Chapter 3
Basic Modes for China's New Urbanization Development

Urbanization in China has entered a critical period of rapid development and transformation. The keys for this critical period include urbanization level is over 50 %; outstanding "urban disease" issues push for improvement of urbanization quality; accelerating urbanization is facing increasing resource and environmental pressures; and urbanization needs to be coordinated with industrialization, agricultural modernization and information technology development. In this critical period of transition, in order to ensure a successful transition of urbanization and the healthy and stable development, the New Urbanization strategy proposes a shift from the aggressive to progressive and from unsustainable to sustainable urbanization. In so doing, appropriate urbanization restructuring modes, including generic transition, differentiating transition, shareholding transition, gradual transition, and spontaneous transition will be implemented depending on local conditions. Except for the generic transition mode, there is no uniform mode of transition for urbanization in China. The golden principle is that we must adhere to local conditions, and let the local regions walk their own development path of implementing the New Urbanization strategy.

3.1 The Generic Transition Mode for China's New Urbanization Development

Given the fact that China's urbanization is entering a critical period of transition with relatively low security level of ecological and environmental protection and resources in the near future, appropriate urbanization mode must adhere to the basic principles of moderately compactness, resources conservation, environment protection, differentiating promotion, and full openness. Based on these principles, the actual characteristics of the generic transition mode for urbanization in China can be described as being compact with appropriate rate and scale [1], resources and

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energy conserving, eco-environmental friendly, local conditions abiding, urban and rural integrating, and fully open and leading. The generic transition mode provides the most fundamental guidelines for the New Urbanization in China, and can be applied to all regions, cities, and time periods.

3.1.1 Appropriate and Compact Urbanization

This common mode requires properly handling the relationship between improving urbanization quality and rate, so that the rate of urbanization is within the current allowed limit as determined by local resource and environmental carrying capacity. Moreover, this mode also emphasizes that urbanization level shall be consistent with urban economic development level. High quality of urbanization is impossible without high quality of economic development. This then calls for relatively accurate predictions of both the urbanization and economic development levels. We shall gradually de-emphasize the importance of urbanization level alone; instead highlight the significance of resource and environmental constraints for urbanization. The key is to maintain an appropriate growth rate of urbanization that is neither too fast nor too slow. Our empirical analysis suggests an annual growth rate of 0.6–0.8 % for urbanization is appropriate in current China. Since healthy urbanization is really a comprehensive and integrated process of enhanced quality and rate, it is critical to maintain such a not-too fast but not-too slow pace. If urbanization is too fast, it would lead to the development exceeding the carrying capacity of the local ecological environment and resources, triggering a series of ecological and environmental problems, which in turn limits further acceleration of future urbanization. This is also called excessive urbanization. On the other hand, if urbanization is too slow, although low level of urbanization has relatively little impact on the ecological environment, it limits the industrialization and economic development, which also lead to a low level of non-agricultural economy, lagging urban construction, a large surplus of labor, and inefficient society. This is also called under-urbanization. Apparently, neither the excessive urbanization nor the under-urbanization would be appropriate, healthy and sustainable urbanization. The moderate urbanization in between refers to the fact that urbanization level adapts to local resource and eco-environment carrying capacity, hence is the appropriate mode for urbanization. In a nutshell, such moderate mode of urbanization has a few distinctive characteristics, namely, moderate urbanization rate, moderate scale of urban construction, moderate urban agglomeration and diffusion, and moderate urban compactness.

3.1.1.1 Moderate Rate of Urbanization

The moderate rate is not a specific, definite rate. Instead, the moderate rate refers to the rate of urbanization that is compatible and coordinated with economic growth,

employment, land use, and other factors in specific phases and stages of economic development and urban development. With moderate urbanization rate, cities shall be able to create enough jobs as well as maintain a high quality of living environment. The ultimate goal of urbanization is to develop a life and production style that seeks the least from the nature, but produce the highest quality of life. Urbanization with moderate rate will have rational urban space utilization patterns. The current rapid urbanization that generates the so-called "three-no" phenomenon, namely, urbanized farmers have no cultivable land, no job available, and no employment opportunities, is apparently an excessive urbanization that focuses only on numbers, and is unhealthy and is directly against the inherent laws of urban development [2–4]. Apparently, rapid urbanization is not necessarily good urbanization. As a matter of fact, countries in Africa and Latin America have experienced the fastest urbanization rate during the past decades. They are, however, still the world's poorest regions. The fact suggests that urbanization needs to advance moderately. The rate shall allow urbanization to progress within the limit of local resource and environmental carrying capacity, and to follow the objective laws of urban development and economic development. Too aggressive urbanization is neither healthy nor sustainable. In analogy, urbanization process is like riding a bicycle, riding too fast or too slow will always cause the bike to crash in the end.

In a recently published monograph, "China's New Urbanization study" [13], the authors believe that the CPC's 18th Congress Report on people-oriented New Urbanization strategy has put forward new requirements. They argue that New Urbanization is China's modern grand strategy, and also the new government's "trump card" to promote economic development and social progress. They further contend that from a historical development perspective, China is entering a new height of development, and is facing with a series of important questions regarding New Urbanization and national reform. The book further proposed that by the year 2030, China's urbanization level will reach 80 % [5] to solve the series of new urban issues and problems. Such proposal, especially the 80 % urbanization level prediction, however, we believe is rather irresponsible and could further facilitate the on-going number's game that causes the series of urban issues and problems from the start. From a resource and environmental carrying capacity perspective (the most fundamental perspective), imagine if more than 80 % of China's current gigantic population concentrated in the cities, none of the cities in China will be prepared for such huge inundation of increased residents. The end results are quite foreseeable that cities in China will endure a variety of urban diseases like the ones troubling African and Latin American cities. Such proposal and ensuring strategies could very possibly put China's urbanization to the edge of disaster. In addition, even if the cities will be able to accommodate 80 % of China's population in 2030, under the current agricultural technology, the food security for 1.3 billion–1.5 billion people will be impossible to maintain. Apparently, at least in the foreseeable future in China, such a proposal is more of a whimsical self-imagination and overly aggressive approach for urbanization, a result from the legacy number's game that has been dominating China's traditional urbanization during the past decades. Such

proposal does not comply with China's national conditions at all, and shall be treated with high caution.

3.1.1.2 Moderate Urbanization Scale

In the process of implementing New Urbanization, one misconception that needs to be rectified is that the scale of urban population and urban construction land are grander the better. This is a typical legacy of number's game that governs the traditional urbanization strategies. From a sustainable development perspective, we must realize the resources and eco-environment carrying capacities are limited instead of infinite. If the scale of urbanization (population or land) is over and beyond the carrying capacity of resources and ecological environment, the cost for urban infrastructure will increase dramatically (financially and environmentally). In addition, the too-spread-out land use strategy also reduces urban land use efficiency, wastes city resources, increases urban environmental pollution, and causes a series of urban diseases. On the other hand, restricting the scale of urban construction land does not mean that the scale is smaller the better. Indeed, if a city appears too small, it is probably an indication of potential lack of urban development and weak urban radiating and diffusing effects, which will severely limit the central functions of the city to be played properly. From this elaboration, we argue that moderate scale of urbanization is when the city population size and scale of construction land are based on local resource endowments and environmental infrastructure, economic and social development, and regional characteristics. Under the moderate scale principle, urbanization cannot exceed the capacity provided by economic development. As a matter of fact, with excessive urbanization, the urban economy will not be able to provide sufficient amount of employment opportunities to accommodate its excessive population. If the urban land expands too extensively, the land resources utilization efficiency will be low. This is both a waste of urban resources and land resources. Based on our studies and analyses, we propose the future urban construction land per capita should be controlled between 80 and 100 m^2.

3.1.1.3 Moderate Concentration and Diffusion

Economies of scale and agglomeration effects are fundamental characteristics of the city and urban development, and also a direct goal of urbanization. In the early stages of urban development, it is necessary to emphasize the concentration of various factors of production to the central places. Once such concentration accumulates to certain extent, specifically when the combined effect of a series of negative results due to agglomeration offsets its benefits, it is necessary to promote out-diffusion of various factors of production. Otherwise, we are bound to observe a series of urban diseases. On the contrary, if we purposefully push production factors and population out of the cities in the early stage of urban development, it will cause a lack of cohesion and solidarity of the cities, which also leads to unhealthy

urbanization. Apparently, over-agglomeration or excessive fragmentation will not be conducive to the healthy development of urbanization. A healthy and sustainable urbanization approach shall adhere to the principles of moderate concentration and diffusion.

3.1.1.4 Moderate Compactness of Urbanization

Compact city is a resource saving, efficient, and high-density city. On the other hand, compact city is not necessarily environmental friendly or eco-city. It depends on how concentrated or diffusive are the city's various elements, such as industrial production, transportation, economy, space, and demographic agglomeration. Urban compactness is an often used indicator to measure the extent of the city's compactness. Compact city is often regarded as a sustainable form for urban development. It stems from the theories of the European-based Western countries on how to control urban sprawl and promote sustainable urban development. The theory stresses development. Under the precondition of curbing urban sprawl, the theory proposes centralized and sustainable utilization of public facilities to effectively reduce transportation distances, pollution emissions, and promote urban development [6]. Haughton and Hunter believe that higher urban density helps establish economically viable municipal facilities and promote sustainable development of society [7]. On the other hand, Breheny [1] considers compact city to be and an overcrowding, urban open space lacking living environment. The compactness is achieved by sacrificing the quality of urban life, and causing more energy consumption and pollution [8]. Li Lin compared the terms "compactness" and "intensive-ness" in juxtaposition and concluded that "compactness" is not a concrete, specific urban form, but an urban development strategy [9]. Qiu [10] compared the two arguments regarding too much or too little compactness, and proposed the compactness of the city is the core concept of sustainable development in China, and the primary condition to build a resource saving and environmental friendly city. It is hence recommended for healthy urbanization in China. Qiu further proposed that promoting the strategy of compact city in China will be able to achieve the comprehensive goals of land, energy, water, and materials saving, to build a resource conserving, environmental friendly city, so that we will be able to achieve a harmonious, rational, and healthy urbanization in the long run [10]. From these arguments, it can be seen that moderate urban compactness epitomizes the maximization of the overall efficiency. Urban form being too compact or too diffusive will neither be conducive to the healthy development of the city, nor to a healthy urbanization.

3.1.2 Resources and Energy Conserving Urbanization

This generic mode requires that urbanization must progress within the limits of resource and environment carrying capacity so that urbanization's impact on resources and environment will be kept at the minimum. In the meantime, appropriate planning and investment in technological innovation will also facilitate to relax the restriction of environment and resources on urbanization. The general principle is to promote resource conserving, environmental friendly, and clean urbanization based on local resource and environmental carrying capacity. Specifically, during the process of implementing the master urban planning, we must emphasize the variables that define urbanization quality and variables that reflect resource and environment constraints. In particular, indicators such as energy, water, construction land consumption, and pollutant emissions per 1 % of urbanization shall be considered as the same constraints such as unit GDP energy, water consumption, and pollutant emissions. For each of those variables, we must set clear reduction goals and control standards.

From the resource and energy availability and carrying capacity perspective, the land resource is the main carrier of the New Urbanization strategy. Water resource is the lifeblood of the New Urbanization. Energy resource is the lifeline of New Urbanization. In a nutshell, land, water, energy, and other resources are the extremely important guarantees for sustainable urban and regional development. Lessons learned from other countries' experience indicate that arable land reduced the fastest in the rapid development stages of industrialization and urbanization. Moreover, with further development of urbanization and industrialization, and upgraded consumption level after citizens' income growth, the demand for land resources and energy resources will rapidly increase. Urbanization development will inevitably face greater resources and environment pressure. To prevent such pressure escalates to be unsustainable, urban development must follow the route of intensive resources use, centralized urban layout, and compact development patterns. While choosing various development modes, conservation of resources and the environment shall take the highest priority. For development values, environmental protection shall take the top priority. Building a resource saving society shall be the preferred choice for any New Urbanization planning strategies. China's national conditions dictate that we cannot walk the same path of urbanization as the US and Latin America did. Urbanization in North America vividly demonstrates the waste of resources and degradation of regional eco-environments due to uncontrolled and disordered urban sprawl and low density land use pattern. Latin American countries had a much higher urbanization level than their economic development level. The rapid increase of urban population quickly surpassed what the urban infrastructure and public service facility could accommodate. This caused the majority of people live in harsh environments in cities. A large number of urban residents lack of formal employment and basic social security. The actual quality of urbanization is very low, let alone developing modernized cities. Therefore, during the process of urbanization, we must implement resource saving urbanization mode.

Specifically, such mode encompasses water-saving, land-saving, material-saving, and energy-saving and consumption reduction.

3.1.2.1 Implementing Water-Saving Urbanization; Urbanization Rate and Level Shall Be Determined by the Amount of Available Water

Water-saving urbanization refers to promoting urbanization from the perspective of water resources carrying capacity. In this mode of urbanization, there is a scientifically determined restriction for water demand and the scale and rate of socioeconomic development. This mode of urbanization focuses on developing and popularizing water-saving technology, establishing a water-saving system of industrial structure, and comprehensively promoting a water-saving society. The scale of the cities (large, medium, and small) is determined by the availability of water so that the new urban system progresses within the limits of the entire system's water carrying capacity. In the meantime, it will also strive to ensure that urban development and population, resources, and environment are coordinated. Water-saving shall be implemented and enforced in both regions with strong water resource constraint, and regions with weak constraint, and also in agricultural, industrial, and daily life. During urbanization process, after fully taping the potential of local water resources, and ensuring basic ecological and environmental water demand, we can then set the strategies to determine the scale of the city, the amount of urban land needed, the appropriate population size, the proper productivity, and the moderate rate and level of urbanization based on available water resources.

3.1.2.2 Implementing Land-Saving Urbanization; Urbanization Rate and Level Shall Be Determined by the Amount of Reasonably Available Land

Urban sprawl has attracted urban scholars' attention for quite some time. Apparently, urban sprawl is not a healthy type of urbanization, instead a disorderly expansion due to the inherent drive of land marketization. An orderly and health urbanization is supposed to be a controlled process that intentionally implements intensive (vs. extensive) land uses. By implementing land-saving urbanization strategy, cities at all levels shall follow the basic principles of clustering industries, centralizing distribution, and intensive land use, change the past extensive land use practices to promote intensive urban growth and development. In particular, we shall fully tap the potential of existing urban land, especially in developing policies for industrial land conservation and scientific guiding farmers for centralized living style. Ultimately, we shall be able to reasonably determine the land use scales for urbanization based on local socioeconomic development level, regional characteristics, resource endowment and environmental basis. With land-saving

urbanization, we aim at improving the output efficiency per unit land, the overall operating efficiency of the entire city, the quality of land use, and building and intensive growth city.

3.1.2.3 Implementing Material-Saving Urbanization; Urbanization Quality and Level Shall Be Determined by the Amount of Reasonably Available Materials

Material-saving urbanization refers to saving various types of materials, reducing the consumption of raw materials via various tools and techniques, and ensuring recycled and sustainable use of the raw materials during the process of urbanization. It aims at improving raw material using efficiency for a material-saving city and society. In addition, material-saving does not only focus on saving raw materials (though that's still important) but also require as much as possible the use of high-tech, clean, non-polluting, energy-saving and ecologically healthy new materials. As a matter of fact, the use of clean, energy-saving, green, ecology, healthy new materials shall be used as an important measure of urbanization quality.

3.1.2.4 Implementing Energy-Saving Urbanization; Urbanization Efficiency and Effectiveness Shall Be Determined by the Amount of Reasonably Available Energy

Energy-saving urbanization refers to high efficient use of energy during the process of urbanization. Saving energy (as reasonably much as possible) shall be promoted and enforced (if necessary) in any energy demanding aspects of urbanization, from urban architectural environment, city light system, safety and security control to high-speed data networks, local emergency backup generators, etc. The goals are doing everything possible to reduce energy consumption per unit production and in every possible aspect of production to continuously improve the urbanization energy consumption efficiency, and build an energy-saving society city. At the same time, we should vigorously promote the use of wind, solar, biomass, and other new energy sources, and accelerate the phasing out of traditional energy sources. The amount and quality of new energy usage shall be set as an important measure for promoting the New Urbanization so that we can use new energy to promote healthy development of New Urbanization.

3.1.3 Eco-Environmental Friendly Urbanization

Eco-environmental friendly urbanization mode is based on the principles of sustainable development to rationally allocate resources, equitably respect the future

generation to meet their developmental and environmental needs. Such urbanization mode will not employ the "predatory" approach to promote a temporary prosperity. It is also not a mode that undermines regional ecological environment for its own development; instead it focuses on ensuring healthy, coordinated, and sustainable urbanization development. Eco-environmental friendly urbanization always adapts to regional ecological environment carrying capacity. Eco-environmental friendly mode of urbanization includes green eco-urbanization, sustainable urbanization, pollution reduction urbanization, and recycling-oriented urbanization.

3.1.3.1 Green Eco-Urbanization

Green eco-urbanization requires that the New Urbanization in China must take the path of respecting the eco-environment. Optimizing the overall urban ecological environment is both the starting point and destination. Convenience, harmony, livability, and low-carbon are the goals. Ecological civilization and eco-environment friendliness are the mainstream. Seeking ecologicalization of urban socioeconomic development and building eco-industrial system, promoting sustainable urbanization are the primary actions. With the growing strength of China's economy, especially the overall economic development (GDP) rank in the world and citizen's income levels are continuously improving, consumption structure and consumption demands of urban residents have undergone profound changes. Comparing to the past, urban residents are now more concerned about the impact of goods and services on their environment and their own health. Environmental protection and low-carbon green economy will become top priority for future development of China's cities and towns. As per this trend, implementing the scientific concept of development of ecological urbanization with Chinese characteristics not only promotes sustainable economic and social development in China, but also promotes the healthy and sustainable development for the entire earth. It is inevitable to build a harmonious, tranquil, and ecological world.

