
I <sub>18</sub>	Lanzhou-Baiyin-Xining	0.79	1.04	185.18	0.92	30.46	0.57	328.48
I <sub>19</sub>	Central Guizhou	0.57	1.23	299.16	1.36	38.03	0.58	461.00
I <sub>20</sub>	Central Yunnan	1.00	1.54	215.40	1.35	36.62	0.98	444.59

(continued)

Table 5.5 (continued)

Code	Name	Area/ %	Population/ %	Population density/ (persons/km <sup>2</sup> )	Urban Population/ %	Urbanization level/%	GDP/ %	Economic density/ (10,000 RMB Yuan/km <sup>2</sup> )
II	<b>Major food production area</b>	<b>20.80</b>	<b>18.97</b>	<b>120.65</b>	<b>10.02</b>	<b>30.43</b>	<b>13.02</b>	<b>284.91</b>
II <sub>1</sub>	Northeast China	7.30	2.08	39.90	1.75	35.33	3.91	243.73
II <sub>2</sub>	Inner Mongolia	4.81	0.12	3.62	0.13	34.61	0.85	80.07
II <sub>3</sub>	Yellow River, Huai River, and Hai River	3.12	11.35	508.17	5.1	27.49	4.17	608.22
II <sub>4</sub>	Middle and lower reaches of Yangtze River	2.15	4.41	220.98	2.32	36.86	3.52	742.83
II <sub>5</sub>	Southwest China	3.42	1.01	41.09	0.72	31.19	0.59	77.90
III	<b>Agriculture, forestry, and pastoral area</b>	<b>6.21</b>	<b>6.77</b>	<b>132.65</b>	<b>4.73</b>	<b>27.16</b>	<b>4.12</b>	<b>298.53</b>
III <sub>1</sub>	Southeast hilly region	1.35	1.96	181.02	1.35	26.31	1.15	387.67
III <sub>2</sub>	South mountain region	0.84	1.85	306.42	1.45	26.86	0.99	533.13
III <sub>3</sub>	Hainan and south China sea archipelago region	0.52	0.95	172.20	0.63	33.20	0.82	715.10
III <sub>4</sub>	Loess Plateau region	1.12	1.70	173.52	1.05	25.84	0.70	283.79
III <sub>5</sub>	West of Yellow River corridor region	2.44	0.32	18.15	0.25	27.13	0.45	84.71
IV	<b>Poverty contiguous area</b>	<b>18.25</b>	<b>8.82</b>	<b>67.48</b>	<b>4.04</b>	<b>21.91</b>	<b>1.13</b>	<b>28.18</b>
IV <sub>1</sub>	South of the Greater Xing'an mountain region	0.84	0.27	45.08	0.19	23.64	0.13	69.12
IV <sub>2</sub>	Yanshan-Taihang mountain region	0.92	0.53	80.11	0.25	24.89	0.11	53.83

(continued)



Table 5.5 (continued)

