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Conflicts in urban fringe in the transformation era: An examination of performance of the metropolitan growth management in Beijing

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The performances of urban growth management are often criticized because their original objectives are frequently inconsistent with local development facts. Underlying the many reasons for this are the political and institutional contexts that influence policy-making and development activities. The urban fringe, a zone is managed to against urban sprawl in many countries, represents the conflicts between urban management system and local development resulting from political transformation. This study examines the case of decentralised-concentration strategy, one of the most important metropolitan growth management in Beijing since the 1990s, and sheds some lights on the performance of the growth management in the transformation context. The results suggest that the aims of municipal growth management to concentrate developments in urban fringe have partly been achieved through actual local developments; however, some unexpected and illegal local developments outside the planned areas are counterproductive from the perspective of municipal growth management. The performance of the present growth management is being challenged by new trends towards political decentralisation and locally fiscal responsibilities. In the interest of future policymaking, the dominant central planning system in Beijing should take these decentralisation trends into growth management account, compared with the great progress in decentralisation in economy system. The urban policy needs to shift from the dictatorial manner and put more efforts into creating a harmonious relationship between municipal growth management and actual local demands on development.

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Introduction

The performances of urban growth management are often criticized because their original objectives are frequently inconsistent with local development facts. Underlying the many reasons for this are the political and institutional contexts that influence policy-making and development activities. Urban growth management system consists of at least three subsystems (Garba, 2004; Nelson, Duncan, Mullen, & Bishop, 1995). They are: urban policy system which includes policy formulation and the inter-organisational system for policy implementation; urban form system that presents the (expected or unexpected) results of urban policy through urban development pattern; and urban process system that set the context for management. The urban process composes of macro economic and institutional process and micro individual process. The urban process, in particular the

institutional process, plays a dominant role in influencing the implementation of a urban growth management and its performances. It is as Afshar (2002: p. 380) argued that implicit political and institutional influences were the fundamental factors guiding key players to make certain choices and act in certain ways. Williamson (2000) views institutions as taking one of four forms: informal, formal, governance, or resource allocation/employment related. Among these forms of institutions, governance institutions establish the rules that are used by governments to enact policy initiatives and formulate the approaches through which government changes its relationships with other organizations involved in governance. Recent work on metropolitan growth in developed countries (for example, Caruthers, 2003; Lewis, 1996) as well as developing countries (for example, Shaw & Satish, 2007; Zhang, 2000, 2002) has suggested that changes in governance institutions have a significant influence on urban spatial changes and suburban development. To a great extent, metropolitan spatial changes can be viewed as the product of the rescaling of state power among different sectors (central government and local governments; governmental sectors and non-government sectors) (Shaw and Satish, 2007; Shen, 2005).

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The urban fringe, a zone is managed to against urban sprawl in many countries, represents the conflicts between urban management system and rural development resulting from political transformation in particular the local autonomy. In the developing countries, there has been a shift from the traditional approach of centralised, top-down decision-making to one in which local governments are enabled to make their decisions to solve local problems (Choguill, 1994). This shift has been known as decentralisation process in which the local governments have the power to control public policies, resource allocation, and delivery of public goods and services (Stephens, 1974). The decentralisation process reorganizes the relationship among local government, citizen and private sector. The central or municipal government change their role from a producer providing public goods or services directly to an enabler providing the regulatory framework, monitoring and controlling (Batley, 1996; Orstrom, 1996). The local government becomes 'public entrepreneur' in attracting investment from outside governments or international resources. The decentralisation opens broad spaces to multi-scale forms of governance with multi-stakeholder arrangements (MSAs) (Rakodi, 2003). The types of multi-stakeholder arrangement include government–private sector, communities–private sector and those between local government and other organizations including community-based organization and non-government organizations (NGOs) (Dupont, 2007). In this multi-stakeholder arrangement system, the conflicting interests are allowed and the negotiation between the government and other sectors replaces the mere command control from government. As a result, urban growth management is facing the much more challenges stemming from the uncertainties of local developments. A mount of literature have already verified that kinds of affects of decentralisation on urban growth management in the developing countries, for example in Africa (Kombe, 2005), in Asia (Rondinelli, 1991) and in some individual countries, such as in India (Shaw & Satish, 2007; Zérah, 2007), in Indonesia (Ranis & Stewart, 1994), etc.