The first aspect of green urbanization requires strict control of the total population density. Specifically, we shall first start by controlling the building density, so that the construction of the new and old city centers can be carried out in accordance with ecological standards. According to China's actual situation, the population density of urban construction zones shall be controlled between 8000 and 10,000 people per square kilometer. Population density in the urban core area should be no more than 20,000/km^2 [11]. Studies have shown that many of the fundamental causes of the current urban disease are that population density far exceeds the actual carrying capacity. A basic connotation of eco-cities is a reasonable population density. If the population is too densely distributed, it will inevitably lead to deterioration of its ecological environment. In China, green and eco-urbanization shall be reflected in the urban–rural integration process, be kept pace with the industrialization and modernization of agriculture, and fully embody the harmony between human and nature. Eco-urbanization promotes relying on low-carbon production and lifestyle to create a comfortable working and living

environment for urban residents. Therefore, it would be beneficial to develop as soon as possible guidelines for industrial policies to support the development of green industries, and contribute to build resource saving and environmental friendly cities.

3.1.3.2 Promote Sustainable Urbanization

One of the important features of environmental friendly urbanization is its sustainability. Sustainable urbanization has multiple connotations. On one hand, sustainable urbanization requires the protection of natural environment and resource bases, maximum use of renewable resources and energy sources without endangering their renewability, maintaining biodiversity, protecting all natural resources and life support systems, and continuously improving the quality of the environment and quality of life. On the other hand, sustainable urbanization also includes sustainable economic development and sound operation of the society. For urban development, the natural environment loses its "human" essence without economic development and social harmony. In this sense, eco-friendly urbanization needs to and has to be sustainable urbanization.

Environmental friendly city must be environmentally sustainable. Urban planning must be carried out under the strict guidance of the principles of sustainable development. A sustainable city is one that achievements made at the social, economic, and physical spheres can be sustained in the long run. The natural resources it depends upon can provide lasting support, lasting safety, and avoid possible environmental hazards that threaten development results.

3.1.3.3 Recycling-Oriented Urbanization

Eco-friendly urbanization requires that the development of urbanization shall comply with the principles of quantity reduction, material reusing, and recycling. By actively developing material reusing and recycling enterprises and eco-industrial parks, we intend to vigorously popularize clean production, extend the eco-industrial chain, promote green consumption, develop recycling economy, and create a recycling-based city with the whole society participating. Eco-friendly urbanization also requires changing the high-energy consumption, non-cyclic operation mechanism of the traditional cities, and improving the efficiency of all resources usage so that we can make the best use of all materials. Specifically, we shall devise strategies and employ most advanced technologies to maximally utilize materials and energy at multiple level and multiple aspects. We shall promote waste recycling practices, coordinated and symbiotic relationship among various departments and industries to build highly efficient, energy and materials recycling cities.

3.1.3.4 Emission Reduction Urbanization

Emission reduction urbanization aims at developing an urban economy with high output but low emission (some industries and enterprises can even achieve "zero emissions"). Such economy is often characterized by high efficiency, recycled use of materials and energy (agrees with the eco-friendly urbanization). At the macro-level, urban development shall focus on nurturing rational industrial structure, developing resource and energy-saving production modes, so that the production and control systems are highly efficient. At the micro-level, we shall actively develop environmental friendly technologies, design and produce highly enduring and repairable products, maximally reduce potential wastes, and enlarge the scope of recycling and reusing of materials. In so doing, we shall be able to build a cleaner and emission reduction city.

3.1.4 Urbanization Within Local Constraints and Conditions

China covers a vast land area, which indicates the regional conditions, resource endowments, socioeconomic development levels will be fairly different across the entire nation. This also reflects in the vast differences of urbanization at different regions. This is especially true after the reform and opening up of China's economy. Difference among urbanization at different regions became more obvious due to unbalanced economic development level. Studies suggest that widening regional inequality will not help realize China's goals of building a moderately well-off society. For that matter, during the urbanization process, it is necessary to allow different regions to have different urbanization promoting strategies. More importantly, although urbanization policies are often nation-wide, urbanization at different regions shall respect local conditions and constraints. Urbanization shall first be localized and does not have to follow prescribed patterns or paths. Instead, we shall choose the most appropriate modes for urbanization based on local resource endowments, environmental carrying capacity, and current foundations. Instead of demanding all regions follow a prescribed set of urbanization approaches, we shall encourage innovative ways to promote healthy and sustainable urbanization. In particular, it will always be helpful to give full consideration of the differences that are bound to exist in different regions, different main functional areas, different economic zones, and different types of cities. With that in mind, the differentiating modes for urbanization at different regions will be able to respect local conditions, and avoid the so-called "one size fits all," unhealthy urbanization strategies. Such a change of mindset especially at the local officials' decision-making level is the core concept of New Urbanization strategy.

3.1.4.1 Promoting Urbanization that Respects Local Conditions and Constraints

From the analysis of the differences among large, medium, and small cities, we found that the scale and number of cities are often determined by complex factors such as geographical locations, natural endowments, and socioeconomic development history and foundations. According to the sixth census, super cities (population more than 10 million) emerged from scratch to 6 in 2010. Mega-cities with 5 million–10 million population increase from 2 in 1990 to 10 in 2010. Large cities with 1 million–5 million people increased from 29 (1990) to 120 (2010). Medium-sized cities with 500,000–1 million people increased from 28 (1990) to 106 (2010). Small cities with up to 500,000 increased from 408 (1990) to 415 (2010). As of when this book was writing, a hierarchical urban system with six (6) super cities, ten (10) mega-cities, 120 large cities, 106 medium-sized cities, and 415 small cities emerged in China. From a sustainable, resource and energy conserving, environmental friendly perspective, such hierarchical urban development pattern and spatial distribution pattern is reasonable. It is indeed an evolved pattern after years of interaction between human and land, economic development, industrialization, and urbanization. We might term it the result of "natural selection," and we do not expect such pattern (not the numbers of various cities, though) will be changed in the long run. Therefore, the future of urban development in China shall fully respect the current status of this hierarchical urban development patter. In the meantime, depending on the dynamics of local resources, energy endowment, and environment carrying capacity, we shall periodically adjust urbanization policies to optimize the scale structure, functional structure, and spatial structure of the urban system. The fundamental principle is that all development and further changes shall be based on local conditions, regardless of where it happens. When local conditions permit, the size of the city can go as sustainably large as possible, or as sustainably small as possible per the local endowment constraints. In a nutshell, the size and number of cities of a particular region shall be within local resources and environmental carrying capacity. Cities must develop gradually within the carrying capacity. Quality of urbanization shall dominate the process instead of engaging in any type of regional blind competition on the quantitative indicators (size, population urbanization level, urban build-up areas, etc.).

From analyzing the New Urbanization modes in the Eastern, Central, and Western China, based on the principle of urbanization based on local conditions, we propose effective New Urbanization strategies different in the three regions. In particular, in eastern regions, New Urbanization shall focus on priorities of upgrading the industrial structure, implementing comprehensive management of environmental pollution, especially cleaning up the large area of urban haze, developing efficient and intensive use of local resources, and promoting further economic development. Starting from the adjustment of the spatial structure of the urban system, the eastern region needs to improve industrial concentration and compactness of urban development in order to improve the quality of New Urbanization. Its ultimate goals are to ensure that the quality of urban development

approaches and catches up with the international standards to increase the eastern region's urbanization international competitiveness. In the central region, the New Urbanization strategies shall focus on priorities of continuing to expand the capacity of cities and towns to absorb rural population. Specifically, we need to improve the urban infrastructure in central region, and actively guide and encourage reasonable (based on the sustainable principle) expansion of large and medium-sized cities, and actively develop small cities and towns, making the central region the "main battlefield" for active New Urbanization. For the western region, implementing New Urbanization strategies must consider the strong constraints of natural environment. Urbanization shall focus on the development of both large cities and small cities and the implementation of the so-called "stronghold-type" of development, namely, choosing a few strategic locations with relatively strong resource and environment carrying capacity, and focusing on the development of these spots to become local centers and strategic growth poles. Specifically, urbanization shall constantly adjust population and economic elements in space to form the so-called ecological urbanization mode that develops under the natural constraints of the western region.

Analyzing the different scenarios of urbanization at the provincial level, we shall realize that implementing New Urbanization strategies for the four (4) provincial level municipalities (Beijing, Tianjin, Shanghai, and Chongqing) is completely different from that for the five (5) autonomous regions. The basic principles are still to respect the local conditions, but in the meantime, New Urbanization strategies shall also respect and focus on regional specific characteristics. For the 22 provinces, we must realize that they are at different stages of socioeconomic development and urbanization. Problems, issues, and difficulties in different provinces are fairly different. For this matter, the implementation of the New Urbanization strategies can learn from one other, but shall never be copied.

3.1.4.2 Promoting Urbanization that Respects the Differences Among Different Development Types

From analyzing the differences of the four main function areas of New Urbanization, namely, priority development zone, key development zone, development restricted zone, and development prohibited zone, there shall be different strategies for them as well. For the priority development zones, the strategy shall focus on enhance the capability to participate in economic globalization, improve the core cities' competitiveness, accelerate the internationalization of urbanization, improve the quality of urbanization, and strengthen the roles and functions of the core cities to participate in international geographical division of labor. The goals for priority development zones are to form a compact, resource, and energy-saving and environmental friendly mode of urbanization. For the key development zone, the strategy stresses on guiding the central cities to enhance their overall function, accelerate the pace of industrial concentration and spatial reorganization, promote appropriate expansion and rate of the New Urbanization, and form a suitably

compact and resource saving urbanization development mode. For development restricted zones, the strategy shall focus on guiding the rational development of urbanization in rural areas and implement the dual strategy of simultaneous conservation and development. For the ecological and environment fragile regions, the development can take a "stronghold style." The purpose of such development style is to protect the ecological environment, in the meantime develop the local economies for an environmental friendly urbanization mode. For the development prohibited zones, however, any intensive or extensive development shall be avoided. The urbanization mode shall take an entirely ecological-oriented mode.

For agricultural, mining, pastoral, forests, parks, inner urban, suburban, tourism, ethnic autonomous areas, and poverty areas, promoting New Urbanization strategies would be very different as well. The ground rule is that the mode must respect the different characteristics of those areas. Any actions that would not respect such characteristics shall be avoided.

Analyzing the actual implementation of New Urbanization in different regions suggest that there shall be no uniform mode of New Urbanization. Instead, New Urbanization is but a strategy that abides by the difference in local conditions, characteristics, and time period. The most appropriate mode is often unique to the specific region, even specific city and town. For instance, Chifeng City, Inner Mongolia Autonomous Region, is a typical farming– pastoral region. Comparing to the eastern coastal areas, it is sparsely populated. The farmers and herdsmen live in fairly scattered places. Sending the children to school, seeking for medical treatment, and daily shopping mainly occur in the central town. To this end, the New Urbanization strategy for Chifeng city should focus on expanding the central town of Chifeng, to be a 100,000–200,000 central place to attract more resources and production factors and to improve its diffusive capability around the area. Based on local conditions, we could also promote the construction of a number of distinctive key small towns, so that the related industries, facilities, basic public services can also be extended to these small towns. While in the meantime, we can extend the industrial, facilities, and services to agricultural and pastoral areas to promote the establishment of an integrated urban and rural urbanization structure.

3.1.4.3 Promoting Urbanization that Respects the Difference in Different Time Periods

Urbanization stages at different places have different economic development and urbanization stages. During the process of creating strategies for New Urbanization and implementing them, we must develop appropriate strategies according to their different stages with development goals. It would be inappropriate to pursue a single goal and development objective for all cities at all time. Moreover, it will be detrimental to engage into blind competition and create improper or even impossible goals for the time being for urbanization.

3.1.5 Urbanization Without Sacrificing Rural Development

For this development mode, it requires urbanization shall be embedded with the new rural construction. Using the land as the carrier to enable farmers to participate and share the progress of urbanization. In the process, farmers shall be the main force for promoting the urbanization in China. The goals of New Urbanization goal are not simply to improve the urbanization level, but to integrate urban and rural areas. This is especially true in rural and pastoral areas, urbanization shall be a primary means to promote the progress of new rural construction so that every village has road access, water, electricity, postal services, radio and television, network; children have the opportunity to go to school; residents have access to doctors, leisure, exercise, pension, and so on, and farmers and herdsmen can enjoy the same benefits as urban citizens. In a nutshell, this integrated urban and rural development mode for harmonious urbanization includes the following six basic connotations.

3.1.5.1 Urbanization Closely Integrated with New Rural Construction

Prosperous new rural construction is the basis for healthy urbanization. For this matter, it is necessary to highlight the priority of enriching the people when promoting New Urbanization. To do so, we must gradually shift from the past emphasis on urban development to coordinated development of urban and rural areas. We must put efforts to vastly improve the living conditions and quality of rural residents during urbanization, greatly devise and implement efficient plans for rural development, actively and steadily promote concentrated patterns for farmers' residence based on local conditions, actively strengthen the rural environment protection, and improve the rural landscape. In this process, the governments shall focus on supporting the development of rural public utilities, integration of urban and rural infrastructure development, and vigorously promote the extension of urban civilization to the countryside so that rural residents can fully enjoy the achievement of urban civilization. In the meantime, policies shall be devised and implemented to enable rural migrants to become real urban dwellers (instead of just "migrant workers"). The ultimate goals are to enable urbanization as an effective means to facilitate the transfer of rural surplus labor so that urbanization will benefit rural development, and the rural and urban regions can develop simultaneously.

3.1.5.2 Coordinated Development Among Large, Medium and Small Sized Cities

In the Third Plenary Session of the CPC's Eighteenth Congress Assembly, it was made very clear that we need to promote institutional mechanisms for healthy urbanization with Chinese characteristics, promote people-centered urbanization,

promote coordinated development among large, medium, and small cities and small towns, promote integrated development of industries and cities, and promote integrated development of urbanization and new rural construction. Optimizing the urban spatial structure and management structure and enhancing the city's comprehensive carrying capacity are the top priorities for China's New Urbanization. One of the important measures for healthy urbanization is whether urbanization is able to facilitate joint coordinated development among different sizes of cities and towns in the region. During unhealthy urbanization, large cities often develop at the expense of medium cities' development, while medium cities develop at the expense of small cities, and small cities develop at the expense of small towns and so on and so forth. To avoid such hierarchical deprivation of development, we must actively guide reasonable and orderly transfer of the rural surplus labor force and ecological migrants, concentrate on the expansion and upgrading of existing medium and small cities, focus on supporting the development of selective county - level cities with relatively strong regional conditions, economic development level, and favorable ecological environment, based on the regional population distribution and ecological environment conditions. We shall also improve the efficiency of water and land resources, reduce ecological damage and the scope of environmental pollution that may occur due to human activity, and achieve harmony between man and nature for coordinated and orderly development of all sizes of cities and towns.

3.1.5.3 Coordinated Development of Urban and Rural Areas

The coordinated development of urban and rural areas requires coordination among regions, region and cities, and cities and rural areas. The goals are to promote unified planning, coordination, construction, layout, and management in terms of regional industrial layout, major infrastructure construction, and ecological environment protection. In so doing, we shall be able to create an integrated urbanization community that will promote regional urbanization level and quality, and then continue to improve the overall competitiveness of the cities in the region, enhance their resilience in the globalization era. At the end of the day, we shall be able to gradually create healthy urbanization development pattern based on different requirements of the four main function areas, namely, key development, priority development, restricted development, and prohibited development zones.

3.1.5.4 Coordinated Development Between Urbanization and Rural Socioeconomic Development and Ecological Environment Protection

There are three standards for integrated urban and rural development, namely, whether the speed of urbanization coordinates with comprehensive economic, social, and other growth factors; whether the urban and rural spatial development has continuing global competitiveness; and whether urbanization can promote

ecological environment construction and rational use of resources. Thus, integrated urban and rural development refers to coordinated development between economic development and urbanization, coordination between the economy and society and environment and resources, and a combination of improved living environment and quality of life for all residents.

3.1.5.5 Coordination Between Market and Government Regulation

For successful integration of urban and rural areas, on the one hand we must rely on the invisible hand of the market, and follow the law of market principles. On the other hand, we shall also fully employ the visible hand of the regulatory mechanism of the government. While using together, the "two hands" shall be able to form a complex regulatory mode that combines the market principles and government regulations. In so doing, we are able to ensure that urbanization has a scientific and reasonable speed, scale, volume, and rhythm. We will also have better chances to avoid excessive urbanization due to market failure, or restricted urbanization due to too much control from the government.

3.1.6 Comprehensive and Open Driven Urbanization

The overall guidance of economic development and New Urbanization proposed in the Third Plenary Session of the CPC's Eighteenth Report includes building the new open economy system to adapt to economic globalization; pushing forward the mutual promotion of opening both the domestic and international markets; creating better integration of bringing in and selling out products and resources; promoting orderly and free flow of international and domestic factors, efficient allocation of resources, and in-depth market integration; accelerating the development of new competitive advantages and participation in international economic cooperation; promoting further reform; insisting on bilateral, multilateral, regional, and sub-regional open cooperation; expanding common interests with all countries and regions; accelerating the implementation of the peripheral-based free trade association (FTA) strategies; and encouraging expanding opening up along the inland border regions. In addition, the report emphasizes that China's economic development in the global era and the implementation of New Urbanization strategies shall seize the opportunity of global industrial relocation to push coordinated development among inland trade, investment, and technological innovation. By innovating processing trade mode, we shall be able to promote the development of institutional mechanisms for inland industrial clusters development. In addition, via supporting the inland city to open international passenger and freight routes, we will be able to develop intermodal transportation system, and form the opening up economic corridor that links across the east, central, and west and connects the north and south regions in China. Via implementing specific policies that allow

more convenient personnel exchanges, processing and logistics, and tourism along the key border crossings, border cities, and economic cooperation zones, we shall be able to accelerate the pace of opening up along the inland borders. Furthermore, through the establishment of developing finance institutions, we shall accelerate infrastructure construction that will enable more convenient and efficient interoperability with the surrounding regions and countries. We also need to further promote the Silk Road Economic Belt, the Maritime Silk Road construction to form a new pattern of all-round opening (*Decisions on Several Issues regarding Comprehensive Deepening Reform by the CPC*, passed by in the Third Plenary Session of the Eighteenth Central Committee Report, November, 12, 2013). This new system that complies with an open economy and all-round opening up strategy in the economic globalization era has brought unprecedented opportunities for the development and dynamic allocation of global resources to promote China's New Urbanization.