Code	Name	Area/ %	Population/ %	Population density/ (persons/km <sup>2</sup> )	Urban Population/ %	Urbanization level/%	GDP/ %	Economic density/ (10,000 RMB Yuan/km <sup>2</sup> )
IV <sub>3</sub>	Dabie mountain region	0.66	1.74	369.92	0.54	22.49	0.09	64.71
IV <sub>4</sub>	Ljupan mountain region	0.73	0.62	118.59	0.36	19.82	0.10	59.80
IV <sub>5</sub>	Qinba mountain region	1.01	0.82	113.98	0.32	21.55	0.11	49.44
IV <sub>6</sub>	Wuling mountain region	0.39	0.44	155.36	0.31	24.07	0.10	112.28
IV <sub>7</sub>	Yunnan, Guangxi, and Guizhou rocky desertification region	1.91	1.59	116.22	0.74	20.30	0.05	12.34
IV <sub>8</sub>	Wumeng mountain region	0.34	0.57	234.11	0.34	20.47	0.11	148.84
IV <sub>9</sub>	Western Yunnan border mountain region	2.51	1.53	85.10	0.66	23.72	0.06	10.76
IV <sub>10</sub>	Tibetan regions in Qinghai, Sichuan, Yunnan, and Gansu Provinces	4.45	0.23	7.06	0.12	18.59	0.15	14.91
IV <sub>11</sub>	Three prefecture-level units in south Xinjiang	4.50	0.50	15.51	0.21	19.76	0.13	13.31
<b>V</b>	<b>Ethnic minority autonomous area</b>	<b>28.92</b>	<b>2.61</b>	<b>12.60</b>	<b>2.79</b>	<b>36.60</b>	<b>1.16</b>	<b>18.26</b>
V <sub>1</sub>	Tibet autonomous region	12.52	0.22	2.50	0.15	22.67	0.16	5.78
V <sub>2</sub>	Xinjiang Uygur autonomous region	11.59	0.65	7.87	0.75	39.24	0.36	14.07
V <sub>3</sub>	Guangxi Zhuang autonomous region	0.81	1.31	226.39	1.26	32.85	0.24	133.45
V <sub>4</sub>	Yanbian Korean autonomous region	0.45	0.17	52.41	0.35	70.35	0.18	185.78
V <sub>5</sub>	Haixi Mongolian-Tibetan autonomous region	3.14	0.04	1.62	0.07	70.08	0.13	18.95
V <sub>6</sub>	Xiangxi Tujia and Miao autonomous region	0.41	0.22	72.99	0.21	33.67	0.09	100.24
<b>National level</b>		<b>100.00</b>	<b>100.00</b>	<b>139.68</b>	<b>100.00</b>	<b>34.61</b>	<b>100.00</b>	<b>455.25</b>

- Urbanization position and characteristics: Land area of the urban agglomeration area urbanization development region (I) accounts for 25.85 % of the national total. Population in 2012, however, accounted for 62.83 %. Urban population accounted for 78.42 %. Urbanization level as calculated by household registration was 45.43 % in 2012 (national average was 34.21 %), 10.22 % over the national average. Urban construction land use (city proper) accounted for 67.05 %. Total GDP accounted for 80.57 % (Fig. 5.4). Added value for the primary industry accounted for 59.88 %, for the secondary industry 95.29 %, and 86.14 % for the tertiary industry. Societal fixed asset investment accounted for 76.87 %. Actual utilization of foreign investment accounted for 87.24 %. Population density was 339.87 persons per square kilometer, which was 2.43 times that of the national average. Economic density was 14.21 million RMB Yuan per square kilometer, 3.12 times that of the national average (Fig. 5.5). Apparently, this region has the densest population and economy, highest urbanization level, largest economic scale, and occupies the highest position in China's national urbanization development. This is the absolute primary region for urbanization that determines the future of China's urbanization.
- Basic functions: This region (I) carries the four primary functions at the national strategic level for New Urbanization:

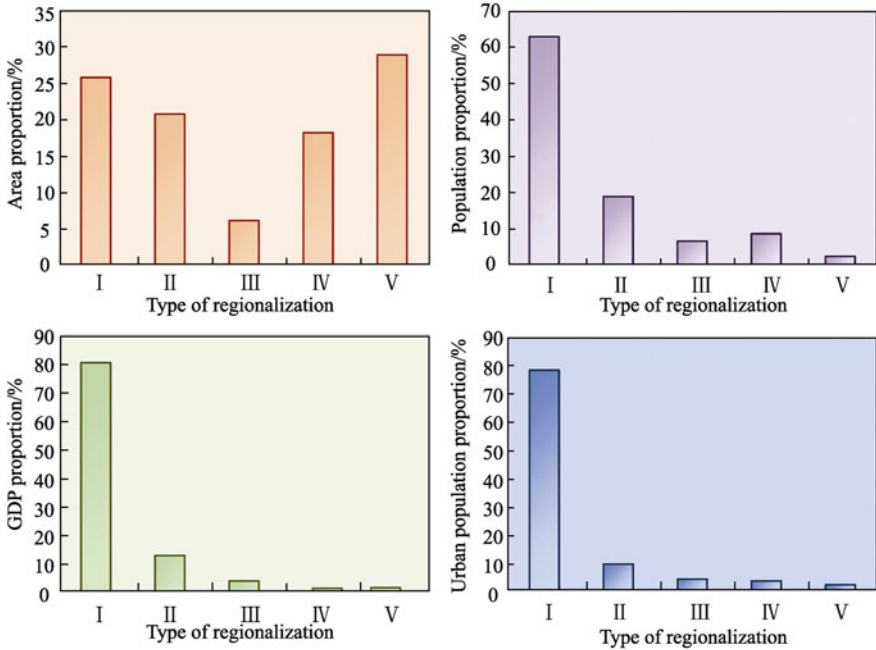
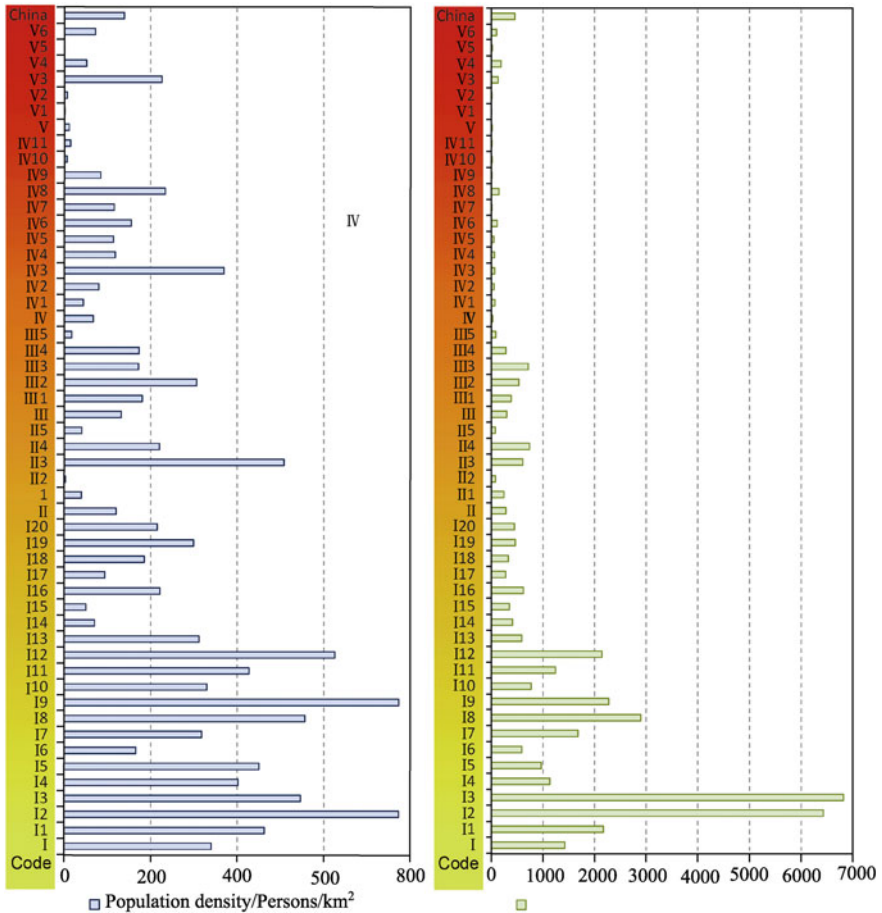


Fig. 5.4 Comparison of development status of various regions in China



**Fig. 5.5** Population and economy density of China’s urbanization development regions and subregions

- (a) Function of primary urbanization: This is the primary area for urbanization development in China. Urbanization level will reach 60 % by 2020 to ensure that China’s urbanization can steadily and stably enter into the later and mature stages of urbanization.
- (b) Function of promoting urbanization quality: Within this region, it is imperative to make sure that urbanization rate and quality must maintain a dynamic balance. The goal is to promote the maximum urbanization quality that is people-oriented.
- (c) Function of primary economic development region: By reasonably combining and mobilizing production factors, this region will become one of the world’s high-end advanced manufacturing bases and modern service bases. In the meantime, development of this region will make sure China stays as a

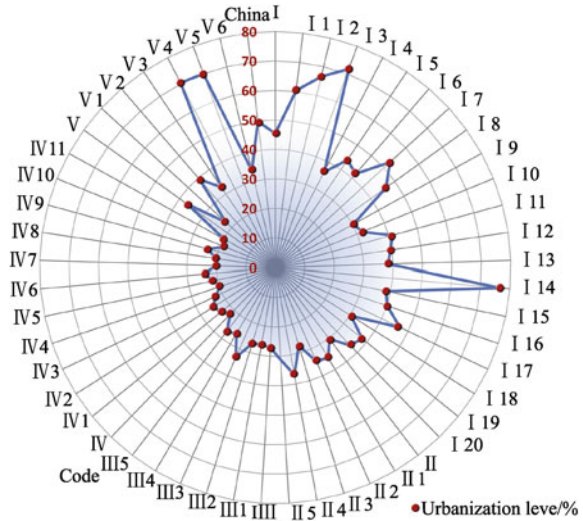
competitive second largest economy in the world, and gradually marches to the world's largest economy. Urbanization and development in this region could ensure economic and social security during China's urbanization, and determine its future.

