

# **Towards Sustainable Development: Improvement of China's Urban Spatial Growth Management System During Rapid Urbanization**

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## **1. Introduction**

The long-lasting economic crisis has caused huge impacts on nearly all the countries globally. When confronted with such a challenge, Chinese government realizes that urbanization is an effective method to stimulate domestic demand and promote economic growth. Since the initiating the reforms and open policy, Chinese urbanization rate have increased by 1 percent every year, which reached 46 percent in 2010(Zhang, 2009). As a result of rapid urbanization process, the areas of construction lands are expanding; on the other hand, the amount of agricultural lands is reduced. In order to guarantee enough agricultural lands, Chinese government made very strict land use and management policy.

China is in the transition stage of economic and social development, turning towards more resource-conserving and environment-friendly. And the urbanization mode is changing from extensive expansion to the combination of extensive expansion and intensive growth, which indicates that urban development should cope with both economic spatial expansion and structural adjustment at the same time. Moreover, national strategies of building resource-conserving and environment-friendly society should also be taken into consideration in urban spatial growth process. In such a context, urban spatial growth management system is created to guide and control the development with various political tools, and to pursue environment – oriented spatial growth management system.

In this paper, the topic is focusing more on the 'Urban Spatial Growth Management (USGM)' rather than 'Urban Development Management (UDM)', because the objective of USGM is the space. And its target, sustainable development in economic, social and environmental aspects, should finally be showed and checked in the urban space. Besides, USGM is dealing with urban sprawl, which is still a spatial issue. Therefore, focusing on USGM is a better choice to explain the importance of urban space and relate it with urban planning system. There are three parts in this paper. At first, an overall view of Chinese USGM is provided. Then the current existed problems are discussed from a sustainable perspective. Finally, the experience of UK USGM system is concluded and its potential guidance to Chinese USGM system.

## **2. Literature Review**

The literature on USGM originated in America and it was about urban social, economic and environmental problems brought by city sprawl. After World War II, the demand of economic growth and domestic consumption was increasingly strong. In this context, along with the stimulation of the Federal Home Loan Bank Act and popular private vehicle use, people had more choices when purchasing houses and real estates. As a result, more and more people moved to suburban and rural areas and these places developed rapidly, making urban

central zones turn to decay areas. The problems on transportation, infrastructure, public service, environment and agricultural lands caused by urban decay seriously impacted the development of cities. So how to solve these problems and coordinate economic growth and environmental conservation to reach sustainable development was the most vital task for regional and local government.

There are various researches on Growth Management in America, which focus mainly on the concept, political tools and the utility. Growth management is always considered as a set of techniques to control the amount, opportunity, location and character of developments and there is no unique definition yet (Levy, 2002). Benjamin (1990) believed that growth management is more than the control of growth, instead it "is proactive and dynamic, attempting to balance development and conservation, infrastructure investments and public service needs, etc".

As Bengston (2004) indicated, there are three broad types of policy instruments for managing urban growth: public acquisition, regulation and incentives. While Fricke (2008) considered that government structure and election principle have impacts on the choice of instruments like transferable development rights.

In Nalson's (1999) paper, he compared areas with growth management programs and those areas without such programs through technical indicators and political instruments. It showed the relationship between the level of sprawl and various aspects: population density, conservation of agricultural lands in suburban areas, traffic volume of private vehicles, accessibility of public transportation system, energy efficiency and taxations, making conclusion that "successful growth management programs are ones that include policy instruments designed to mitigate the adverse effects of urban growth and expand housing opportunities available to lower income households" (Nalson 1999). However, as Carruthers (2002) concluded, "state-based planning programs with strong consistency requirements and enforcement mechanisms hold much promise for reducing urban sprawl, while programs that do not require consistency may inadvertently contribute to it" (p.1979)

When compared with America, since 1970's the agricultural area decline and the urban area growth of UK is fairly slow, which has huge impact on brown field land use and policies for increasing residential density (Bibby, 2009). As a result, there is no urban sprawl in UK. However, it does not mean that there is no urban growth; instead it suggests that the strict control of urban growth raises the efficiency of urban land use, and even hinders urban development (While et al, 2004). For example, there was growth crisis in Cambridge subregion, in which the land-use planning system, infrastructure, and the environment, intensifying struggles between progrowth and antigrowth because of the state's reluctance to redistribute in the South East and the following localized pressures on housing markets. And in dealing with urban growth, the green belt is always seen as a key weapon (RTPI, 2002).

In later 1990's, Chinese researchers began introducing urban growth management to domestic scholars. From the current literature it can be found that some researchers provided the overall review of western growth management theory, including the concept and practical experiences. Another group made it further to combine the western theory with urban sprawl control in China, pointing out that in China urban growth management should pay attention to land property right, land management and the legislation of growth management. In fact, the majority of Chinese researchers believed that USGM was the essential instrument for local government to reach the sustainable development and high competitiveness in regional area. But its adaptation as a political instrument should be tested in regulations, resource conditions and development stages.