3.1.6.1 Allocate Resources in a Global Era to Accelerate the National Industrialization and Urbanization Process

It will be a critical period of accelerated development of urbanization and industrialization in China over the next decade. The demands for energy and mineral resources will continue to reach the peak. Necessary mineral, energy, food, and other strategic resources needed for national development will become increasingly scarce. To accommodate such dilemma between increasing demand and decreasing supply, we need to plan from a high-end perspective for the global allocation of resources, the establishment of a secure channel of necessary resources, and expansion of the overseas channels through loans for resources to secure the needed national energy, mineral, and agricultural resources. We need to implement the so-called "seeking-out" strategy, build economic and trade cooperation platforms through high-level institution-led organizational and enterprise projects to seek profitable business opportunities. The cooperation platforms shall serve as a channel to avoid disorderly competition of domestic enterprises overseas to ensure overall profitability among all oversea enterprises. We shall take advantage of globalization to facilitate the accelerated development of urbanization and industrialization, promote the concept of scientific development plan to actively create new advantages in international competition, and grasp the initiative in the development of a new world pattern.

From the strategic need of New Urbanization, industrialization, and modernization, and the survival of 1.3 billion population, also considering the strategic needs of developing international market, China will build a strategic framework for New Urbanization development mode that closely focuses on the core national interests, and firmly grasp and use the strategic path of "China's development needs → global resource allocation → key countries (regions) resource planning → systematic planning for key international projects → organizing enterprises to seek out and implement" (Figure 3.1). The key of such strategic path is to serve

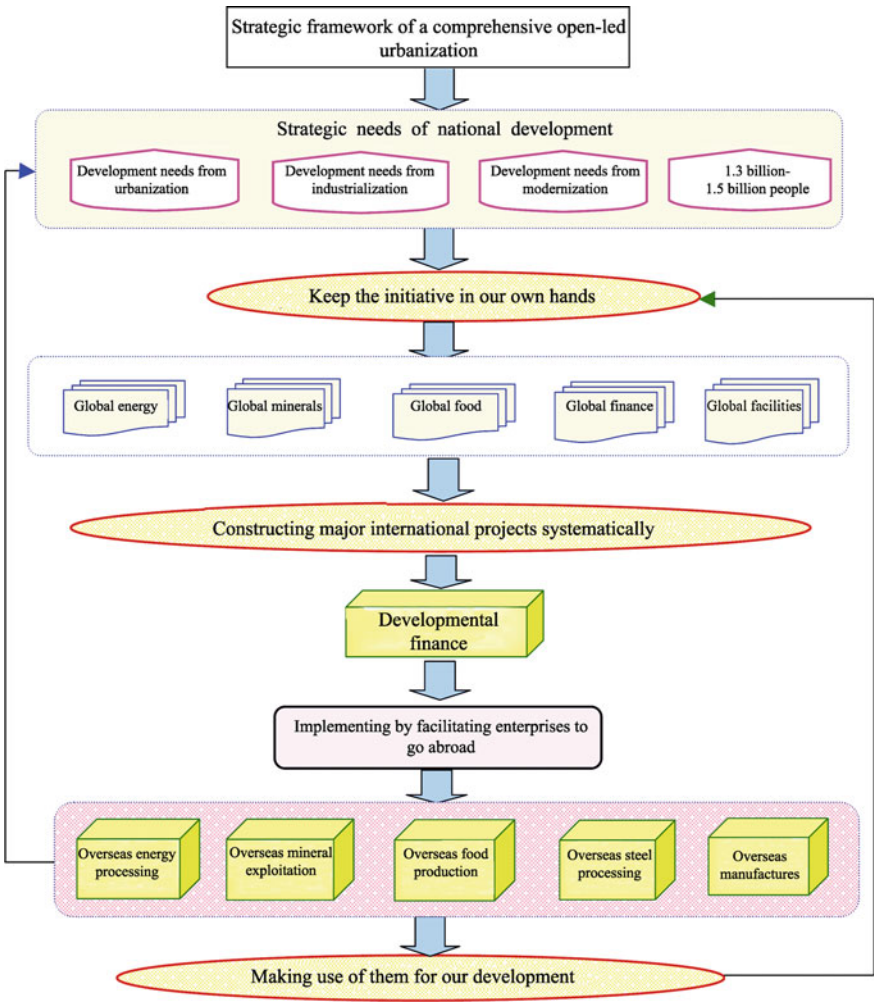

Fig. 3.1 Schematic diagram of implementation path of the comprehensive open-led urbanization model

China's core national resources interest, and plan for international cooperation in mining, railways, ports, power infrastructure and agriculture, livelihood, and other social areas from all segments of the industrial chain. Through the development of financing, systematically planning for major international projects, organizing enterprises to go overseas and put such strategies into practice, we shall be able to obtain sufficient foreign mineral resources, food, energy, iron and steel, and other raw materials. Moreover, we shall support offshore processing of products and other resources to both serve national economic diplomatic strategy and create more international space for the development of New Urbanization.

3.1.6.2 Constructing the Silk Road Economic Belt to Promote the New Urbanization Process Along the Belt

The Silk Road Economic Belt connects to the east of Asia-Pacific economic zone, and to the west of the European economic zone. It is the world's longest, most promising economic corridors. Construction the New Silk Road Economic Belt is a major strategic initiative of the State Council toward fully opening up to the global economy. Needless to say, it will have crucial influence on China and the world's economy. During the process of establishing the Silk Road Economic Belt, there are seven relationships that need to be properly managed for its success, namely, relationships of the "old" and "new" Silk Road, "economy" and "politics," "international" and "domestic," "national top-level design" and "local efforts," "me-centered" and "serving me," "soft road" and "hard road," and "multilateral" and "bilateral."

1. Properly manage the relationship between the "old" and "new" road, but focus on the spatial extent of the old road. The so-called "old" Silk Road Economic Belt starts east from Chang'an (now Xi'an), passing through Shaanxi, Gansu, Ningxia, Xinjiang, Central Asia, West Asia, and the Mediterranean countries. It was the major land path for joining the commercial trade and cultural exchanges between the East and the West, and was also known as the Northwest Silk Road. The "old" road is generally divided into eastern, central, and west sections. The eastern section starts from Chang'an to Yumen Pass and Yang Guan. The central section starts from the west of Yumen Pass, Yang Guan to Congling. The western section starts from the west of Congling and passes through Central Asia, West Asia, and all the way to Europe. The three sections were further divided into the north, central, and southern lines. Since ancient times, the "old" road was regarded as an extremely important connection of economic and cultural exchanges between Asia and Europe. Its importance was well recognized by the joining nations throughout the history. On the other hand, many current studies often proposed the "new" Silk Road Economic Belt that extends further southward all the way into the Bangladesh, China, India, and Myanmar (BCIM) regions, attempting to include most of the countries in Eurasia and most provinces in China. At the surface value, this type of "expansion" seems to promote a fully open economic system, but in reality such expansion was on the one hand not recognized by the world, on the other hand would have complicated the already complex issues of the involving nations. It is therefore recommended to properly handle the inheritance and convergence relations between the "old" and "new" belt. As of now, the main spatial extent shall focus on the "old" belt, which will be more likely to be accepted in the world and neighboring countries.
2. The relationships between "economy" and "politics," focusing on economic cooperation The Silk Road Economic Belt has always been the primary corridor of economic and trade cooperation and cultural exchanges. It also played an

important bridge and link role in coordinating and balancing neighboring countries. Under the new international political and economic environment, we will expect it to continue to play this role. But first and foremost, we need to seek complementary and mutually beneficial economic and trade cooperation opportunities with neighboring countries. We need to further exploit economic spaces within this international economic belt for equal development, mutual supplementation and benefit, mutual cooperation, and common development. Specifically, these include collaboratively building industrial parks, establishing economic and trade cooperation platforms and opening up experimental zones, and building energy and mineral bases, and collaboratively develop infrastructure. Through implementing practical cooperation projects, we intend to initiate bilateral or multilateral economic and trade development. It is only through mutual economic trades, mutual communication channels, and interactive exchange of cultures that we will gradually win the trust in politics. Such mutual trust will then serve as the basis for the geopolitical coordination and balance of the surrounding countries and the formation of new international relations. Only then, China will be able to establish its international role, and win over the initiative and right to speak. Therefore, for the successful construction of the Silk Road Economic Belt, it is imperative to seek multilateral cooperation and win–win strategies. We must first focus on economic and trade cooperation and highlight key areas of economic and trade cooperation and cultural cooperation. In the meantime, we shall dilute political considerations, and dispel the neighboring countries' wariness to avoid unnecessary suspicion and distrust. Only in this way can the Silk Road Economic Belt be "good-neighborly friendship belt" and "strategic stability zone."

3. Relationship between "international" and "domestic" segments, focusing on the "domestic" segment. The Silk Road Economic Belt is an international economic zone across Asia and Europe and contains a large number of countries with various forms of government. Such a region inherently has complex geopolitical relations with salient ethnic and religious issues, different social systems, and various economic and social development foundations. Suppose we focus on the international segment of the Silk Road, it will be difficult to revive the Silk Road and to initiate successful cooperation over the international segment and to achieve the win–win development goals, let alone embed the development of Silk Road into the National Economic Strategy. For these reasons, in the process of reinvigorating the Silk Road Economic Belt, we need to adhere to the principles of being united with mutual trust, being equal, being tolerant yet learning from one another, dealing with nearer and easier issues first and farther and harder issues later, working toward simultaneous development and security to achieve mutual benefit and win–win. Such strategies requires us to fully respect different civilizations, social systems, development mode selection, political systems, cultural traditions, economic, diplomatic, legal system, and other aspects of neighboring countries. Our actions will be based on fully developing the "domestic segment" of the Silk Road, but linking through and

exploring to the maximum extent the "international segment." We shall focus on building the domestic segments of the Silk Road, including the four core urban agglomerations, namely Chengdu-Chongqing, Guanzhong, Lanzhou-Baiyin-Xining, and Northern Tianshan Mountains. In the meantime, we need to strengthen the development of core nodal cities, such as Xi'an, Lanzhou, Urumqi, Dunhuang, and Jiayuguan. By gradually promoting their central city functions and radiating capability, we attempt to form a so-called hub-and-spoke driving effect, so that we are able to graft the influence of the domestic segment's economic, trade, and cultural cooperation onto international segment, and eventually form an economic corridors and hallways of friendship and cooperation of interactive international and domestic development and cooperation.

4. Relationship of "national top-level design" and "local efforts to promote," primarily based on "national top-level design." Reinvigorating the Silk Road Economic Belt is China's grandeur strategy with international factors. It is, however, first and foremost an act of state, then an act of the local participants. For this matter, we need to form all the strategies from the strategic standpoint of integrating the national economy into the world economic and political system. The first step is to generate the "national top-level design," with a clear picture of how the Silk Road reinvigoration shall be embedded into the roadmap of national strategic consideration, and clear strategic positioning, direction, priorities, and action plans. Based on this top-level design, we shall then be able to propose appropriate strategic development plans for the provincial units along the Silk Road. Such a rational and nationally beneficial strategy, however, was not practically followed by the local governments. In fact, oftentimes, the local participants have made the first move before the "national top-level design" was even completed without coordinated consideration. In so doing, the local participants often present action plans that are competing for leading positions, policies, and projects to build them as the "bridgehead," "golden segment," "vanguard," "new starting point," or "core area" of the proposed New Silk Road Economic Belt. Such action plans often serve more toward attempting to solve local issues and benefit narrowly their own interests instead of addressing national and international coordination and development. Although the quick responses to such opportunities by the local governments are to be applauded, the real problem for such local-oriented action plans is that they often focus on individual issues without comprehensive and overall consideration of the national and international interests. Such action plans usually are unable to balance between national strategies and local interests, unable to address balanced division of labor among local participants and complementary development. The fact is that any local governments are unable to solve the various problems that are bound to rise during the development and reinvigoration of the New Silk Road Economic Belt. These issues need to be resolved from the national level and coordinated interaction. It is therefore recommended that the

"national top-level design" shall always prevail over the "local efforts" to avoid local short-sighted behaviors.

5. Relationship between "me-centered" and "serving me," "serving me" shall be the primary goal. The primary purposes of reinvigorating the Silk Road Economic Belt are to take the initiative with the intention of developing joint cooperation between countries in the region along the Silk Road. An important strategy is to form a cooperation mechanism of "developing the domestic economy with the support of international resources, promoting the international development with domestic development, and coordinating domestic and international integration for joint development." Such strategies often will be able to maximize the advantages of participating countries' resources, geographic locations, markets, and technologies for unprecedented development that was not possible for any individual participants. The strategies will be based on the construction of international transportation channels to promote complementary development of various industries, encourage resources sharing, allocate global resources more efficiently, and develop the international market. Through the sharing of resources and exploiting complementary advantages, we aim at building the Silk Road Economic Belt to import energy, mineral resources, food, and steel from relevant participating countries. In so doing, we will be able to meet national needs for New Urbanization, new industrialization, and national modernization. In the meantime, we shall also benefit the participating countries with exporting industrial products, consumer goods, and high-tech products to meet the needs of these countries. Through domestic and international mutual trade cooperation and expanded trade volume between China and neighboring countries, we intend to form a virtuous new international economic order, and improve China's economic status and international influence in the Eurasian region. For this consideration, it is vital to correctly deal with the relationship between "me-centered" and "serving me" in the process of reinvigorating the Silk Road Economic Belt. The core is "serving me." We shall not develop bilateral or multilateral relationships with neighboring countries through international aid or poverty reduction initiatives. The driving force shall be to devise appropriate institutional mechanisms to deepen the domestic participants' cooperation with international partners along the Silk Road Economic Belt. We aim at developing and opening new platforms and new models of international economic cooperation. In the process, we shall encourage various explorations for better cooperation modes that benefit all participating parties. In so doing, we will be able to further evolve the international interaction channels that link the Central Asia and West Asia to promote international cooperation and develop and the hinterland's economy.
6. Relationship between the "soft road" and "hard road," focusing on "soft road." The first and foremost priority for the Silk Road Economic Belt is the "road." However, the status quo of the Silk Road is that the physical "road" is already there, but the "soft road," namely, cultural exchange, science, technology, education and training exchange, barrier-free travel, electronic logistics, national

think tanks and media exchanges and cooperation, convenient customs clearance, convenient investment and trade, and other humanities channels, remains fairly blocked. Apparently, by improving and removing blocks of these "soft roads," initiating smooth dialogues and mutual learning among different civilizations, we will be able to consolidate public opinion, provide public support, and strengthen awareness of common strategic interests. A smooth and barrier-free "soft road" will certainly lay solid foundation for the physical "hard road" of the Silk Road Economic Belt. As long as the "soft roads" opened up, the "hard roads," including expressways, railways, pipelines, aviation, and other transportation channels, electricity, telecommunications, trade, logistics, and the like will proceed smoothly. Through collaborative and interoperable construction of both the "soft" and "hard" roads, reinvigorating the Silk Road will drive along China's industrial structure upgrading and industrial restructuring, promote smooth transition of the nations that are currently experiencing economic transition. Only then, the Silk Road Economic Belt will be able to integrate the economies of all the participating nations to form an international economic cooperation corridor of great development and regional cooperation.

7. Relationship between "multilateral" and "bilateral," focusing on "bilateral." The international political economic and geopolitical patterns surrounding the Silk Road Economic Belt are fairly complex. Reinvigorating the Silk Road needs to take that into consideration. The general principle shall be "multilateral cooperation, breakthrough via bilateral cooperation, strengthening a growth pole for areal development, and connecting multiple regions through the Road." Developing international relationships shall be flexible. Choosing either multilateral or bilateral cooperation shall be determined by which mode brings the maximum benefits to all participants. It is crucial to properly handle the multilateral and bilateral relationship with both large and small nations in the region. Above all, "bilateral" economic and trade cooperation and humanity and cultural exchange shall be the priority for coordinated mutual development among nations during the process of reinvigorating the Silk Road. On the other hand, the multilateral cooperation shall be set as the goal for the long run. In principle, development of "bilateral" cooperation shall promote future "multilateral" cooperation. In the meantime, developed "multilateral" cooperation will also provide foundation for stable "bilateral" relationships. For this consideration, "bilateral" cooperation will then be the first priority in the short term. In the middle and long term, through establishing cooperative forums, national cooperative organizations and mechanisms along the Silk Road Economic Belt, the development will focus more on "multilateral" cooperation. The ultimate goal is to build the Silk Road Economic Belt to be a flexible and pragmatic carrier for both bilateral and multilateral cooperative projects. This is a new, but pragmatic practice for China to maintain its national security, stabilize its society, develop its economy, demonstrate its openness in international exchanges, and promote equality and democracy in international relationships.

3.1.6.3 Establishing the Yangtze River Economic Belt as the New Growth Belt for China's Economic Growth, and Promoting Urbanization via Two-Way Pulling Open Process

Along the trajectory of China's economic development after the reform in 1978, there was always a growth center. In the 1980s, it was Shenzhen, Guangdong. In the 1990s, it was Pudong, Shanghai. In the beginning of this century, it was the Binhai area, Tianjin. In the future, the Yangtze River Economic Belt will be performing this leading role. In July 21, 2013, when China's President Xi Jinping visited Hubei Province, he specifically pointed out that we needed to "strengthen cooperation along the Yangtze River watershed and fully exploit the inland river transportation to create a golden water channel on the Yangtze River watershed." On September 21, the same year, Premier Li Keqiang in his reply to the National Development and Reform Commission (NDRC)'s report indicated that "development shall take precedence along the coast regions and (Yangtze) River, then gradually diffuse to the inland areas. This is an important law of regional economic development. All relevant departments and participants shall pay close attention to such law, conduct in-depth investigation and studies to generate guidance, create China's new economic growth belt based on the golden waterway of Yangtze River, to promote development of the regions in the middle and upstream of Yangtze River, and encourage the Central and Western China to orderly take the industrial transfer from the coastal regions." Such mindset of the new highest leaders of China fully manifests China's economic growth spatial pattern, namely, the coastal regions is like a fully drawn bow, the vast Central and Western China are the string, and Yangtze River is the arrow on this drawn bow. Now it is the time for this fully drawn bow to release at its full extent the arrow.