- (d) Function of improving quality of live: Development of urbanization in this region will make sure that the quality of life in China will be improved significantly. The living standards will be improved. Public services for both rural and urban residents will be equalized. In doing so, it will ensure that by 2020 China enters a society with moderate prosperity all across the nation.

### **5.3.1.2 Food Production Area Urbanization Development Region (II): 5 Sub-regions**

1. Basic composition: Food production area urbanization development region (II) is the primary region for food production in China, and a critical region for the national food security. It is composed of Northeast food production region II<sub>1</sub>, Inner Mongolia food production region II<sub>2</sub>, Yellow River, Huai River and Hai River food production region II<sub>3</sub>, middle and lower reaches of Yangtze River food production region II<sub>4</sub>, Southwest food production region II<sub>5</sub>.
2. Urbanization position and characteristics: Food production area urbanization development region (II) occupies 20.8 % of the nation's total land area. In 2012, its population accounted for 18.97 % of the national total. Urban population accounted for 10.02 %. Urbanization level as calculated based on household registration was 30.43 %, which is 4.2 % lower than the national average (34.61 %, Fig. 5.6). GDP accounted for 13.02 %. Population density was 120.65 persons per square kilometer, lower than the national average (by 19.03 persons per square kilometer). Economy density was 2.85 million RMB Yuan per square kilometer, also lower than the national average (by 1.66 million RMB Yuan per square kilometer). This region is characterized by relatively low population and economy density, relatively high urbanization level, and the second highest economic development level. Among all the urbanization development regions, this region is second only to the primary urbanization development region in terms of strategic position. It is hence also very important for China's New Urbanization development.
3. Basic functions: This urbanization development region involves seven food production areas in the North China, namely, Hebei, Inner Mongolia, Liaoning, Jilin, Heilongjiang, Shandong, and Henan Provinces, and six food production areas in the South China, namely, Jiangsu, Anhui, Jiangxi, Hubei, Hunan, and Sichuan. Based on the 2011 statistics from the National Food Bureau, the cultivated areas within these 13 food production areas accounted for 71.84 % of the national total. The food produced accounted for 75.4 %. The added food products accounted for 95 % of the national total. Apparently, this region is the

**Fig. 5.6** Urbanization levels at the various urbanization regions and subregions in China



food production region, and food security region in China. To this regard, this region has the following three main functions:

- (a) Primary function—national food security. Terrains of the food production area are dominated with flat plains. Their economy is dominated with cultivation. The population is dominated with farmers. In general, these regions are relatively underdeveloped or undeveloped. On the other hand, this region is also the source for China’s national food security. It plays critical roles in improving national food production and ensuring national food security. According to the *Medium to Long Term Planning for National Food Security (2008–2020)*, the food production area urbanization development region shall put ensuring China’s food security as the top priority. Implementing New Urbanization strategies in this region must balance between the top priority of ensuring national food security and then promoting urbanization development.
- (b) Function of steadily promoting New Urbanization. Since the top priority of this region is the national food security, it is hence imperative to make sure that urbanization development shall in no way compromise the food productivity. Urbanization rate is not the top priority for its development. Instead, efforts shall be put to improve farmers’ income and the urbanization quality in this region. The center of the development shall be agricultural development. A sensible approach is to couple strategically agricultural resources and processing industries in this region so that we can enable agricultural industrialization to drive industrialization across the entire rural areas, and eventually promote urbanization in the rural areas. In doing so, we can nurture a unique endogenous urbanization development mode in the food production region.

- (c) Functions of promoting integrated urban and rural development and increasing farmers' income. During the promoting of New Urbanization in this region, the primary goals shall be increasing food production and farmers' income, developing rural area, and modernizing agriculture.