### 3. Current USGM System in China

Because of the difference in political systems, when compared with western countries, current USGM system in China is not independent, which can play a role only in the Urban Planning System with its distributed power in Planning Department, Bureau of Land, Construction Department and Development and Reform Commission. As the picture showed,

current USGM system in China includes National Economic Development Plan, Land Use Plan and Urban Plan, each of which is made by Bureau of Land, Construction Department and Construction Department and Development and Reform Commission. And these departments have four levels: national, provincial, municipal and county-level. The target of National Economic Development Plan is to make the object of urban economic and social development; Land Use Plan is to manage the development of land for purposes like agriculture and construction based on the requirement of National Economic Development Plan, guaranteeing both agricultural lands and urban construction lands in quality and quantity; and Urban Plan is based on the objects made by former plans to control of the use of land and design of the urban environment. As explained above, the latter two are related directly with urban space, so they have impacts on the USGM in China. The current USGM system shows its importance in urban management area with the prioritized objective of economic growth, however, in the transition period, there still are some problems.

#### 4. Problem of Chinese USGM and Related Experiences from UK

After evaluating the spatial scale of 35 big and medium-sized cities in China, Wang and Zhang (2010) concluded that there was urban sprawl in Chinese cities in their paper and in medium-sized cities planned future urban areas were far beyond the actual requirement. As an example, authors have anticipated an urban development project in one city. This city is in central China with a population of 24461 and urban area of 3.42 square kilometers in 2010. In the Urban General Plan, the city will have a population of 120,000 and urban area of 13.20 square kilometers in 2030, which is far beyond the actual requirement without exact calculation. However, in fact this plan has already been examined, approved and implemented. And similar plans are not rare in China. This example indicates that Chinese urban planning system needs improvement, as well as the USGM system.

As explained above, USGM mainly depends on the Land Use Plan and Urban Plan. And there are some research about their legislation support, practical instruments and conflicts of interests (Wei, 2011, Cao and Xu, 2004, Wang and Du, 2004). As a system aiming to reach sustainable development, USGM still has two problems. At first, a lack of regulation results in the ridiculous land use development mode like the example talked above, which leads to extensive land use pattern. Actually, Chinese USGM system is intended to control the urban area by Land Use Plan and guarantee enough amount of agriculture land. So urban area should be coordinated with the Land Use Plan, and this is also claimed in *Urban and Rural Planning Law of the People's Republic of China (2008)*. But in China local governments always want to develop new construction areas by Urban Planning to gain subsidies from central government for the construction of infrastructures. There is a lack of audit for such kind of process, which finally results in the rapid growth of urban area in cities. Secondly, the current USGM system pays little attention on environmental issues. The growth control only focuses on protection of agricultural lands, without the consideration for the whole environment.

Because of differences in political structure and social development stage, Chinese USGM system cannot totally duplicate the one in UK. But its sustainable development principles and green belt strategy are highly instructive.

As mentioned above, the literature on USGM was originated in America with the spread of urban sprawl. In UK, there is no urban sprawl, so its USGM system is not mainly for urban sprawl, instead it focus more on the urban containment policy and green belt is the most important instrument. Although there are some arguments about green belt strategy, it really has positive impact on urban sustainable development process from controlling urban growth to protecting environment (Hanley and Knight, 1992, Amati and Yokohari, 2006, Susannah, 2007, Thomas and Littlewood, 2010). From another perspective, in the process of UK planning policy formulation, Planning Policy Statement 1(1997) described the meaning of planning:

“Planning shapes the places where people live and work and the country we live in. It plays a key role in supporting the Government’s wider social, environmental and economic objectives and for sustainable communities.”

It can be seen as the original principle of sustainable development for urban planning system. However, in Chinese urban planning and USGM system, economic growth is always prioritized, with little consideration to sustainable development in legislation and political instruments.

## 5. Rebuild Sustainable USGM System in China

The land ownership reform in socialist market economy is the institutional basis for current Chinese USGM system. With the experiences of UK, there are four steps to solve the problem existed in the current Chinese USGM system: legislative basis, organization framework, control measures and audit policy.

At first, there should be legislative basis for USGM system to guarantee the enforcement power with highlighting the importance of sustainable development. And supported by legislation, the system’s character is a public policy for the government, industry and general public, making it the guidance to various plans. Then, organization framework means managing the function of every related department, clarifying their responsibility. Each level of governments should complete this task by coordinating the relationship between land management department and urban planning department and making a combination of both to raise efficiency. And financial incentives like taxations and subsidies are also important to encourage the cooperation of all the departments. Moreover, make containment policies like green belt and ensure the implementation of them. The content includes agricultural lands protection, green belt planning and conservation of sensitive areas. Finally, encourage public participation and make audit policy. Since public participation in every stage can help to avoid conflicts by collecting suggestions from related groups, it is essential in the process. Also it can help the audit policy, examining every step in the USGM system, which plays the important role in the implementation of USGM policies.

## 6. Conclusion

In China, urban spatial growth is under certain political structure and social development. In the transition period, because of a lack of regulation and environmental consciousness, spatial growth is intensive. UK’s successful urban control policies indicated that the reform of USGM system should be based on the principle of sustainable development. And there are four steps to solve the problem existed in the current Chinese USGM system: legislative basis, organization framework, control measures and audit policy. A mature legislation basis is needed to guarantee that all the urban development and plans are directed by USGM system. And a combination of land management department and urban planning department can avoid conflicts and raise efficiency. Besides, green belt is an important instrument to limit the rapid urban spatial growth, making an effective use of existed urban areas. Finally, public participation should be involved in the audit policy, making sustainable development is implemented in every stage of USGM system.

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