1. The latest spatial extent of the Yangtze River Economic Belt. On September 23, 2013, the National Development and Reform Commission in conjunction with the Ministry of Transport held a conference in Beijing on "Guidance of Relying on the Construction of Yangtze River to build the new economic growth belt in China." In the conference, Xu Shaoshi, the director of the National Development and Reform Commission pointed out that the most important task to maintain sustainable and stable economic growth in China is to be able to support the upgrade and expansion of the Yangtze River Economic Belt. On April 28, 2014, Chinese Premier Li Keqiang hosted a regional economic development forum in Chongqing. The forum included governors and mayors from 11 provinces and cities along the Yangtze River. During the forum, Premier Li pointed out that we shall rely on the golden waterway of the Yangtze Economic Zone to support sustainable economic development in China. This indicates that the Yangtze River Economic Belt has been officially embedded into the level of national strategies. Meanwhile, the National Development and Reform Commission has officially identified the latest spatial extent of the Yangtze River Economic Belt, which extends east to Shanghai and west to

Yunnan, covering Shanghai, Jiangsu, Zhejiang, Anhui, Jiangxi, Hubei, Hunan, Chongqing, Sichuan, Yunnan, and Guizhou.

2. Major strategic significance of the Yangtze River Economic Belt:

   (a) Yangtze River Economic Belt is the primary carrier for China's "pushing inwards" national development strategy. The most important channel that can carry out the task for moving China's strategic focuses from developing the coastal regions to developing the River regions, from coastal areas to inland areas is the golden Yangtze River waterway, which is now ripe in conditions, sound in economic foundation, and strong in industrial development. Recalling the success when Pudong, Shanghai severed as the pioneer for coastal opening up and development, we are confident that the development of Yangtze River Economic Belt will enable orderly and healthy transfer of coastal regions' manufacturing sectors to the inland areas. This is so not only because of the fully linked geographic location of Yangtze River, but also because of Yangtze River serving as a convenient transportation channel for developing manufacturing industries. This is the first time after 30 years with the national implementation of the coastal opening up strategy that China decided to push inwards and built an economic belt. Its strategic significance is far-reaching.

   (b) Yangtze River Economic Belt will be the new supporting belt for China's economic transformation and upgrading. For sustainable and stable economic growth in China, we shall focus on developing the domestic markets and economies. The first priority at the present is to strengthen the Yangtze River Economic Belt so that it can support such transition and upgrading in the near future. In 2012, the Yangtze River Economic Belt covers an area of 2.057 million square kilometers, accounting for 21.27 % of the country's total land area. Its population was 579 million people, accounting for 42.72 % of the country the total. Its GDP amounted to 235.9 trillion RMB Yuan, accounting for 45.46 % of the country's total. The added value for the first industry was 21.5 trillion RMB Yuan, accounting for 41.15 % of the country's total (Table 3.1). The added value for the secondary industry was 115.7 trillion RMB Yuan, accounting for 49.22 % of the country's total. The added value for the tertiary industry was 98.6 trillion RMB Yuan, accounting for 42.62 % of the country's total. Fixed asset investment was 149.2 trillion RMB Yuan accounting for 39.83 % of the country's total. The total retail sales of social consumer goods was 85.4 trillion RMB Yuan, accounting for 40.62 % of the country's total. The level of urbanization was 51.69 %, lower than the national average for about 1 % over the same period. These numbers indicate that the Yangtze River is apparently the most vigorous economic belt after the coastal regions. In-depth development and opening up of the Yangtze River Economic Belt would provide efficient solutions for imbalanced and uncoordinated development within the region, and industrial upgrading issues. It is also

Table 3.1 Statistics of the Yangtze River Economic Belt in 2012 and its strategic position in China

Provincial units	Area/Square km	Population/10,000	GDP/100 million RMB Yuan	Added value of the primary industry/100 million RMB Yuan	Added value of the secondary Industry/100 million RMB Yuan	Added value of the tertiary industry/100 million RMB Yuan	Fixed asset investment/100 million RMB Yuan	The total retail sales of social consumer goods/100 million RMB Yuan	Urbanization level/%
Shanghai	6341	2380	20,182	127.8	7854.8	12,199.2	5117.6	7412.3	89.33
Jiangsu	102,658	7920	54,058	3418.3	27,122	23518	30,854.2	18,331.3	63.01
Zhejiang	101,800	5477	34,665	1667.9	17,316.3	15,681.1	17,649.4	13,588.3	63.20
Anhui	139,427	5988	17,212	2178.7	9404.8	5628.5	15,425.8	5736.6	46.49
Hubei	187,400	5779	22,251	2848.8	11,193.1	8208.6	15,578.3	9562.5	53.50
Hunan	211,829	6639	22,154	3004.2	10,506.4	8643.6	14,523.2	7921.9	46.65
Jiangxi	166,900	4504	12,949	1520.2	6942.6	4486.1	10,774.2	4027.2	47.51
Sichuan	488,000	8076	23,873	3297.2	12,333.3	8242.3	17,040	9268.6	43.54
Chongqing	82,400	2945	11,410	940.01	5975.2	4494.4	8736.2	4033.7	56.98
Yunnan	394,000	4659	10,309	1654.6	4419.2	4235.7	7831.1	3511.6	39.30
Guizhou	176,200	3484	6852	891.9	2677.5	3282.8	5717.8	2027.6	36.41
Total of the Yangtze River Economic Belt	2,056,955	57,851	235,915	21,549.61	115,745.2	98,620.3	149,247.8	85,421.6	51.65
National total	9,672,018	135,404	518,942.1	52,373.6	235,162	231,406.5	374,694.7	210,307	52.57
Yangtze River Economic Belt's percentage in national total	21.27	42.72	45.46	41.15	49.22	42.62	39.83	40.62	

critical for fully unleashing the regional core competitiveness, building up the Central China and promoting the grand development of Western China.

(c) The Yangtze River Economic Belt is the backbone for China's comprehensive rejuvenation. Yangtze River Economic Belt will be able to drive the socioeconomic development in all three regions (eastern, central, and western) in China. The Qinghai-Tibet Plateau is often known as the "roof of the world." The Yangtze River Economic Belt can potentially be regarded as the "China's economic roof." The Yangtze River Economic Belt is expected to truly become "the backbone of China's economy." Yangtze River Economic Belt has the country's most vast hinterland and development space. It is undoubtedly the area with greatest growth potential in the future. It will and shall also be developed to become the world's largest and most widely influential inland river economic zone and the intensive industrial zone.

(d) The Yangtze River Economic Belt is the strategic channel to clear the main artery of the golden waterway. "The Collaborative Promoting Agreement of Several Key Issues to Develop Yangtze River's Water Transportation" signed by the Ministry of Transportation, local governments of the seven Provinces and two Provincial Municipals along the Yangtze River, the State Council, the National Development and Reform Commission, Ministry of Finance, Ministry of Water Resources, and the State Council of Three Gorges Project Construction made it very clear to initiate the waterway improvement project on the Jingjiang segment of the middle reach of Yangtze River. This initiative is imperative to accelerate the construction of Yangtze River golden waterway, and nurture new growth poles along the Yangtze River watershed. Specifically, we shall focus on promoting all types of transportation modes along the Yangtze River to connect seamlessly, optimizing the investment structure, and promoting the three urban agglomerations along Yangtze River Economic Belt. Moreover, we also suggest extending Shanghai FTA policy to the upper reaches of the Yangtze River Economic Belt.

(e) The Yangtze River Economic Belt is a strategic growth pole with joint coordinated development among all three regions in China. One of the primary intentions to establish the Yangtze River Economic Belt is to develop and open up the Yangtze River basin, actively respond to new changes in energy resources distribution, investment and trade patterns, and global governance structure, effectively solve uncoordinated, unbalanced, and unsustainable development problems in economic growth, promote the transfer of China's opening up from the coast to inland regions, and narrow the development gap. Different from strategies implemented in the coastal, borderline, and western regions, the Yangtze River Economic Belt has a very comprehensive nature. The Yangtze River Economic Belt is located in almost the geographic center of China. It flows through east–west, connects the north and south, links various rivers and the ocean. The Belt is rich in resources and economically developed. From

an objective perspective, we can see that the Belt not only has the material basis to narrow the gap between the East and West China, but also has the regional characteristics of connecting both ends (East and West China) with one smooth channel. Such advantages enable the Yangtze River Economic Belt to the best "strategic pole band" to promote the joint economic development and overall revitalization of the East and the West China. By contrast, the coastal strategy focuses on allowing a part of the nation to be rich first then diffuse to the rest of the country. Since the importing from and exporting to overseas strategic goal and two fan-like diffusive effects are difficult to achieve in the short term, coupled with vast spatial span in China and the large structural barrier of the dual structure, we conclude that such strategy would only produce relative short-distance effect benefiting adjacent areas in a fairly long time. It will be very difficult for such strategy to exert any long-distance diffusion effects. The borderline strategy is also fairly less significant to the national economic development and urbanization due to the weak economic base, poor traffic conditions, and fairly complex geopolitical conditions (comparing to the East) in the West China. Apparently, if the borderline strategy was treated as the national priority, we will not only pay a huge financial cost which has direct impact on the coastal and national economic development, but also will cause the border regions to develop faster than the inland regions and cause potential economic abnormality that might lead to aggravated imbalance of economic development in China. The Yangtze River Economic Belt strategy, on the other hand is able to drive the development of the East, Central, and Western China all at the same time. In the meantime, its development can also be parallel and complementary with the "New Silk Road Economic Belt" (Eurasian Continental Bridge), and the coastal Bohai Bay, the Yangtze River Delta, and Pearl River Delta economic zones to form a "T" shaped linkage.

3. Goals and priorities for the Yangtze River Economic Belt. We will upgrade and reconstruct the Yangtze River Economic Belt from six aspects, namely, integrated transportation, industrial restructuring, New Urbanization, opening up, ecological corridor, and institutional mechanism innovation. The ultimate goals are to eventually expand China's economic development to create new support for upgrading industrial structures and implementing the New Urbanization strategy:

   (a) The goals of building the Yangtze River Economic Belt are to relying on the Yangtze River Delta region, the middle reaches of the Yangtze River and three urban agglomerations in Chengdu–Chongqing (Chengyu region), effectively promote the three shipping centers in Shanghai, Wuhan, and Chongqing, accelerate hinterland development, promote opening up in both Shanghai and Yunnan, and expand the most important space to grow in China for the near future.

(b) The priorities of the Yangtze River Economic Belt shall focus on strengthening the development and integrating the three national level urban agglomerations in the Yangtze River Delta, the middle reaches of the Yangtze River and Chengdu–Chongqing regions to support national economic growth. The shipping centers in Shanghai, Wuhan, and Chongqing will play critical roles to enable the three cities to become national central cities. In the meantime, we need to promote hinterland development in the middle and up reaches of Yangtze River, accelerate the construction of the experimental area of free trade along the river, use the Yangtze River waterway to create an integrated transport system, and integrate resources along the river for development. Priority shall also be put on promoting the so-called "two-end" development and opening up, namely, the East-end opening up leading by Shanghai toward the Asia-Pacific economic zone, and the West-end opening up focusing on the southwest economic corridor including China to Pakistan, India, and Burma.

3.2 Differentiating Mode for China's New Urbanization

In China, conditions and foundations for urbanization at various regions are fairly different. This dictates that promoting urbanization in various regions in China shall respect local conditions and foundations. The "one-size-fit-all" strategy shall be avoided when implementing China's New Urbanization policies. Depending on different types of regions, and even different districts with different characteristics within one region, the modes of urbanization and the purposes for urbanization are different. For instance, in highly urbanized areas, urbanization can happen "on the spot." This is a so-called urbanization over the whole area mode, indicating that these types of regions often are highly urbanized, with mature urban infrastructure, public service facilities, sufficient housing, complete social security systems, highly developed economy, and strong resources and environment carrying capacity base. Non-citizens can be accepted into the urban system without causing any negative urban problems (urban diseases) instead increasing the cities' labor force. Such urbanization on the spot, over the whole area mode is hence a win–win process that supports sustainable and healthy urbanization. Other types of areas, such as the mining areas, suburban areas, pastoral areas, agricultural areas, park-like areas, field areas, tourism areas, ethnic autonomous areas, poverty areas, etc., will have vastly different urbanization mode that the highly urbanized areas. In principle, the New Urbanization stresses urbanization within local conditions. Different urbanization modes can learn from one another, but shall never copycat, instead diversified and differentiating urbanization modes are the norm of New Urbanization strategy.

3.2.1 *"Endogenous Circulating" Mode for New Urbanization in Agricultural Regions*

Agricultural areas refer to places whose terrains are dominated by the plains, whose economy is dominated by farming, and whose population is mainly farmers. These areas often are underdeveloped or undeveloped. In the meantime, these regions are also China's major grain producing areas. They play extremely important roles to enhance the country's total grain output and ensure national food security [12]. Due to these areas' importance in supporting national food security, urbanization in the agricultural areas must first ensure that it will non endanger the nation's food security, and then we shall actively promote urbanization.

3.2.1.1 Implementing New Urbanization in Agricultural Areas Must Give Priority to Ensure National Food Security

The primary characteristics and also the main problem when implementing New Urbanization policies in the agricultural areas are that these areas shoulder the historic mission to ensure national food security. Protecting the arable land has very rigid constraints and converting arable land for urban use is often nearly impossible and non-negotiable. This means the spaces for urbanization are the primary constraints. Large-scale industrialization and urbanization must be limited due to national strategies and relevant policies. In addition, agricultural areas often are short in mineral resources and have large population, especially agricultural population. Their industrialization levels are often low. The economies in the agricultural areas lack of progressive activities. Employment opportunities are often slim, so the majority of the young and able labors are working as migrant workers elsewhere. From our data analysis, we see that the overall urbanization in the agricultural areas enters the middle stage with rapid growth. In the meantime, urbanization lags behind industrialization. Technological innovation is at low level. Central cities' primacy level is low. The quality of urbanization is on the low end due to lagging behind infrastructure, public service facility, social security systems, and the like. In short, agricultural areas have a weak inefficient industrial basis, poor mobility of factors of production, poor spatial concentration level, and very slow process of urbanization. To accelerate the pace of urbanization in agricultural areas, the keys are to promote the flow of factors of production and enhance spatial clustering. From the existing issues of urbanization in agricultural areas, we propose that we need to properly fix five relationships for healthy, sustainable, and high-quality urbanization. These include, first, a balance between national strategies and local interests, second, relationship between the rapid urbanization rate and providing sufficient employment opportunities for urban and rural residents, third, relationship between urban spatial extension and expansion and effective

management due to rigidly restrictive land availability, fourth, relationship between construction of new rural community and the collective construction land use right transfer, and fifth, the relationship between industrial civilization construction mode and ecology microcirculation civilization construction mode [13].

3.2.1.2 New Urbanization in Agricultural Areas Should Take the "Endogenous Circulating" Mode

The traditional agricultural areas are generally the restricted zones as defined in "National Main Functional Area Planning." The primary goals for those areas are agricultural development and ensuing national food security. Any development, including urbanization must follow strictly the principles of not sacrificing food productivity and agricultural development, ecology and environment services. Such principles pretty much determine any development/urbanization must focus on "agriculture," finding ways to develop agricultural sectors first, actively couple together agricultural resources and processing industries, hence promote an urbanization mode that using the industrialization of agriculture to lead industrialization in the agricultural areas, hence promoting this so-called endogenous urbanization path. Such a choice is not only the fundamental but prudent choice under the strict food security restriction, but also an inevitable result giving full play to their own development conditions.

1. The basic connotation of agricultural areas′ "endogenous circulating" New Urbanization mode. Under the premise of ensuring national food security, based on the rich agricultural resources in agricultural areas, the "endogenous circulating" urbanization mode takes the agricultural industrialization as a starting point, promotes agricultural modernization following an endogenous development cycle path, namely, agricultural base + farmers + leading enterprises. In addition, agricultural modernization will promote new industrialization which in turn promotes New Urbanization hence gradually speed up the process of urbanization in agricultural areas, and constantly improve the living standards of agricultural areas. The urban spatial pattern will be dominated by small towns and new rural communities, which also coordinate with large, medium, and small cities in the agricultural areas.
2. The level of urbanization shall remain low in agricultural areas. Urbanization level in agricultural areas shall basically be lower or equal to the national average. This is because increasing urbanization level is not the priority in agricultural areas. The current level of urbanization in traditional agricultural areas hovered around 30–35 %, which is on the low end. In the future, however, urbanization level in those areas shall be gradually improved to the national average level and stays there.

3.2.1.3 The Implementation of the "Endogenous Circulating" Path of Urbanization in Agricultural Areas

In general, the traditional agricultural areas often have strong agricultural foundations. This is especially true when the agricultural structure is built on the unique natural and geographical conditions. The comparative advantages in agriculture are particularly evident. These advantages include a solid foundation with raw materials advantages, easiness to form industrial clusters focusing on marketing leading products. In addition, developing industries based on local agricultural resources could avoid potential acclimatization issues while introducing outside industries. Moreover, since agro-industry are mostly labor-intensive industries, promoting the development of such industries based on local resources could also help local labors find employment opportunities, reducing the number of migrant labors. For this matter, urbanization/industrialization approaches in traditional agricultural areas shall take full advantage of the excellent agricultural resources to extend the industrial chain through the development of agro-industries, hence promote the industrialization and urbanization process. Accordingly, the New Urbanization strategies in agricultural areas should avoid "exogenous implantation" mode instead relying on "endogenous circulating" mode.