### **5.3.1.3 Agriculture, Forestry, and Pastoral Area Urbanization Development Region (III): 5 Subregions**

1. Basic composition: Agriculture, forestry, and pastoral area urbanization development region (III) includes most regions in the mountainous, hilly, or plateau regions. It is also the primary production region for economic crops and comprehensive agricultural development. It includes Southeast Hilly Agriculture, Forestry and Pastoral region III<sub>1</sub>, South Mountain Agriculture, Forestry and Pastoral region III<sub>2</sub>, Hainan and South China Sea Archipelago Agriculture, Forestry and Pastoral region III<sub>3</sub>, Loess Plateau Agriculture, Forestry and Pastoral region III<sub>4</sub>, and Hexi (West of Yellow River) Corridor Agriculture, Forestry and Pastoral region III<sub>5</sub>.
2. Urbanization position and characteristics: Agriculture, Forestry and Pastoral area urbanization development region (III) occupies 6.21 % of the nation's total land area. In 2012, its population accounted for 6.77 % of the national total. Urban population accounted for 4.73 %. Urbanization level as calculated based on household registration was 27.16 %, which is 7.55 % lower than the national average (34.61 %). GDP accounted for 4.12 %. Population density was 132.65 persons per square kilometer, lower than the national average (by 7.03 persons per square kilometer). Economy density was 2.99 million RMB Yuan per square kilometer, also lower than the national average (by 1.57 million RMB Yuan per square kilometer). This region is characterized by relatively large population and economy density, relatively low urbanization level, and third-ranked in national economy. Overall, this region is a relatively important region in promoting national New Urbanization strategy.
3. Basic functions: This region is often composed of hilly and mountainous and agriculture and pastoral interchanging areas. As per its terrain characteristics and current development status, the basic functions that this region serves include as follows:
  - (a) Function of promoting comprehensive agriculture, forestry, and pastoral development: The key here is to respect the local conditions, promoting various comprehensive development modes with agriculture, forestry, and pastoral sectors, serving to establish a socioeconomically sustainable and moderately prosperous society.
  - (b) Function of orderly promoting integration of urban and rural development. This region (III) is the key region for promoting integrated urban and rural development. It is also a key region to explore and promote various

urbanization development modes in agricultural, pastoral, mountainous, and forest regions. The successful experience will provide invaluable lessons for urbanization in such regions across the entire nation and enable a common development and prosperity.

- (c) Functions of promoting agricultural modernization and increasing farmers' income. Apparently, in the process of promoting New Urbanization in this region, agricultural modernization, increasing farmers' income, and rural economic development shall be the top goals.

#### **5.3.1.4 Poverty Contiguous Area Urbanization Development Region (IV): 11 Sub-regions**

1. Basic composition: Poverty contiguous area urbanization development region (IV) is composed of 11 subregions, namely, south of the Greater Xing'an Mountains region (IV<sub>1</sub>), Yanshan-Taihang Mountain region (IV<sub>2</sub>), Dabie Mountain region (IV<sub>3</sub>), Liupan Mountain region (IV<sub>4</sub>), Qinba Mountain region (IV<sub>5</sub>), Wuling Mountain region (IV<sub>6</sub>), Yunnan, Guangxi and Guizhou rocky desertification region (IV<sub>7</sub>), Wumeng mountain region (IV<sub>8</sub>), western Yunnan border mountain region (IV<sub>9</sub>), the Tibetan regions in Qinghai, Sichuan, Yunnan, and Gansu Provinces (IV<sub>10</sub>), and the three prefecture-level units in South Xinjiang (IV<sub>11</sub>). The designation of this region is based on the 11 nationally recognized main battlefields of poverty alleviation as determined in Article X of the "China Rural Poverty Alleviation and Development Program (2011–2020)" announced and implemented on December 6, 2011 by the State Council.
2. Urbanization position and characteristics: Poverty contiguous area urbanization development region (IV) occupies 18.25 % of the nation's total land area. In 2012, its population accounted for 8.82 % of the national total. Urban population accounted for 4.04 %. Urbanization level as calculated based on household registration was 21.91 %, which is 12.7 % lower than the national average (34.61 %). GDP accounted for 1.13 %. Population density was 67.48 persons per square kilometer, lower than the national average (by 72.2 persons per square kilometer). Economy density was 281,800 RMB Yuan per square kilometer, also lower than the national average (by 4.27 million RMB Yuan per square kilometer). This region is characterized by relatively lower population and economy density, relatively low urbanization level, under- or undeveloped economy and lowest quality of life. Due to its backward development, this region requires urgent attention and intensive national support and supports from other regions as well. For this matter, this region occupies a specifically, and uniquely important strategic position in China's national urbanization development.
3. Basic functions: The poverty contiguous area urbanization development region (IV) contains mostly poverty contiguous areas in the mountainous regions.