1. The starting point for industrialization and New Urbanization in agricultural areas shall be based on developing agricultural areas' agro-industries with leading enterprises serving as the driving force. Depending on the new trends of intensive development and new requirements of upgrading the leading enterprises, we shall devise policies to promote industrial agglomeration to further support the development of local leading enterprises. In the meantime, local leading enterprises will lead the upgrading of local industrial structure, further deepen the processing level of local agro-industries (from physical properties conversion to chemical processing conversion), and eventually promote the interactive development between agriculture and industries. In particular, developing local agro-industries shall start from the comparative advantages of rich agricultural resources, adjust agricultural structure, expand business scale, and provide fundamental support for agriculture-led industrial development. We will then focus on the deep processing of agricultural products to create a bigger and more robust "agricultural economy." The fundamental mode will be "strong leader, stable base, chain development, training farmers, and good brand," further implement the "company + base + farmers" endogenous development mode. The process will eventually enable the strategic transform from enterprises to the industries, from uniqueness to influencing the entire sector, and from concentration to agglomeration. A successful mode will lead to a coordinated development leading by the modernization of agriculture and emerging of new industries. Urbanization in those traditional agricultural areas will enable virtuous interaction between agriculture and industry, with agriculture supporting industrial development, while at the same time industrial development promotes sustainable agriculture.

2. To consolidate the fundamental support for New Urbanization in agricultural areas, it is necessary to rely on agricultural modernization and vigorous development of modern agriculture. The first priority for promoting New Urbanization in agricultural areas is to actively develop modern agriculture, which entails not only agricultural mechanization, but also agricultural industrialization (developing agro-industries). Agricultural industrialization is essentially how agriculture and its related industries are related and synchronized (in terms of industrial services to agriculture, such as seed and agro-machine provision, and industrial processing of agricultural products, such as food industries and bio-energy industries, etc.). Compared with developed countries in general, development of agriculture and related industries obviously are not synchronized. The current agricultural industrialization structure is not the modern, balanced "company + large-scale family farms" style, instead the traditional unbalanced "company + small-scale decentralized farmers" style. At the same time, due to the urban–rural dual structure, the "companies" are often providing services and products not to the relatively backward rural market, but to the high-end urban markets and even international markets. Such a fairly unbalanced agriculture-industry relationship causes China's agricultural industrialization exhibit a "V-shaped link," i.e., on one end is the modern agricultural products processing enterprises, yet the other end is a high-end urban consumer market. Farmers who are supposed to benefit from such modernization sit and scatter in the middle hence share the least amount of benefit. Such an unbalanced structure is the fundamental constraint for modern agricultural industrialization in China. It is also the fundamental issue faced by modernizing China's agriculture and the so-called "Three Rural Issues" (namely, rural agricultural modernization, rural area development, and rural residents' livelihood). To this end, it is important to use both the external pulling effects of large-scale processing enterprises and the internal force of small-scale agriculture enterprises during marketization to upgrade traditional agriculture. This is an inevitable process of agriculture modernization. Moreover, agriculture modernization will also rely on the leading enterprises and supporting service system to highlight uniqueness, transfer land, extend production and service chains, improve services, and promote base establishment, scale development, and standardization for agriculture. The goals of agriculture modernization are to improve the grassroots agricultural extension service system to provide farmers with extended agricultural technologies, certified seed promotion, pest control, standardization of agricultural production, rural biogas, farmer training, and other services to form a comprehensive agricultural social service system.
3. In agricultural areas, it will be the best practice if we can convert agricultural population locally (or closely) to urban population taking into consideration of improving both farmers and urban dwellers' living standards. The core issue of the "Three Rural" issue is how to improve farmers' income, which boils down to farmers' employment. In China, we cannot avoid the basic fact that we have more people than land. To solve farmers' employment issue, in general, we must rely on two specific strategies. First is to develop rural economy and promote

industrialization of the rural areas to enable farmers to be employed locally. Second is to encourage farmers to work in the cities (usually large cities) so that surplus labors can be efficiently transferred to mitigate the tension between land (too scarce) and people (too many), and farmers' income can be improved. As of now, most migrant workers are still "migrants." Due largely to the household registration system, seldom did many migrant workers think of them as part of the cities that they helped build. Such a status of migrant workers did not really help mitigate the pressure on land resources, and promote agricultural scale development. The pressure on land resources, and the tension between land and people will become even graver after the enactment of the "National Main Functional Area Planning." The planning to a large extend will limit the large-scale high-intensity development of industrialization and urbanization in agricultural areas. In this case, the central government shall quickly implement relevant policies to support migrant workers' housing, social security, and vocational training services. The household registration system needs immediate reform considering the historical contribution of migrant workers over the years of reform and opening up. New policies shall provide explicit support for migrant workers to obtain proposed contract, the woodland, forest rights, homestead, certificate of housing, and other property and the right to sell them, so that migrant workers could seamlessly integrate into city. On the other hand, in so doing, we will also be able to orderly release the population pressure in agricultural areas. Furthermore, we will synchronize the development in agricultural areas via developing the key zones, and optimizing interaction between the development zones.

4. To break agricultural areas' bottleneck (land availability) for New Urbanization, we need to implement the spatial organization pattern of small towns plus new rural communities, and accelerate the construction of locally unique small towns and new rural communities. The fundamental principles for such new spatial organization pattern include "coordinated urban and rural development, cities leading rural development, integrated urban and industrial development, mutual promotion between urban and rural areas, and rational distribution." With such new spatial organization pattern, we shall be able to improve the urban system, optimize the county-level urban and rural spatial structure, strengthen infrastructure construction, promote population and industries to transfer and concentrate to towns, accelerate the construction of locally unique small cities and towns, promote industrial agglomeration and integration with the city, promote migration to small towns and cities, implement intensive land use mode, expand industrial development space, and cluster development factors. In so doing, we can inject new energy for the New Urbanization to lead the development of agricultural modernization. While highlighting the development of locally unique small towns, it is also very important to build the new rural communities, explore new models of building new rural communities, and exchanging land for social security, employment, housing, and fixed income. The new rural communities shall be an integrated location for commercial strips, large-scale vegetable wholesale market, and farmers' resettlement community. There are a

few key issues that require creative thinking, namely, how to obtain sufficient land, fund, and infrastructure, how to address issues during the land acquirement and conversion process such as finding employment opportunities, reasonable livelihood, and resettlement for landless farmers, and how to accelerate the pace of "changing the rural village to rural communities, and farmers to city dwellers." In the process of converting potential lands to urban development, it is important to follow the principle of "issuing rights certification, building credit guarantee system, and establishing new financial organizations" to create new rural financial organizations, such as small loan companies, rural banks, and other mutual funds cooperatives. This is to actively nurture diversified rural financial markets to alleviate the financial constraints for building new rural communities.

3.2.2 "City Dwelling—Pasture Grazing" Mode for Pastoral Regions

Promoting New Urbanization in the pastoral areas can effectively accelerate the pastoral herders' transfer to city dwellers, improve the livestock production efficiency, and alleviate damages to pasture grassland due to overgrazing and other relevant environmental problems. The key issue here is how to promote New Urbanization in the pastoral area with improved livelihood of the herders, but no new rounds of grassland degradation and other environmental problems. We propose as an entry point to promote livestock industrialization, attract external investments from leading enterprises in the pastoral sector, and strengthen the linkage between external investors and local livestock industries so that we can minimize the cost to improve the degree of herdsmen social organization, promote equalization of public services in pastoral areas, and provide better solution to environmental problems during economic and social development in pastoral areas [14].

3.2.2.1 Promoting New Urbanization Is the Key to Building a Moderately Prosperous Society in Pastoral Areas

Since the reform and opening policies were implemented in the late 1970s, with the strong support of national investment, economic and social development in pastoral areas has made remarkable achievements. Living standard for pastoral herders has been greatly improved, especially in fields like the construction of grassland and road and other infrastructure construction in the pastoral areas. During the process of implementing grassland contracting system, more than 90 % of herdsmen have stopped the traditional nomadic life style. Most animal husbandry counties have begun to promote urbanization, and have made remarkable achievements. For

instance, Aksay County has seized the opportunity of relocating the county capital during the "Ninth Five-Year Plan" to vigorously implement the strategy of urbanization development with preferential policies, administrative measures to actively guide the pastoral county population to concentrate in the county's capital to build a standardized herdsmen settlement—ethnic village, herdsmen new village, and garden-pastoral village districts. In general, however, pastoral urbanization rate is very low, generally around 15–30 %. They are basically in the initial stage of urbanization.

In the new round of urbanization development, promoting New Urbanization is the key for pastoral areas to build a moderately prosperous society. Accelerating Urbanization is a strategic measure to stimulate and promote the development of pastoral areas. Pastoral New Urbanization is the primary carrier to promote the development of animal husbandry and improve the quality of living in pastoral areas. It is also a platform for sustainable economic and societal development in pastoral areas and a major breakthrough in building a moderately prosperous society in pastoral areas. It is foreseeable that if urbanization rate increases, many long-standing issues that bothered the pastoral areas, such as basic education, healthcare, communication, and electricity supplies, can be solved quickly and effectively. For one thing, the herdsman's quality of life of will be greatly enhanced once they are settled down. As citizens instead of nomadic herdsman, they will also be able to enjoy societal public services infrastructure resources, such as electricity, water, heating, telecommunications, and other aspects. In addition, education and health levels in the pastoral areas will be improved dramatically. Prior to settling down, nomadic herdsmen lived in highly fragmented areas. The cost for basic modern education, healthcare often had high cost and very poor efficiency and effectiveness. Once they are settled down, the government can concentrate its limited financial resources to provide much better basic modern education, health services, health care, culture and entertainment, and community services. Third, urbanization in the pastoral areas can also facilitate industrial restructuring. Many herdsman started to work in the secondary and tertiary industries after they moved to the cities and settled down. Fourth, when nomadic, scattered livestock practices were organized to livestock industries, the practice can potentially alleviate conflicts between livestock industry and the grassland productivity; hence improve the ecological environment in pastoral areas. With the establishment of pastures tenure system and herdsmen's migration to the cities and engagement in secondary and tertiary industries, livestock management style has changed (more concentrated in agglomerations style). This also reduces grassland overload, increases grassland construction, and improves the ecological environment of grassland.

3.2.2.2 Vigorously Develop Animal Husbandry Industries; and Build Animal Husbandry Focusing Communities

First, through modernizing breeding facilities, and promoting scientific breeding techniques, creating animal husbandry management enterprises, high technology

and capital investment, we will be able to promote the modernization of production management of the livestock industries. Second, via establishing enterprises that rely on the locally unique animal products, we will be able to drastically promote breeding industrialization. For example, the Yili Dairy Product Group can be the leading enterprise that lead and facilitate dairy products breeding base. The Yurun Meat Product Group can be the leading enterprise to facilitate the livestock breeding base construction. Third, the local government shall vigorously promote the development of intensive livestock processing industries to improve the overall economic development of animal husbandry. Fourth, it will be a very good strategy to build concentrated settlement communities in close proximity to small towns and easily accessible area. Such spatial organizations are both convenient for herding or ranching and conducive to promoting the New Urbanization process in pastoral areas.

3.2.2.3 Implementation of Animal Husbandry Leading Enterprises Driven Pastoral Farming Families' Development Mode

A successful example is the new settlement village (Fengshuiliang immigrant village) built by the East Da Mongolia King Construction Group. The Fengshuiliang immigrant village of Dalateqi, Ordos City, followed a path of "enterprise leading, local resources fully exploiting, industries as a breakthrough to successful urbanization." The path is not only a successful example of urbanizing pastoral areas, but also very helpful to upgrading local traditional agro-livestock industries. The East Da Group planned to invest 10 billion RMB Yuan poverty alleviation fund in Fengshuiliang village to create five industrial pillars, namely, Rex Rabbit breeding, logistics services, hi-tech industries, seed cultivation, and culture and entertainment. In the meantime, to support the five pillars, the investment will also be used for construction of road, living environment, education and employment, public health infrastructure, medical insurance, information networks, culture and entertainment, Plaza Park. The goal is to build a demonstrative new rural community that can accommodate up to 120,000 people, and promote integrated development between ecological environment protection, farmers and herdsmen enrichment, and business development to achieve a win–win scenario for enterprises and immigrants in the market operations. As of today, this "new city" has taken shape. Currently, the village has now more than 3000 immigrant households, of which nearly 2000 engage in Rex Rabbit breeding. The average annual Rex Rabbit production is over 2000 which earns the farmers an annual income of up to 50,000–70,000 RMB Yuan. For large-scale farmers, the annual income can be up to 100,000 RMB Yuan. In the future, this new town will further develop the five industries of planting and breeding, logistics, high-tech, tourism and cultural entertainment, and seed cultivation with fully supportive road transportation, cultural living, education and employment, public health, medical insurance, information networks, culture public infrastructure and entertainment, and plaza parks. The new town will serve as a model of a prosperous, intensive, health ecology and environmental protection,

smart and low-carbon example for New Urbanization in pastoral areas. This successful example indicates that the strategy of "enterprise leading, local resources fully exploiting, industries as a breakthrough to successful urbanization" will be an effective approach for implementing New Urbanization in pastoral areas. By building breeding and processing bases, the leading enterprises both innovate the operation mode industrialization of agricultural and pastoral husbandry and establish new relationships between enterprises and the interests of farmers and herdsmen. Such practice not only attracts farmers and herdsmen to stay in the city, and enrich their livelihood, but also facilitates the concentration of locally unique resource processing industries and logistics service industries. In so doing, it creates more employment opportunities and promotes vivid urbanization. Meanwhile, the new town demonstrates the ways of creating good living environment, service environment, and how to attract population, which formed a positive interaction between developed industries and concentrated population in a prosperous new town.

3.2.2.4 Implementation of the New Pastoral Living Model of "Living in Town, Practicing Animal Husbandry in the Country"

The best way to promote the New Urbanization in pastoral areas is to let the herdsman to live in towns/cities, but practice animal husbandry in the countryside. In particular, the elderly and children stay and engage in urban activities in the cities/town, the young adults will work in the countryside for grazing or grazing hires. For example, in Gansu's Aksay and Subei areas, a considerable number of herders are hiring herdsman to take care of their livestock, while at the same time they engage in secondary and tertiary industries in the cities. Since livestock production is different from farming, this approach is fairly feasible and mutually beneficial. In fact, in countries like New Zealand and Australia, this has been a norm for quite some time. From the practical perspective in pastoral areas, such a make-shift way through this transition from pastoral to urban residents, from engaging in animal husbandry after several years completely out of the livestock industry, into working in the secondary and tertiary industries shall the primary goals of pastoral areas' development. The remaining part of the herdsman can then form into a larger family ranch. The implementation of "living in the city, practicing animal husbandry in the country" shall be a new pastoral settlement patterns. Of course, this is not to say that all herdsmen shall be concentrated to the cities/town, the actual scenarios shall adapt to local conditions.

Because the promoting of New Urbanization in pastorals is going to be a long term, somewhat difficult, and involving a wide range of aspects, it shall be regarded as a major historic pastoral reform. It suggested that building small towns/cities in the pastoral areas shall be integrated in the process of the natural forest protection project, grassland vegetation restoration project, and the reforestation (re-grass) projects that are currently implemented at the national level. We need to increase investment in constructing these new small towns/cities in the pastoral areas,

establish "pastoral small towns' subsidies" from work-relief programs, national bonds, and poverty alleviation funds. At the same time, we also need to increase financial support for infrastructure construction in animal husbandry counties, introduce supporting policies and measures to facilitate the construction of pastoral small cities and towns. Governmental subsidies for willing herdsman to settle into the city is another strategy that can be adopted, especially in the key ecological protection zone, migrants shall receive relatively large amount of financial and other assistance to settle in those small towns/cities. Relevant polices in building land, supporting the construction costs, employment, and schooling for their children should be devised and implemented efficiently. Household registration system in pastoral areas needs to be reformed to eliminate the agricultural and non-agricultural household registration. Instead, a unified household registration shall be implemented and managed by where they live (instead of what they do). In addition, certain preferential policies can be devised and implement to reward herdsman who migrate to the cities and set up secondary and tertiary industries.

3.2.3 *"Urbanization Based on Mining" Mode for Mining Regions*

Resource-based cities, especially the ones in the mining areas, are important energy resource strategic support bases, and also important support for the sustainable and healthy development of national economy. Promoting sustainable urban development in the mining areas is the inevitable requirement for accelerating the transformation of economic development, and achieving the goal of building a moderately prosperous society. It is also an important task to promote balanced regional development, promote the overall development of new industrialization and urbanization, maintain social harmony and stability, and establish ecological civilization. Currently, a large proportion of cities in China are industrial and mining resource-based. Those typical towns and cities often face increasing resources and environment pressure with very little radiation driving ability and limited intensive development capacity. Due to long lasting serious historical issues, the endogenous power of restructuring and developing within these cities is rather weak. Overall, there are nearly 70 million square meters of squatter settlements that need urgent reform, about 140,000 ha subsidence areas that need treatment, more than 60,000 unemployed miners who are in need of employment, and over 1.8 million people who need subsistence allowance. In those cities, the native industries have strong dependence on resources. Mining often accounts for more than 20 % of the secondary industry. Modern manufacturing and high-tech industries are in their infancy. Support security for further developing alternative industries is seriously inadequate. To promote New Urbanization in mining areas, we propose the following modes.

3.2.3.1 Development of Green Mining Industry, Integration of "Mining Activities and Urbanization," and Construction of Alternative Industries Cluster Zones

In the process of urbanization in mining areas, it is important to allow the market mechanism to play out fully so that we can pursuit the integration and interaction of "mining activities and urbanization," promote the integration of both urban and industrial development and mining and urban development. To achieve this, it is crucial to transform and upgrade traditional resource-based industries, develop green mining industry, foster the growth of alternative industries, accelerate the development of modern service industries, encourage the development of strategic new industries, and promote transformation from single resource-based mono economy to diversified economy. Both the local government and its planning agents shall correctly handle the relationship between the joint development of above-ground and underground industries, strengthen their overall planning, optimize the industrial layout, and guide industries to concentrate to industrial parks and gathering areas to form intensive, distinguishing development patterns. In addition, this urbanization mode requires relying on the original foundation, implementing reconstruction, and new construction of a number of distinctively characteristic specialized industrial parks and gathering areas, strengthening transportation, water, electricity, and other supporting infrastructure, and building important carrier and platform for industrial agglomeration. Using the standards in science and technology, environmental standards, investment strength, ability to absorb employment, we shall actively cultivate and introduce a number of leading enterprises. Moreover, it is necessary to improve the industrial chains, enhance industrial supporting capacity, promote joint development of industrial and mining-related industries, create distinctive industrial clusters and alternative industries clusters, and reconstruct a number of alternative industries parks and gathering areas.

3.2.3.2 Change the Mode of "Building Homes Where Mines Are" to "Building the Cities with the Mine" Mode

For a long time, the industrial structures of China's industrial and mining areas were largely evolving around extractive industries and relevant activities. Urbanization mode in those areas often followed a "building homes where mines are," which often causes the main part of the governing bodies of mining enterprises and the governments were located outside the city (in the mining areas), forming a large number of scattered and independent mining shanty towns that were detached from the cities. These mining shanty towns often do not have close economic ties with the cities, and often had limited service functions. The tertiary industries were scattered and lagged behind, and can hardly meet the needs of the residents there, hence it is difficult to

form an effective driving force for urbanization. Apparently, increasing the intensity of reforming mining shantytowns is an important starting point to promote the transformation of resource-based cities in the mining areas. It is also an important task to promote the New Urbanization in mining areas. In order to enhance the leading role of large-scale mining companies' driving for urbanization, it is necessary to change the traditional urbanization mode of "building homes where mines are," to "building cities with the mine." For example, Shanxi Province decided to choose five pilot coal mines to experiment "building cities with the mine" strategy and establish industrialization drive mechanism to promote urbanization in mining areas. These cities and mines are the Eastern Zhou Kiln Coal Mine of Datong Coal Company in Datong City, Pingshuo East Coal Mine of China Coal Group in Shuozhou City, Wangjialin Coal Mine of Shanxi Energy Group in Xinzhou City, Longquan Coal Mine of Taiyuan Coal Gasification in Taiyuan City, and Xiegou Coal Mine of Luliang Coking Coal Company in Luliang City. Within these five cities, the City Halls lead the preparation of devising the "building cities with mines" plans. These plans aim at developing non-coal-related industries, relying on local enterprises to develop packaging and storing, trade marketing, consulting, catering trade, and other services, to achieve "localization of business and employment" and improve the public service system. In the meantime, for those villages that have coal mining directly below, the government will implement plans to relocate the entire village and prepare sufficient employment opportunities for the relocated villagers.

3.2.4 "Merging Residential Zones with Local Towns" Mode for Mixed Agriculture-Forestry-Pastoral (Field) Regions

The agriculture–forestry–pastoral regions (often refers to as "field areas" since those activities require large fields and are often located in backwater areas where lands are abundant and relatively cheap) refer to the various state farms, pastures, fisheries, forestry, and livestock farms. Since these areas are often frontiers and national border lines, residents there are often state employees who were sent to develop the frontiers and protect the borders. These workers usually have urban household registration, but their livelihood depends on agriculture, and do not fully enjoy benefits like other urban residents. In addition, those field areas often have large numbers of migrant population. Due to their specific geographic locations, these field areas often are the "inaccessible" places for implementing New Urbanization. On the other hand, though scattered and in relatively remote areas, the total population size and land mass in those areas are quite large, often with fairly severe historic legacy issues that need to be addressed by implementing the New Urbanization strategies. To illustrate effective strategies in promoting New Urbanization in these field areas, we present the example we conducted on 26 State Owned field areas in Daqing City with different sizes and different affiliations.

3.2.4.1 Status and Problems of Current Urbanization in Field Areas

From the field investigation, we found that there were 26 state owned agriculture–forestry–pastoral–fishing areas with different sizes and different affiliations in Daqing City, Liaoning Province. There are about 67,100 employees in these field areas. Urbanization in those areas exhibits some common characteristics and problems.

1. There are more migrant workers than local employees. Urbanization level is extremely high (since urbanization level is calculated based on the percentage of urban residents in total population, and the majority of residents in those areas are technically "urban residents," yielding a very high level of urbanization). Urbanization quality, on the other hand, is fairly low. The prevalent phenomenon in the 26 field areas in Daqing City is that there are more migrant workers than State employees. Often migrant workers accounted for over 50 % of the total population. For example, Yinlang Ranch has a total permanent residents of 12,600 people, while 4000 (about a third) of them are migrant workers who have been doing farm work there for decades. Xinghuo Ranch has 4300 permanent residents, and 2200 of them are migrant workers (over 50 %). Hongji Ranch has 5000 permanent residents; 2800 of them are migrant workers. Since urbanization level is calculated based on the percentage of urban residents over total population. All of the field areas have over 90 % urbanization rate. Yet urbanization quality in those areas is much lower than the average urbanization quality in Daqing City.
2. The field areas often have very complex affiliations that change frequently. Among the 26 field areas, Heping Ranch, Zhaoyuan Farm, Dashan Breeding, and Planting Farm are managed by the Heilongjiang Provincial Bureau of Reclamation. Green Grassland Pasture Farm is affiliated with Heilongjiang Province Bureau of Reclamation Suihua Branch office. Chunlei Farm is affiliated with Daqing City. Xinghuo Ranch, Hongji Ranch, Yinlang Ranch, Dongfeng Farm, Xinglong Ranch, Hongqi Forest, Maoxing Lake Fisheries, State-owned Weixing Breeding Stock, Leyuan Breeding Farm, Changqing Forest, Yinguang Breeding Stock Farm, Julang Ranch, Reed Field, Xinxing Livestock Farm, Lindian Fishery, Duishan Dairy Farm, Hongqi Breeding Stock, Sijiazi Forest, Shirengou Fisheries, Xindian Forest, Kaoshan Breeding Stock Farm are affiliated with and managed by various districts and counties in Daqing City. Such a complex and frequently changing affiliation system leaves those field areas to often be the "black holes" of management.
3. Due to the lack of efficient management, the field areas often are lack of planning. The built-up areas are often full of disorderly buildings that often lead to heavy penalty. The vast majority of the field areas do not have comprehensive development and construction plans. The residential buildings of each field area

lack appropriate order, so are other building types, which failed to form a relatively rational pattern of industrial development and residential allocation pattern. All construction projects in those field areas cannot receive appropriate approval. Oftentimes, the complex management and affiliation system makes any proposal of new development hard to get any approval at either the village level or the city level. All the ranch houses are 100 % illegal constructions, forming "no basis for building, yet all basis for penalty" irregularities.

4. The field areas often have disorderly functions with insufficient infrastructure. The vast majority of the field areas often have very confusing functional zone planning (or no planning at all). Local infrastructure is severely lagging behind the needs. Economic development is often restricted by available land. Comparing to the regular townships, local infrastructure, public service facilities, and local living environment are fairly poor. Yet in the meantime, there is a strong intention by those state workers to promote urbanization and industrialization.
5. The state employees in the field areas are often not benefiting from their urban household registration. In fact, workers in those field areas, though engage in agriculture, forestry, animal husbandry and fishery, they are actually urban residents. On the other hand, partly due to the chaotic management, they often do not enjoy the various benefits of urban residents such as salaries and relevant health cares.

3.2.4.2 Implement the New Urbanization Development Mode of "Building the Cities Within the Field Areas"

From the global perspective of Daqing City, we regard these 26 Field areas as the primary component for implementing Daqing City's New Urbanization. In so doing, the mode must take into full consideration of the various industries (agriculture, forestry, animal husbandry, and fishery) so that they will be seamlessly embedded into Daqing's grand pattern of New Urbanization development for unified planning and construction.

1. The first thing is to merge some of the field areas to reduce the numbers from 26 to 15. These field areas will be the fifth level in the urban system hierarchy in Daqing City. As a matter of fact, during the establishment of Daqing's urban system, the districts and counties have implemented various ways to urbanize these field areas. Specifically, there are three primary approaches employed. First, if the area is close to the city or suburban area, they will be integrated to the main city plan. A typical example is the Chunlei Farm. Second, some of the relatively small field areas are gradually integrated to their affiliated villages or counties, and becoming an important part for promoting urbanization in those

villages or counties. Third, if merging those field areas becomes difficult due to complex management system, they will be kept as is but targeted for better planning. The final 15 field areas include: Xinghuo Ranch, Hongji Ranch, Yinlang Ranch, Heping Ranch, State-owned Weixing Breeding Stock, Leyuan Breeding Farm, Maoxing Lake Fishery, Duishan Dairy Farm, Hongqi Breeding Stock, Sizaizi Forest, Shirengou Fishery, Xindian Forest, Kaoshan Breeding Stock, and Green Pasture Ranch. These 15 field areas are then regarded as the fifth level (village level) unit and embedded into Daqing City's hierarchical urban system, with unified planning and construction (Table 3.2).

2. There is strong need to design a specific development plan for Daqing City to promote New Urbanization for its field areas. This is needed because the numerous field areas are scattered, with a variety of developmental and management issues, highly mobile population structure, and poor development environment. A specific *New Urbanization Plan for Daqing City's Agriculture-Forest-Pastoral-Fishery Using Area* would provide the most needed and fundamental guidance and modes for promoting New Urbanization strategies in those areas, devise appropriate population management and land use modes, and point the way for intensive land use and new community construction.
3. Promote the cooperation between the village and towns and the agriculture–forest–pastoral–fishery using field areas to fully embed towns/cities within the areas. The goal is to establish a healthy, cooperative urbanization development and village/township urban system. For instance, in Lindian County, Changqing Forest has been merged to Sijiqing Town, Reed Breeding Field to Hongqi Town, Fishery to Sanhe Village, Yinguan Breeding Stock to Hongqi Town, and Xinxing Breeding Stock to Dongxin Village. The future focuses will be on the newly merged field areas, namely, Reed Breeding Field, Xinxing Breeding Stock, and Yinguan Breeding Stock. Specifically, for Reed Breeding Field, we shall take advantage of the opportunity of relocating the core village due to the recent establishment of Zhalong Natural Reservation to merge the first and fourth sub-fields to the headquarter with the second and third sub-field. The headquarter will then evolve to be the village center. We will then invest to build appropriate infrastructure and public services facilities for the village center. For Xinxing Breeding Stock, we shall take advantage of the opportunity that Daqing City attempts to build a few demonstrative new villages, merge the current four sub-fields to an appropriate new location as a high-quality new village center and demonstrative base. For Yinguan Breeding Stock, we shall merge all the sub-fields to the where the headquarter is and build the headquarter to be a village center with appropriate infrastructure public service investment. In the meantime, we will further develop farming and breeding industries as the village's main industrial base.

Table 3.2 New Urbanization mode of building towns within State-owned field areas in Daqing city

County/district name	Number of field areas	Name of field areas	Affiliation	Permanent urban residents	Trend for urbanization	Function division and development direction
High-tech zone	1	Chunlei farm	State-owned, city management	5800	Merged to the high-tech zone for urban land use	Urban land use, part of the city proper
Ranghulu district	3	Xinghuo ranch	State-owned, district management	4300	Concentrate the population to build a central village, as one of the 160 central villages in daqing city	Dairy cow breeding; hop spring (spa) vacation land; greenhouse plantation; pick-your-own park
		HongJi ranch	State-owned, district management	5000	Merged to and managed by daqing city economic and technological development zone	High efficient plantation, characteristic breeding; countryside leisure tourism, farmhouse tourism, equipment manufacturing
		Yinlang ranch	State-owned, district management	12,600	Merged to the city proper, linked with hongwei park	Livestock breeding, industrial parks
Longfeng district	1	Dongfeng farm	State-owned, district management	600	Merged to Longfeng district for urban land use	Urban land use
Honggang district	1	Xinglong ranch	State-owned, district management	750	Merged to Xinshugang township, serving as the base for Xinglong industrial park	Livestock breeding

(continued)

Table 3.2 (continued)

County/district name	Number of field areas	Name of field areas	Affiliation	Permanent urban residents	Trend for urbanization	Function division and development direction
Datong district	2	Heping ranch	Provincial agricultural reclamation bureau	10,833	Kept as the fifth level unit in Daqing's urban hierarchical system	Livestock breeding
		Hongqi woodland	District government	100	Merged to Linyuan township to support it to be one of the 12 important central townships	
Zhaoyuan county	2	Maoxing lake fisheries	State-owned, county management	1350	Kept as the fifth level unit in Daqing's urban hierarchical system	Fishery
		Zhaoyuan farm	Provincial agricultural reclamation bureau	900	Merged to Xinzhan township, to support it to be one of the 12 important central townships	Agricultural plantation
		State-owned satellite breeding stock	State-owned, county management	760	Kept as the fifth level unit in Daqing's urban hierarchical system	Livestock breeding
		Leyuan thoroughbred field	State-owned, county management	130	Kept as the fifth level unit in Daqing's urban hierarchical system	Livestock breeding

(continued)

Table 3.2 (continued)

County/district name	Number of field areas	Name of field areas	Affiliation	Permanent urban residents	Trend for urbanization	Function division and development direction
Lindian county	6	Changqing farm	State-owned, county management	1300	Merged to Sijiqing township, to support it to be one of the 12 important central townships	Woodland plantation, hop Spring (spa) new city and vacation land
		Yinguang breeding stock	State-owned, county management	1200	Merged to Hongqi township	Livestock breeding
		Julang ranch	State-owned, county management	1000	Merged to Hongqi township	Livestock breeding
		Yuwei field	State-owned, county management	1100	Merged to Heminghu township, to support it to be one of the 12 important central townships	Tourism and vacation land
		Xinxing livestock farms	State-owned, county management	1300	Merged to Dongxing county	Livestock breeding
		Lindian fisheries	State-owned, county management	1000	Merged to Heminghu township, to support it to be one of the 12 important central townships	Hot spring (spa) tourism and vacation, fishery, fishing houses

(continued)

Table 3.2 (continued)

County/district name	Number of field areas	Name of field areas	Affiliation	Permanent urban residents	Trend for urbanization	Function division and development direction
Duerbote Mongolia autonomous county	8	Duishan dairy farm	State-owned, county management	1890	Kept as the fifth level unit in Daqing's urban hierarchical system	Dairy cow breeding
		Hongqi breeding stock	State-owned, county management	1800	Kept as the fifth level unit in Daqing's urban hierarchical system	Dairy cow, geese, fox and panther breeding
		Shijiazi woodland	State-owned, county management	260	Kept as the fifth level unit in Daqing's urban hierarchical system	Woodland plantation
		Shirengou fishery	State-owned, county management	1900	Kept as the fifth level unit in Daqing's urban hierarchical system	Fishery
		Xindian woodland	State-owned, county management	1200	Kept as the fifth level unit in Daqing's urban hierarchical system	Woodland plantation
		Kaoshan breeding stock	State-owned, county management	2960	Kept as the fifth level unit in Daqing's urban hierarchical system	Holstein dairy cow breeding
		Dashan breeding farm	Provincial agricultural reclamation bureau	4100	Kept as the fifth level unit in Daqing's urban hierarchical system	Livestock breeding
		Green meadow ranch	Provincial agricultural reclamation bureau, Suihua branch	3000	Kept as the fifth level unit in Daqing's urban hierarchical system	Livestock breeding

3.3 The Gradual Mode for China's New Urbanization

3.3.1 Fundamental Thoughts for China's Gradual Urbanization

The gradual urbanization mode for New Urbanization is to accelerate urbanization in rural areas based on different urbanization gradients. Specifically, there are four gradual processes, namely, strengthening the county centers' construction and promoting farmers to become urbanites for urbanization; strengthening the township centers' construction and promoting farmers to become township citizens for urbanization; strengthening the village centers' construction and promoting gradual transformation of farmers to township citizens for urbanization; and strengthening construction of villages' central communities to promote farmers to become community residents to achieve new gradual process of urbanization in rural communities (Fig. 3.2). Such mode focuses on the village centers as the pilot locale to progressively promote urbanization. The progress of promoting natural villages and rural communities to the center of village, and then promote the center of village to be small townships is a feasible mode for gradual urbanization. With such mode, farmers can turn into urbanites and enjoy the benefits of urban residents without the need to migrating to other cities or towns. This is important because currently the rural areas still need large numbers of farmers and agriculture workers to cultivate the land. Villagers will still be rural population. Their homestead will be converted to vertical buildings. The process involves literally no change for the village and farmers. On the other hand, we do recommend the implementation of the "dual household registration" under the current household registration system. Under such "dual household registration," the farmers can be both rural residents so that they will have their lands and are able to engage in agricultural production and township urbanites as long as they have fixed investment (housing) in the township or cities. In so doing, the farmers will not lose their land use rights, while in the same time enjoy (and promote) urbanization and relevant benefits.