Many such regions often cover large areas and are impoverished for fairly long time due to natural conditions that prevents easy access. In addition, other than the mountainous areas, this region also includes the ethnic minority areas in Tibet, Tibetan regions in Qinghai, Sichuan, Yunnan and Gansu Provinces, and the three prefectures in South Xinjiang. The primary functions this region serves include as follows:

- (a) Functions of poverty reduction, alleviation and development: This function focuses on the implementation of the “China Rural Poverty Alleviation and Development Program (2011–2020)” to ensure that the poverty contiguous areas will be able to get rid of the entitlement of being national level poverty-stricken counties so that they can realize poverty alleviation, get rich, and become well-off as soon as possible. To achieve such development status, these regions must explore and take advantage of the specific geographic, environmental and resources characteristics, propose location-specific comprehensive development mode involving agriculture, forestry and pastoral activities, and eventually promote these regions’ socioeconomic sustainable development and building a moderately prosperous society.
- (b) Functions of urbanization that aims at poverty alleviation: The ultimate goal for any projects in poverty contiguous area is to reduce poverty level and enrich the local people. Urbanization is one of such projects. It has profound socioeconomic impacts on poverty contiguous areas. Urbanization on one hand can drive poverty alleviation projects. On the other hand, poverty alleviation projects often promote urbanization in poverty contiguous areas. By combining urbanization and poverty alleviation projects, we propose a New Urbanization mode that aims specifically for poverty alleviation. With such mode, not only will outside investment be injected to promote local economic development, more importantly, via actively urbanizing poverty contiguous areas, we will be able to facilitate these regions to take off and eventually self-develop. The goal is to help these regions to become poverty-free and move to moderately prosperous society by the year 2020.
- (c) Functions of protecting the mountain eco-environment and coordinating the human-land relationship in the mountainous areas : In general, the poverty contiguous areas urbanization development region (IV) often has rather poor natural conditions, fragile eco-environment, and frequent natural disasters such as mudslides and landslides. On the other hand, these regions’ transportation, communication and other infrastructure and public service facilities are seriously lagging behind. Human-land relationships are extremely tense and not well coordinated. This requires that when promoting New Urbanization strategies in these regions, the fragility of the mountainous regions’ ecosystem must be taken into consideration and shall under no circumstances be endangered.



### 5.3.1.5 Ethnic Autonomous Area Urbanization Development Region (V): Six Sub-regions

1. Basic composition: The ethnic autonomous area urbanization development zone (IV) refers to all the ethnic autonomous regions that are not covered by urban development regions I–IV. It is composed of the Tibet autonomous region ( $V_1$ ), Xinjiang Uygur Autonomous Region ( $V_2$ ), Guangxi Zhuang Autonomous Region ( $V_3$ ), the Yanbian Korean Autonomous Region ( $V_4$ ), Haixi Mongolian-Tibetan Autonomous Region ( $V_5$ ), and Xiangxi Tujia and Miao Autonomous Region ( $V_6$ ).
2. Urbanization position and characteristics: Ethnic autonomous area urbanization development region (V) occupies 28.92 % of the nation's total land area. In 2012, its population accounted for 2.61 % of the national total. Urban population accounted for 2.79 %. Urbanization level as calculated based on household registration was 36.6 %, which is 1.9 % higher than the national average (34.61 %). GDP accounted for 1.16 %. Population density was 18.26 persons per square kilometer, lower than the national average (by 127.08 persons per square kilometer). Economy density was 182,600 RMB Yuan per square kilometer, also lower than the national average (by 4.37 million RMB Yuan per square kilometer). This region is characterized by the lowest population and economy density, fairly underdeveloped economy, but relatively high level of urbanization compared to the national average. This region occupies a very specific position in China's New Urbanization strategies. As a matter of fact, its developmental status might cast direct influence upon China's New Urbanization security.
3. Fundamental functions: The ethnic autonomous area urban development region (V) is not a unique, contiguous region. Instead, this region is often located far away from any socioeconomic centers. In the meantime, this region occupies a relatively large amount of land area with sparsely distributed population and various ethnic minority groups. Considering the particular characteristics of this region, we propose that the basic functions of the region can be expressed as follows:
  - (a) The first function is to maintain national unity and social stability. The primary focus is to ensure stability and unity in minority autonomous region to achieve harmonious economic development and social and political stability. This function aims at playing an important role in sustainable development and building a moderately prosperous society in these regions.
  - (b) Functions of promoting ethnic minority autonomous regions' urbanization: This particular function attempts to explore New Urbanization development models that suit to the characteristics of ethnic minorities. Urbanizing the ethnic minority regions must be embedded into the grand pattern of national