3.3.1.1 Implementing the Gradual Urbanization Development Strategy Based on Community Centers, Village Centers, and Township Centers

Strengthening the village and the town centers' construction and accelerating the adjustment of urban space layout and industrial structure are crucial for gradually forming a rational division of labor and efficient and orderly urban spatial structure. The keys for implementing a "Centers-based" gradual urbanization strategy is to strengthen the integration of urban and rural settlements, improve the ecological environment, improve public facilities and infrastructure service levels, promote the industry to engage in centralized management and scale concentration, concentrate industries to industrial park, and concentrate farmers to central communities, village

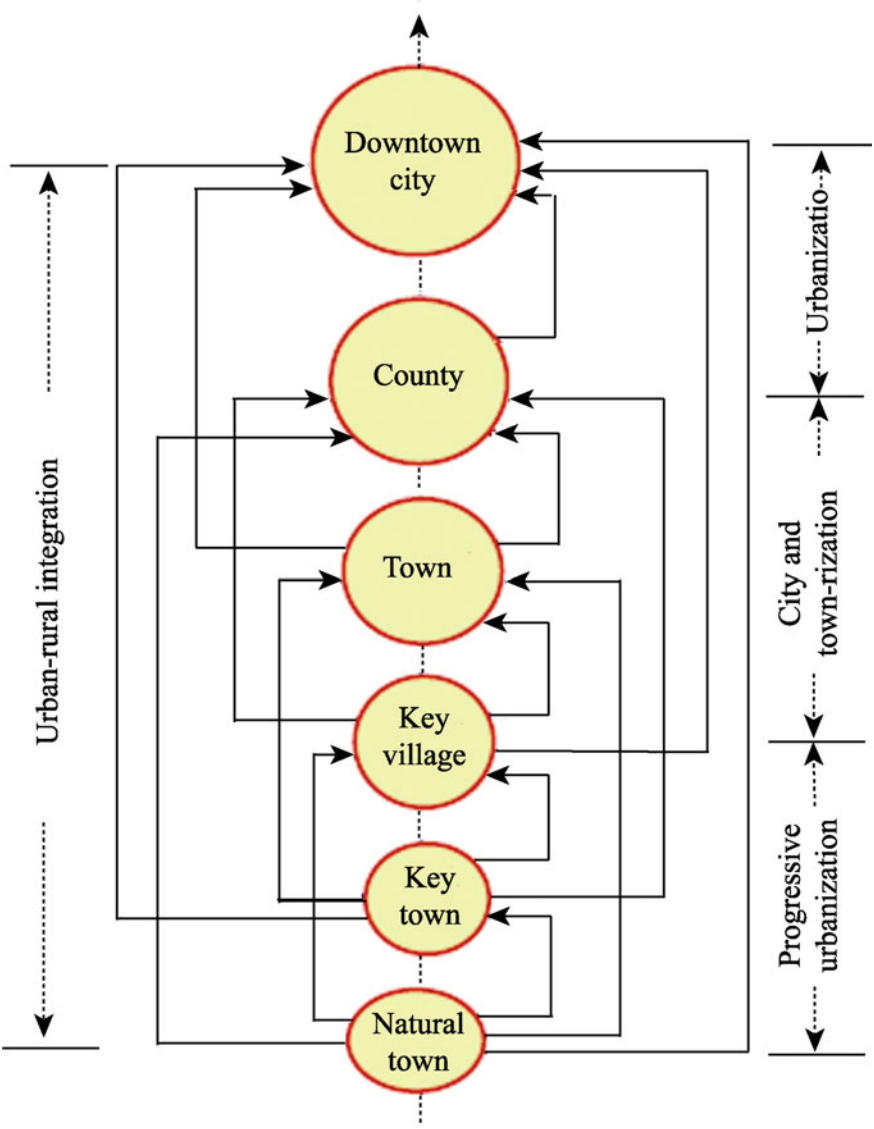

Fig. 3.2 Schematic diagram of progressive transition path of new-type urbanization

centers, and township centers. For example, while promoting the progressive process of urbanization, Daqing City has planned to build six county-level cities, 12 central towns, 160 village centers and 500 central communities in order to stimulate the development of the city's 58 towns, 26 field areas, 483 administrative villages and 2548 natural villages and realize the coordinated development of urban and rural areas. In order to accelerate the progressive process of urbanization

development in rural areas, we suggest implementing rural land transfer system so that the collectively owned lands can become state-owned land but farmers have the rights to put the land on markets following national land use/land transfer regulations in rural areas. Currently, since the land ownership problems cannot be solved, farmers will not own the properties even if they purchased them. Those properties hence cannot be moved, cannot be traded, and cannot be mortgaged. In the meantime, since national regulations mandate that collectively owned land cannot be used for real estate development, which renders developers unprofitable, hence they will not invest in rural areas. If we introduce the market mechanisms in rural area, on one hand, we can increase the enthusiasm of farmers to build the new community centers. On the other hand, large amount of rural homestead land can be transferred for urbanization while farmer can exchange these homestead for equivalent urban housing spaces. In addition, the premise for urbanizing farmers is that the villages have considerable industry supports and village enterprises, such as centralized transport companies, aquaculture companies, farm machinery companies, concentrated vegetable companies, and agricultural processing companies.

3.3.1.2 The Four Processes for Gradient Gradual Urbanization

1. Strengthen the construction of county-level cities, promoting farmers to become urbanites to achieve urbanization. For example, in Daqing City, the Honggang New District, Datong Town, Zhaoyuan Town, Zhaozhou Town, Lindian Town, and Taikang Town can serve as the political, economic, and cultural centers for relevant rural areas and core priority sub-central cities for promoting the new urban system in Daqing. The outskirt villages of these 6 central towns can gradually merge into lower-level townships. Farmers can then turn into urbanites locally. In the meantime, it is necessary to invest and develop supporting infrastructure and public services such as employment, education, healthcare, and housing for the newly transformed urbanites.
2. Strengthening the construction of central towns and promoting farmers to become township residents to achieve urbanization. Construction of the township centers shall follow the fundamental principles of comprehensive planning, classified guidance, highlighting focus, and demonstrative driving. In the meantime, it is crucial to perform appropriate merge and reintegration and choose alternative locations with superior geographic conditions, strong development foundation and great potential for development to purposefully nurture a series of central towns to achieve aggregate effectiveness and regional competitive advantage. For example, Daqing City plans to build 12 town centers. The plan indicates that construction land area per capita should be controlled within 120 m^2. Depending on different underlying conditions, resource endowment, and development levels of the various towns, we shall devise appropriate strategies to guide and encourage interaction, collaboration, and

joint development between towns with closer economic ties and complementary resources to form a scenario with central towns guide and drive the development of small towns and rural areas. Based on the central towns' location, resource characteristics and their functions, with the support of tax breaks and other preferential policies, we shall guide and encourage the urban industrial enterprises to explore effective ways of "letting the enterprise drive township and village development, and integrating urban and rural development." In the meantime, we shall encourage and support urban industrial and social funds to extend to rural areas, to invest in agro-industry, agricultural production materials industry and other related industries to promote urban and rural industries integration. It is also important to explore new rural economic development modes with the village collectively exchanging land for investment to both develop the rural area and create job opportunities for farmers.

3. Strengthening the construction of central villages, promoting the progressive transfer of farmers to township residents to achieve a gradual process of urbanization in rural areas. The central villages are the "reserve forces" for small towns and cities for sustained urbanization. Healthy development of the central villages is of critical importance for both urbanizing rural life style and establishing rural material and spiritual civilization. It is only through the development of rural settlements in the central villages that we can hope an integrated urban and rural development. Actively promoting the integration of villages and relocating villages into the townships are important to relocate, consolidate, and transform dispersed rural settlements to expand the scales of central villages for intensive use of land. In Daqing City, it is planned to build 160 central villages. Construction land per capita should be controlled within 150 m^2. The plan attempts to strengthen the integrated and comprehensive planning of urban and rural areas, take various measures to merge large oilfield sites into nearby townships and cities, relocate small mining settlements within the high-yield oil fields so that oil field mining can focus on specific locations to reduce the waste of land due to the existing decentralized distribution of land. In addition, it is also imperative to actively promote the infrastructure construction in rural settlements, and gradually establish infrastructure services system in line with the level of economic and social development of rural settlements.
4. Promoting the construction of village central communities to facilitate the farmers to concentrate to these communities, and to achieve a gradual process of urbanization. Considering the fact that concentrating all rural residents to a central village or general administrative villages will be hard to achieve in short term, an alternative is to build village central communities within the central villages or by combining natural villages in neighboring administrative villages. The village central communities hence serve as a platform for gradual urbanization of the rural areas. When the conditions are ready enough, we shall then be able to relocate the gradually centralized population in the village central communities to central villages or central townships/cities. In so doing, we are

able to progressively promote farmers to become community residents, township residents and eventually urbanites. For example, Daqing City plans to build 500 village central communities as transition locations to drive urbanization process for the 2548 natural villages.

3.3.2 Autonomous Mode for Gradual Urbanization

In urbanizing China's rural areas, the active and passive urbanization co-exist. In active urbanization, the farmers and the collective village organization actively seek out urbanization by exchanging land with the opportunities to turn to urbanites, and enjoy the benefits of urbanization afterwards. On the other hand, in passive urbanization, the farmers' lands were acquired by the State and the farmers were turned to urbanites whether the farmers agree or not. In such a mode, the farmers were not really turning into urbanites and they usually do not enjoy the benefits from urbanization. More importantly, the passive urbanization almost always involves some types of sever issues such as rights protection, against the farmers' free will, and even deprivation of farmers' land. For this matter, it is hence critical to properly manage the relationship between active and passive urbanization. Exploring various ways to properly reduce the irrational and unfair passive urbanization shall be the next priority agenda item to promote the New Urbanization strategy and realize the real urbanization of farmers.

Active urbanization follows the principle of "respecting the wishes of farmers, putting harmony and stability as the top priority." It basically requires "farmer-led, self-determination, self-assessment, self-construction, voluntary fund-raising, and self-management." It is an independent development model of urbanization, and can effectively help achieve the so-called "zero resistance, zero complaints, and zero petition." In the meantime, active urbanization also follows the four "unified" construction principles, namely, "unified planning, unified financing, unified construction, and unified management." This so-called "five self, four unified and three zeros" independent urbanization model has won the trust and support from farmers since it fully respects public opinion to let the farmers make their own decisions; fully plays to democracy so that farmers can assess their own demolition; fully finances through convergence of private capital so that the farmers themselves can engage in the construction; and adequately protects farmers' benefits so that farmers really gain. A successful example was observed in the Minqiang New Village, Bajinzi Township, and Datong District of Daqing City. Minqiang New Village located about 350 m west of the Sada Road. There are 117 households, 443 people, and 191 houses, with a total land area of 73,984 m^2. For two years, Daqing City invested 452 million RMB Yuan to fully renovate the entire village. The planned land area is 227,300 m^2. Total build-up area is 139,600 m^2. After its completion, the New Village will be able to accommodate 860 households. For Minqiang New Village, its "five self" can be detailed below.

3.3.2.1 Self-decision

1. Checking the facts. On December 2, 2011, the township communist party committee of Bajinzi Township set up a village construction and demolition Command Headquarter (hereinafter referred to as the Headquarter) for Minqiang Village. This committee is responsible for organizing, coordinating, and promoting related work. The committed checked the village's residence, houses, courtyards, news, and other villager-related events on the same day. It then promptly held a special meeting to hear an investigation report. After the report, the Headquarter decided to continue in-depth investigation, redesigned the questionnaire to establish individual profiles. They generated photos and videos of residents' houses and yards, set up a household archive for each household, and made multimedia CD-ROM with a text description. To be open and transparent and eliminate the suspicion and distrust of the villagers, on February 18, the Headquarter did another round a thorough investigation in Minqiang Village, and held a village General Assembly. Each household elected a representative with a total of 117 people. They were further divided into four groups. Members of the four groups led by the Headquarters investigated the 191 houses, 117 yards comprehensively and verified previous data to make sure the final outcome of this time's investigation is consistent with the previous Headquarter investigation. After that, the villagers were no longer critical to the village cadres. Instead, they reached out from behind closed doors to cooperate with the Headquarter. Such practice provides detailed information for coming demolition, relocation, and reimbursement process.
2. Emphasizing public opinions. Minqiang Village is adjacent to Daqing city. There are more than 40 migrant households. Some of them are from the city due to demolition and relocation. This group of residents is often quick to complain. If the demolition work that involves the interests of the people is not handled properly, it can easily lead to mass incidents. In response to this complex situation, the Bajinzi Township party committee timely started creating risk assessment mechanism for major issues regarding social stability, and set up a commanding group for risk assessment led by the township principal leaders and members of the village cadres. The risk assessment group held 20 various seminars at different levels with the villages, issued 117 questionnaires regarding building the new village. The efforts were eventually paid off, while 100 % of the residents agree to build the new village, and indicating that they are also 100 % satisfactory. Apparently, the key for such high willingness to proceed is a satisfactorily devised compensation plan. At the very beginning, the Township party committee held a town hall discussion regarding how to assess the values of the properties and corresponding compensation. The debate was on whether such evaluation shall be done by a third party assessment company or by the villagers themselves. The final decision is that it will be more appropriate to let the villagers to decide how the compensation plan shall be devised. The party committee hence decided to create a 12-people voluntary propaganda

team, consisting of 12 rather prestigious and respectful members of the village to explain the policy and guide the villagers to evaluate their own properties. Each propaganda team member is responsible for 10 households. They often discussed the benefits and costs of the demolition and rebuilding plan with the villagers in a causal, but lively fashion, which seems to work the best for most of the villagers since the team members are often well respected and considered just and fair. Such a let-the-villagers-persuade-the-villagers strategy has far superior success chances than hiring a third party assessment company since the later often involves high cost, long dispute over demolition, and complex procedures.

3. Decide the final program. On February 19, 2012, all 117 households participated in the assessment meeting. After entering the venue, the villagers drew two lots. The first one was determined the order of assessment. The second lot was simply to determine the seat number in the venue. After the lots were drawn, the moderator explained the benefit and costs of using either a third party assessment company or using the villager representatives. The villagers then voted. The final results indicate a 116:1 in favor of the villager representative proposal.

3.3.2.2 Self-assessment

1. The villagers determine the assessment approaches. Since Mingquan Village has relatively large portion of migrant workers and many illegally built constructions that often lead to difficult demolition, the township party committee proposed the "compensation based on overall assessment of the entire household's courtyard" approach. Namely, the assessment will be based entirely on the household courtyard regardless of ownership certificates, business licenses, and household registration. The proposal was unanimously approved by the villagers.
2. The villagers elect their evaluation representatives. Via strictly following the Organization Regulation of Villagers, the villagers elected 30 representatives from the 117 households (about one representative per 4 households). To avoid large families take advantage of their sheer numbers, the representatives are determined by the last names so that the same last name will not representing one another. Smaller families will just enter random draws for every three households. The entire election process was supervised by the villagers and outside notary company. After 17 round of election, the 30 representatives of assessment were determined.
3. The villagers determine the assessment price. To be strictly confidential, the mobile phones of the 30 representatives were stored to prevent inside communication. The seat numbers were re-drawn indicating entering the formal assessment process. Based on early collected raw data, two screens were set up. One plays videos of the farmer courtyard. The other showed textual description. Members of the assessment representatives evaluated each

household's courtyard made with reference to the market trading price. A total of 117 assessments with 117 assessment tickets were conducted. All 117 tickets were collected after the evaluation, and each household were created a portfolio. After the end of the evaluation, supervised by the village representatives, the assessment were divided into four groups for final count and calculation. The five most expensive and five least expensive evaluations were discarded. The average of the rest evaluation will then be used as the final compensation amount. Since the total compensation for Minqiang Village cannot be over 40 million RMB Yuan. The committee decided that if the final evaluation is over 40 million RMB Yuan, then every household will have to be adjusted proportionally to stay within 40 million RMB Yuan. Surprisingly, the final result indicated that the final evaluation was only 34.05 million RMB Yuan, with a surplus of 5.95 million RMB Yuan. After consulting with the villager representatives, the township party committee decided to divide the surplus to each household. The households hence had an average increase of 19.2 %. The villagers were very happy about the evaluation. Some even commented that they won't even be able to sell for that price. The 117 households then signed the demolition, relocation and compensation contract on-site. On April 9, 2012, the commanding group initiated the demolition process, and was done with 2 weeks. By May 1, all the compensation moneys were distributed to the villagers, and the new construction started 5 days later (May 6).

3.3.2.3 Self fund-raising

The construction of Minqiang Village has relied fully on collecting private capitals, and let the farmers build their own home. Based on the requirements of developing livable residential area and potential industrial zones, the Minqiang Village planned its construction at a high starting point in a hope to create a demonstrative model for small towns. The construction invested 250 million RMB Yuan for the first phase. The village party committee led the initiative to raise funds from the farmers. Farmers who have registered within the village can all participate by investing. Their household will be directly registered in Minqiang New Village after it's done.

3.3.2.4 Self-construction

The construction of Minqiang New Village follows strictly the principles of coordinated development of infrastructure, support functions and industrial development. In particular, there are "three supports." The first support is infrastructure facilities construction. The village planned to build three horizontal and three vertical road network with a total length of 2 km right outside the village. In addition, the village also will finish the supporting facilities of landscaping, water, heating, gas, and other facilities in one step. The second is function support. By

building kindergartens, medical service station, supermarket chains, property management center, the village intended to meet the villagers' basic service needs. The third support is industrial facilities construction. The village plans to build 3 primary industrial functional areas, namely, auto parts, building materials and decoration, and catering services, with a total construction area of 16,000 m^2. The goal is to let the industrial development drive population agglomeration. The village party committee is the main unit in charge of the construction. They intend to introduce very capable provincial construction engineering corporations through bidding to build the village. The village invested 1 million RMB Yuan to recruit 15 supervisors from Daqing Libo Supervision Company (with first level qualification) to monitor and supervise the building process. In addition, tt deployed 18 village cadres in two shifts to perform 24-h on-site supervision. Everyone has their own building numbers to supervise the supervisors, and monitor the quality of the projects. By collecting 80,000 yuan, the command center hired a technical representative to be responsible for the entire technical guidance, inspection, and control over various aspects. The village also set up a monitoring group consisting of ordinary people, village cadres, and retired personnel to ensure construction quality.

3.3.2.5 Self-management

The management system is very villager friendly. The township party committee strives to achieve three goals, namely, the Minqiang New Village will allow the villagers to be able to move in, to afford the living, and to find employment opportunities. To achieve these goals, there are also so-called "three priorities." The first priority is to settle first. Based on the farmers' living habit and affordability, the village built three types of housing apartment styles with 65, 70, and 82 m^2 tailored to the needs of different households. The villagers can purchase needed style based on their own actual scenarios. Price-wise, for up to 70 m^2, the price is set at 1500 RMB Yuan per square meters, which is close to the building costs. Anything above 70 m^2 will be sold at 2100 RMB Yuan. In the meantime, to promote family piety, elder respecting, and societal harmony, for families with married sons living with parents, they will be eligible to obtain two apartments at the price of 1500 Yuan per square meter. For households with elders who are 70 and older, and who live with their children and grandchildren (grandchildren must be married), they are eligible to obtain three apartments at the price of 1500 RMB Yuan. If elders older than 70 didn't purchase an apartment, their sons and daughters can purchase apartment at a discounted price (discount is 300 RMB Yuan per square meter). For migrant workers whose living units were demolished, they can purchase an apartment at the price of 1600 RMB Yuan per square meter. The second priority is employment. The village party committee leads the initiative to sign contracts and labor agreement with companies of property management, urban management, housekeeping etc. that the locals will get the employment opportunities first so that farmers who want to work locally can. The third priority is advantageous treatment for locals. Local farmers who want to purchase commercial service buildings can have the priority of

choosing locations, and certain discount in prices. For relatively poor families, families with disabled individuals, and college students who initiate self-start-ups, the government will give them priority policies and funding support to fully support industrialization of the newly build township.