New Urbanization strategy taking into consideration of the unique characteristics of the region. While conditions permit, we can gradually promote some of the ethnic minority autonomous prefecture to prefecture-level cities, and autonomous counties to county-level cities.

- (c) Functions of preserving ethnic minority cultural heritage: This particular region often has rich folk cultural resources and strong cultural heritage. In the process of promoting New Urbanization strategies in this particular region, we must coordinate the relationships between inheriting and developing ethnic cultural resources, so that the region could eventually become a unique region for New Urbanization.

### ***5.3.2 The Promotion Measures for Comprehensive Regionalization for New Urbanization***

#### **5.3.2.1 Start Compiling the National New Urbanization Comprehensive Regionalization Based on Relevant Regionalization Programs**

From the establishment of the People's Republic of China until now, along with the transformation and upgrading at different stages of economic development and urbanization, China has compiled and implemented more than 40 different comprehensive or thematic regionalization plans, including China physical geographic regionalization, China's ecological regionalization, China's comprehensive agricultural regionalization, China's economic regionalization, and China's main functional area regionalization. These regionalization plans played significant roles in promoting national eco-environmental protection, socioeconomic development, and space management at certain historical stages. Yet up until very recently, there was not a "people-oriented" comprehensive regionalization plan for New Urbanization. Even the *National New Urbanization Planning (2014–2020)* did not provide solid classification of different urbanization regions and relevant development plans based on that. For a country like China that has vast regional differences, we suggest that relevant governmental departments shall start from the strategical goals of implementing the *National New Urbanization Planning*, to compile a National Level New Urbanization Comprehensive Regionalization Plan based on China's comprehensive physical geography regionalization, comprehensive ecological regionalization, comprehensive agricultural regionalization, comprehensive economic regionalization, and primary functional area regionalization. We envision that this New Urbanization regionalization will be able to provide various goals, foci, development directions, and paths for implementing New Urbanization strategies in different regions based on regional characteristics and conditions.

### **5.3.2.2 Appropriately Adjust the New Urbanization Comprehensive Pilot Program Based on the New Urbanization Comprehensive Regionalization Plan**

The current New Urbanization comprehensive pilot program is more a result of administrative directives than anything else. Each provincial administrative unit gets an allocated amount of sites to implement New Urbanization strategies regardless of whether or not they actually meet the criteria. We suggest that with the compiled New Urbanization Comprehensive Regionalization Plan, it is necessary to adjust the current pilot programs. Specifically, we can adjust the 62 New Urbanization comprehensive experimental cities (counties or townships) so that each New Urbanization region and subregion shall have at least one New Urbanization comprehensive pilot city (county or township). Within different New Urbanization region or subregion, we shall conduct comprehensive pilot experiments to test out how to share the cost of urbanizing agricultural population, how to establish diversified and sustainable urbanization finance mechanism, how to set up innovative administrative mode to reduce administrative costs, and how to reform and improve the rural homestead systems. With these comprehensive pilot experiments, we can then propose generalized guidance based on different results.

### **5.3.2.3 Proposed Differentiated Development Policies and Guidance Based on Different Primary Functions of Different Urbanization Regions**

The urbanization development regions of the five different areas, namely, urban agglomeration area, food production area, agriculture, forestry, and pastoral mixed area, poverty contiguous area, and ethnic minority autonomous area, have rather different strategical positions in implementing China's New Urbanization strategies. They also carry varied primary functions of urbanization, and have different New Urbanization development goals, foci, modes, and paths. Because of such differences, we suggest designing different urbanization development policies and guidance based on different regional conditions and characteristics, so that the New Urbanization strategies improve and facilitate instead of impeding local development.

## **References**

1. Bureau of Land and Resources of Japan. 1998. The Fifth national comprehensive development plan: grand design in the 21st century. Tokyo:12-16.
2. Cao Shuyan, Xie Gaodi. 2009. The Evolution of the perspective of functional zoning driven by development issues in China. *Resources Science*, 31(04):539-543.
3. Editorial Department of Chinese Journal of Geography, CAS. 1954. Draft of China's Natural regionalization. Beijing: Science Press.

4. Fang Chuanglin, Yao Shimou, Liu Shenghe, et al.. 2011. Report on the development of China's urban agglomerations. Beijing: Science Press.
5. Fang Chuanglin. 2014. Report on China's new-type urbanization. Beijing: Science press.
6. Fang Chuanglin.2011. New structure and new trend of formation and development of urban agglomerations in China. *Scientia Geographica Sinica*, 31(9):1025-1035.
7. Fang Chuanglin.2014. Progress and the future direction of research into urban agglomeration in China. *Acta Geographica Sinica*, 69(8): 1130-1144.
8. Gu Linsheng. 2003. The Change of system and new trend of spatial planning in the world and suggestions to China' spatial planning in the new century. *World Regional Studies*, 12 (1):60-70.
9. Guo Huancheng. 1999. Agricultural economy regionalization of China. Beijing: Science Press.
10. Hou Xueyu. 1963. Advice to development direction of agriculture, forestry, animal husbandry and fisheries of each China's natural areas. *Chinese Science Bulletin*, (9):8-26.
11. Hou Xueyu. 1988. China's natural ecological zoning and agriculture development strategy. Beijing: Science Press.
12. Hu Xuwei. 2006. Evolution and prospect of China's regional planning. *Acta Geographica Sinica*, 61(6):585-592.
13. Huang Bingwei. 1959. Draft of China's comprehensive natural regionalization. *Chinese Science Bulletin*, (18): 594-602.
14. Huang Bingwei. 1959. Draft of China's comprehensive natural regionalization. *Chinese Science Bulletin*, (18): 594-602.
15. Huang Bingwei. 1965. On China's comprehensive natural regionalization. *New Construction*, (3): 65-74.
16. Huang Bingwei. 1989. An outline of China's comprehensive natural regionalization. *Collected Papers of Geography*, 21:10-20.
17. Lin Chao. 1954. A general outline of China's comprehensive natural regionalization. *Journal of Geographical Sciences*, 20(4):395-418.
18. Liu Shengjia. 1990. History of geographical thought. Wuhan: Huazhong Normal University Press.
19. Liu Yanhua, Zheng Du, Ge Quansheng, et al.. 2005. Problems on the research of comprehensive regionalization in China. *Geographical Research*, 24(03):321-329.
20. Mao Hanying, Fang Chuanglin.2002. The basic propositions of new round territorial planning and its improving way in China. *Geographical Research*, 21(03):267-275.
21. Ren Mei'e, Yang Renzhang. 1961. Issues on China's natural regionalization. *Acta Geographica Sinica*, 27(12):66-74.
22. Wang Jinbai, Zhao Min. 2008. Towards unified thrritory and urban-rural spatial administration framework. *City planning review*, 32(12):40-48.
23. Yang Shuzhen. 1990. Research on China's economic regionalizaiton. Beijing: China Prospect Publishing House.
24. Zheng Du, Ge Quansheng, Zhang Xueqin, et al.. 2005. Regionalization in China: retrospect and prospect. *Geographical Research*, 24(3):330-344.
25. Zheng Du, Zhou Chenghu, Shen Yuancun, et al.. 2012. Dictionary of geographical regionalization and planning. Beijing: China Water-Power Press.
26. Zhu Kezhen. 1930. On the climatic regions of China. *Acta Geographica Sinica*, 3(2): 32-35.