Via the above "five-self" led self-promoting mode, the example in Minqiang Village demonstrates that the villagers' living standards have been promoted, quality of life has been improved, and the village is progressively urbanizing. The example provides a strong policy signal that villager self-governing, democracy, and certain degree of autonomy is the fundamental precondition for progressive urbanization of the villages. Prevention and meditation are the effective means for urbanization. Sincere services are the foundation for success. Strong leadership is the guarantee for success.

3.3.3 Shareholding Mode for Gradual Urbanization

With the shareholding mode for gradual urbanization, farmers can become shareholders of the cities based on actual development needs. Specifically, farmers can contract their lands as shares for urbanization. In the meantime, the grassland, woodland, water, and abandoned lands can be evaluated with certain prices. These properties will be managed by joint-stock companies. In so doing, farmers become shareholders. A balance point between urbanization and protecting the benefits of the farmers can be reached. Overall, using shareholding approaches to manage the village can protect the unique characteristics of the village, increase the farmers' income, and promote agricultural modernization.

In villages that are within the central city area, farmers have already integrated into the city, and shared various urban infrastructure and public service facilities with the urbanites. Their development shall be focused on modern services and industries. For example, in the urbanization process of Lamadian town in Ranghulu district, farmers will not only become a citizen, but also become shareholders. Famers will enjoy the so-called "five in one" security, namely, except for obtaining a relocation apartment, supported by governmental policy funds and land income, they will also get a rental property. The new citizens will also have pensions. Their unoccupied arable land can generate contract payments, and farmers working nearby can then receive a service fee. At the end of the year, the farmers can acquire dividends from the profitable town businesses. Apparently, after such shareholding reform, the farmers' living standards were greatly improved.

In the process of promoting shareholding mode urbanization, we need to actively mobilize the leading enterprises with strength, needs and radiating capability to participate in the constructions of the new village communities. The goal is to closely integrate community industrial development, employment, and enterprises demands for land to achieve integrated development and win–win between enterprises and new village communities. For instance, the Gufosi community in Changge city, Xuchang, Henan, is an exemplary illustration for such development.

The housing area in this community is about 190,000 m^2, and is in need of 160 million RMB Yuan for upgrading and construction. To raise fund for construction, the Gufosi community invested 690 mu lands to Henan Zhongpin Food Industry Co., Ltd. in exchange of 104 million RMB Yuan to construct the residential housing. The farmers then invest 10,000 RMB Yuan per household. For the invested lands, Zhongpin Food used part of them for building breeding bases and fruit and vegetable processing bases. The rest of the land was used to expand the company. Not only will the farmers who invested their lands obtain their shares, they can also work in the bases to increase their incomes. In so doing, the farmers and the enterprise achieve a win–win situation.

3.3.4 Homestead Replacement Mode for Gradual Urbanization

The mode of urbanization focuses on replacing a small portion of homestead land with large area of agricultural land for urbanization purposes. Homesteads of neighboring villages can be combined together to build new village communities to attract population concentration. In the meantime, the previously scattered tools yard, vegetable bases, breeding fields, and agricultural products processing factories can all be concentrated to specific places to save land. Shixian Village of Erjin Town, Zhaozhou County implemented such a mode. In 2011, taking advantage of the opportunities of reconstructing mud huts and integrating urban and rural development, and learning from the reclamation areas' experiences, Shixian Village insisted on the principles of high standard planning, phased implementation, and high-quality construction for its gradual urbanization. With its original 12 natural villages, 1002 households (3811 people) and 23,000 mu arable lands, combining the neighboring Guanghui Village and Liming Village, Shixian Village replaced its 400 mu homestead for 3600 mu agricultural lands. For the next 5 years, Shixian Village plan to increase its population to 3000 households and 11,000 people, and extend its land to 68,000 mu. The new village plans a total land use of 50.5 ha with five functional zones, namely, residential zones, industrial parks, greenhouse parks, breeding parks, and agricultural trading zones. In the meantime, it will build supporting and service facilities such as recreation, fitness areas, health centers, supermarkets, bathing, schools, and kindergartens. In the overall design, villas and other high-end residential buildings account for about 10 %. In order to ensure smooth operation after the villagers moved in, Shixian Village also created very detailed plans for industrial development. In the farming sector, it will build seven parks for modern corn demonstration zone, greenhouse parks, and special economic activities. In the animal husbandry sector, it will build four standard breeding parks for cows, cattle, laying hens, and pigs. In the sector of enterprise-scale agro-processing, it will expand its timber processing plants and fruit and vegetable processing plants. In the sector of agricultural mechanization, it will build

farm machinery display area. In service industries sector, it will implement plans to increase employment opportunities for able-aged labors. Meanwhile, Shixian Village intended to introduce the advanced urban community management mode and market intensive management mode into their "villager autonomy under the party committee's guidance" management. The purpose is to ensure a comfortable living, cost-effective and orderly operation urbanization process. In so doing, Shixian Village will serve as a leading role model for new rural construction. The project started in mid-April 2011. The first phase was completed within that year, with four 6-story apartment building's main body finished. Building area was 22,700 m^2 with 240 household, and 60, 70, 80, and 90 m^2 four apartment styles. In the meantime, Shixian Village also built 32 garages with 35 m^2 and 32 business services areas with 40 m^2. Meanwhile, a two-story, 620 m^2 clinic building, 180 households barns, 220 m of extended fences, 16,000 m^2 community area with hardened Netherlands brick tiles were built in the same time. In the supporting facilities aspect, boiler room and relevant equipment to complete the heating power and water supply were built as well. 2.63 km underground sewage system, 1000 m^3 of biogas digesters and other large floor area ancillary facilities were also built to further accelerate Shixian Village's urbanization process. In Shixian Village's plans, it intended to use five years to sort out all the 3600 mu homestead of the 12 natural villages to make them achieve arable standards. In addition, the Village planned to use the 600 mu arable land to build 500 Greenhouses. The rest of the arable land will then be either rented out or put under the village's collective operation. If the income of those lands is 400 yuan per mu, the annual income could reach 1.28 million RMB Yuan. These funds will be used for building area and other management costs, reduce the burden on farmers.

At the community management model, drawing on the experience of urban community management, Shixian Village set up a building community management committee belonging to the village management committee to actively explore effective management mode for agricultural communities. The staffs are elected via open election. Each unit will elect one liaison, while each building generates an administrator. The administrators are members of the building community management committee. Office director and deputy directors of management committee will be elected from those administrators. The building community management committee will then set up sanitation team, security team, maintenance team, and cultural propaganda team. They will be responsible to determine the posts, quota, responsibility, and funds for each building. They are also responsible for health and sanitation management, water, electricity, gas, heat supply and maintenance, floor security, residential recreational places such as art and commercial business management, and industry and households management. The details will be determined according to "Property Management Regulations," and approved by the village committee. Their job will be preventing environment pollution, chaotic management, and floor and building security. On the aspect of distributing administrative costs, it shall follow the principle of "social welfare subsidy, village enterprises income subsidy, straw curing income, the appropriate charge among the residents." The ultimate goal is to ensure low-cost community living.

3.3.5 New Rural Communities Construction Mode for Gradual Urbanization

The purposes of construction new rural communities for gradual urbanization in rural area is to expand the scale of rural settlements, optimize the layout of the village system, promote the process of urbanization in rural areas, promote rural land intensive management, initiate co-construction and sharing of village infrastructure, consolidate land resources, focus on building infrastructure, improve social, and municipal infrastructure utilization, and improve the quality of life of the people through construction of rural communities. In addition, constructing new rural communities can also narrow the gap of living standards between rural residents and urban residents, so that rural residents can gradually enjoy the same benefits as urban residents.

3.3.5.1 Respect Public Opinion to Build the New Rural Communities, Meet the Conditions for Gradual Urbanization

Promoting gradual urbanization in the rural area must fully respect the wishes of the farmers and consider the farmers various production and living habits and different types of villages. The implementation need to be planned and orderly, and can be government-led, market-oriented combining with supporting policies. The general principles of building new rural communities shall follow "people-oriented, government-led, voluntary, rural self-built, industry support, sustainable development, features promoting, urban and rural integration, and quality enhancement." To initiate the new rural communities' construction, the areas must satisfy one of the following conditions:

1. The rural settlements have weak infrastructure, and are far away from the village centers. These types of rural settlements often have inadequate basic service facilities, and are often hard to access. Moving them into the central village to build new rural community can achieve infrastructure sharing and maximum utilization.
2. Rural settlements with less than 300 people. In order to meet the requirements of large-scale agriculture, mechanization, rural settlements that have less than 300 people shall be moved to the central village to build new rural communities.
3. Rural settlements that are located in the core area of the nature reserves. In accordance with the regulations of nature reserves, human activities are prohibited in their core areas. Under the premise of ecological protection, while in the same time respecting the farmers' production and living habits, we shall gradually guide the farmers who live in the core areas of natural reserves to migrate to the edge, and gradually gather them to the village center to build the new rural communities.

4. Rural settlements that are located in the immediate peripherals of city proper. For those settlements, they shall be gradually incorporated into the city proper to let the cities fully play their leading role urbanizing neighboring villages.
5. Rural settlements that are located in the urban planning zones and/or industrial parks. Based on the relevant requirements of urban planning, settlements that are within urban planning areas shall be all treated as urbanized areas and constructed as such.
6. Rural settlements whose lands have been contracted to large-scale plantation companies or individuals. In order to achieve large-scale production, we need to encourage farmers to release additional and idle land, and guide them to migrate to the center of the village to build new rural communities.
7. Rural settlements with mud houses and/or seriously damaged and easily demolished properties. Based on the people-oriented principles, we need to increase efforts to transform mud thatched cottage, improve the quality of farmers' living environment, and improve the rural environment.
8. Rural settlements with the lack of young labor forces. Many of the villagers who are left behind in those rural settlements are the old, weak, sick, and disabled. We need to guide these people to the surrounding villages to build new rural communities. The left land will then be sorted out the land for centralized management.
9. Rural settlements that are less than 1 km from the neighboring settlements with fairly large residential density. Though some villages do not really meet the other standards for merging, if they are less than 1 km from other villages, and with convenient transportation, it will be beneficial to merge such towns to build new rural communities.
10. Rural settlements that are located on the reservoir and other water conservation areas. To protect the water resources, these settlements need to be moved to other areas to build new rural communities.
11. Rural settlements that in a flood zone and was flooded over the 1998 flood. Settlements that were flooded by the 1998 flood and the ones that are in the flood plains often face constant threat of flooding. Moving them away to build new rural communities would reduce flood-induced property damage and life loses.
12. Rural settlements that are located within agricultural-forestry-pastoral-fishery field areas. With the development of market economy, the original settlements that are located in the field areas of agriculture, forestry, animal husbandry, and fisheries are no longer efficient and often fall behind the needs for modernization. In addition, residents there often face multiple administrative management problems, unreasonable identity system, and many other issues. It will be beneficial to dismantle these settlements, and bring them to new rural communities for unified management.
13. Rural settlements that are within prohibited areas. Apparently, since the areas are construction prohibited, all the natural villages within these areas shall be

moved out. Such areas include (but not limited to) geological disaster zones, flood storage areas, drinking water sources, ecology and nature reserves, scenic spots, underground mined area, subsidence area, historical relics and protected areas, transport and engineering pipeline protected areas, and the like.

14. A small portion of the remote villages, although they have reached the standard of moving and merging, but for convenience of production, and living habits, we need to retain the former administrative system.

3.3.5.2 Advance Urbanization Based on Local Conditions and Different Classes, Highlighting the Characteristics of Local Areas

1. The basic principle of gradual urbanization is to respect local conditions, respect for public opinion and progress within the carrying capacity. Building new rural communities via relocating and merging rural settlements must respect the actual situations in rural areas. It must consider the living habits, local customs and other factors, respect the local conditions and farmers' wishes and choices, progress within the limits. An important note for promoting gradual urbanization is that we must not engage in coercion, formalism, and "one size fits all," instead we need to progress step by step, avoiding large-scale demolition, large-scale relocation, prevent petitions from the outset, and avoid instability and waste. In general, cities, farms, forests, towns, and central villages can all be the subject for moving and merging.
2. The implementation of gradual urbanization shall follow a general principle of "government organizations, policy support, and social participation." Building central village communities via relocating and merging settlements is often a task that requires strong policy-guidance. The task covers a wide range of issues, and involves the vital interests of farmers. It is crucial for rural areas' stability, development, and the overall well-being. Governments at various levels shall organize and implement such strategies with necessary supporting policies, and mobilize the farmers and other social forces to participate in the construction of new rural communities.
3. The implementation of the gradual urbanization model shall follow the order of "planning first, building later, and settlement first, demolition later." Planning for the new rural communities shall use the host plan as the technical guidance to generate the master plan for the new community. Combined with the transformation of mud thatched cottage in rural area and upgrading the shanty towns, we shall be able to scientifically and rationally select and determine sites for new, merged, and migrated centers of the villages or small town. In addition, the plans will also provide guidance for village infrastructures such as housing, water supply, drainage, roads, electricity, heating, communications, commerce,

health care, education, and other essential social services and village-based facilities construction, and gradually attract surrounding villagers voluntarily to move to the new rural communities or small towns.

4. The implementation shall follow a "step by step, from easy to difficult, phased implementation." Within the municipal area, the targets for merging and relocating should be settlements with a small population, and being small-scale, remote, backward, impoverished, disperse, lack of facilities, poor quality of housing, limited potential for further development, and far away from the center of town and the village. Through planning, research, advocacy, mobilization, site selection, relocation, compensation, and other administrative and economic measures, according to the principles of "the easier issues first, smaller issues then big ones, distant first then close ones," we shall focus first on merging and relocating natural villages that are small sized, impoverished and dispersed and located in the border and remote regions. In the meantime, we need to select the corresponding regional centers with relatively concentrated population, appropriate scale, high absorptive capacity, large carrying capacity, high development potential, and convenient conditions for farmers' production and living habits as the priority sites for building the new rural communities.
5. Implementation of gradual urbanization shall also focus on saving land, initiating timely reclamation, and intensive construction. During the process of relocating and building new rural communities, we need to timely reclaim the left over construction land from the moving-out villages, and convert them to arable land if possible. In so doing, we can exchange the reclaimed land for urban land use, hence both satisfying the goals of not reducing arable lands, and increase the land availability for urbanization.

3.3.5.3 Building the New Rural Communities with High Standards to Provide Strong Support for the Gradual Urbanization

In the process of building new rural community, we must first work out a high standard new rural community construction quality plan. Based on the norms of construction standards (Table 3.3), we shall build characteristic industrial zones and adequate agricultural production facilities to form a relatively complete infrastructure and social utilities, create a clean and pleasant living environment, and protect the natural environment. Moreover, via building new sites with new modes, conducting local transformation, merging villages, changing villages to residential centers, reconstructing urban center villages, improving attractiveness of central towns, promoting industry-driven, and comprehensive land management, etc., we shall be able to accelerate the construction of new rural communities, and provide strong support for gradual urbanization.

Table 3.3 Construction standards for new rural communities in the process of gradual urbanization

Classes	Items	Construction standards
Community development scale	Community population size	More than 3000 people
	Construction land size	Recent construction land per capita in the community shall be no more than 150–180 m^2
	Community living standard	The community per capita living area shall be over 40 m^2
	Community economic growth	Community economic growth rate reaches 10 % and beyond
	Community residents' income	Growth rate for per capita net income of farmers in the community shall be more than 20 %
Community production facilities	Community industry implementation	Building characteristic industrial areas, and complete agricultural production facilities
	Community operating facilities	Community is in charge of doing business, operating farms, and promoting the service sectors
Community infrastructure	Community road construction	The main streets must have hard pavement
	Community energy facilities	Every home shall have power (100 %), clean energy penetration rate reaches 70 %. Main streets and branch roads must have public lighting system
	Community water supply facilities	Water supply coverage reaches 100 %
	Community drainage facilities	Centralized sewage treatment rate reaches 65 %. In the long run, rain water and raw sewage will be separated
	Community sanitation facilities	Concentrated stacking and handling of trash, and setting up trash cans over the community
	Community toilet facilities	Build one standardized public restroom. Household toilet harmless rate reaches 100 %
	Community cable TV	Cable television rate reaches 100 %
	Community network facilities	Broadband network and wireless network coverage reaches over 70 %
	Community telephone facilities	Every home will have telephone
	Community computer facilities	70 % of the families shall have personal computers

(continued)

Table 3.3 (continued)

Classes	Items	Construction standards
Community public facilities	Community education facilities	Setting up elementary schools, kindergartens, and nurseries
	Community medical facilities	Build a village clinics with more than 50 m^2 area; the new cooperative medical insurance coverage reaches 90 %
	Community cultural facilities	Build community cultural center, technology exhibition, radio station, library, and the so-called propaganda corridor
	Community business facilities	Build community food stores, grocery stores, and comprehensive community service centers
	Community stores	Build a community convenience store with more than 20 m^2 area
	Community recreation facilities	There must be at least one small garden/parkland or public green area in the community with no less than 500 m^2 area
	Community sports facilities	Community sports venues are over 1000 m^2
Community ecological environment facilities	Community afforestation	Community forest coverage rate reaches 20 %, voluntary tree planting rate reaches 100 %
	Community greening	Community wooded roads and ditches reach a greening rate of 95 %
Community management facilities	Community residents committee	Establish community resident committee
	Community CPC party branch	Establish community CPC party branch
	Community board of trustees	Establish community institutions, corporate boards, and other relevant agencies

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