The growing power of private sectors, combined with the influence of global investments, feeds the marketisation process. The marketisation process brings great effects on the performance of growth management to the developing countries. Especially, to the developing countries with the (post-) socialist characteristics, where the growth management is dominated by a centrally planned system, the affects almost reach a revolutionary degree (Kotus, 2006; Rudolph & Brade, 2005; Timar & Varadi, 2001). In Moscow, for example, the investments from commercial housing market caused an explosive and chaotic growth of the peripheries after 1990 (Rudolph & Brade, 2005). In Leipzig, a former East Germany city, an obvious urban sprawl was observed after the 1990s when the growth management with the socialist central-controlled characteristics are abolished (Nuissl & Rink, 2005). These results likely suggest that the centrally planning system have naturally conflicts with the decentralisation and marketisation on one hand and on the other hand, the performances of growth management based on a central planning system or centralised management will be challenged in the new transformation context where witnessed growing decentralisation and marketisation trends. Is this hypothetical conclusion true? The answer to this question is important to the developing countries, those still applies the central planning system and those is hesitating in trade-off between the central planning policy and market-oriented tools or between centralisation and decentralisation.

However, current research into the performance of urban growth management limits itself into the social and environmental effects, while paying little attention to its acceptability at local jurisdictions, and often without explicit recognition of the impacts of institutional decentralisation and piecemealising decision-making on the implementation of the metropolitan growth management. In

addition, limited debates in this field often focus on growth management performance in the Western countries which have a dominant 'neo-free market' context (for example, Chapin, Connerly, & Higgens, 2007; Cheshire, 1995; Nelson, Dawkins, & Sanchez, 2007; Pallags, 2007; Stein, 1993). Empirical studies of growth management performance in a transformation context are scarce. In a transformation context, the economy is transforming from a centrally planned and command-controlled system to a market-led system. The changes of institutional process and its effects on growth management are more distinct in a transformation context. Thus, the empirical research in the countries with typical transformation characteristics is necessary for soundly understanding the effects of institutional process on growth management.

Furthermore, further studies are needed since previous studies done in some Third World countries gave a mixed conclusion about impacts of decentralisation on growth management. For example, an earlier study done by Choguill (1979) suggested that in Dacca, Bangladesh, the decentralised organisational structure characterised by the various empowered ministries and departments made the national planning poorly implemented. A recent series study conducted in India suggested that decentralisation, in particular the growing market power in urban development brings conflicts between growth and governance in metropolitan peripheries (for example, Dupont, 2007; Zérah, 2007). However, the empirical study done by Afshar (2002) suggested that in Palestinian, political decentralisation played the positive role to promote national policy implementation.

The big cities in China are good cases to study the performances of growth management in a transformation context since China is undergoing a dramatic economic and institutional transformation in which the rapid urban growth is combined with globalisation, marketisation and decentralisation at the same temporal period. Before the 1980s, China had a typical central planning system in which the policies of urban growth management were formulated at the highest government level and implemented in a 'top-down' manner through an ordinal process: from the national government to provincial and municipal governments, to district governments, sub-district governments and finally to the lowest administrative unit in China, village or community committees. Since the reforms of the 1980s, the economic and political system in China has witnessed an obvious transformation, moving from a centrally planned economy to a socialist market economy. In this economy transformation process, two different trends in growth management have emerged. One favours decentralisation by increasing the power of local growth management systems, for example, in Shanghai. The other maintains and enhances centralised management by introducing stricter growth management policies at the municipal level based on the present central planning system, as has occurred in Beijing. Some researchers have argued that growth management performance, based on the current central planning system, faces challenges arising within the transformation process, considering the growing tendency towards market-led urban development (for example Chang, 1994; Gaubatz, 1995a; Tang, 2000; Wu & Yeh, 1997). Some researchers have even suggested that the current central planning system in China is at a crossroads (Yeh & Wu, 1999). However, empirical examination of the performance of the central planning system in China remains limited. This study intends to address this situation through an examination of the performance of urban growth management in Beijing.

Following this introduction, the second section will analyse the background of transformation, urban development and growth management in China, while the third section will examine the characteristics of decentralised-concentration growth management and investigate its performance using Key Performance Indicators (KPIs). A discussion and concluding remarks will be provided in the final section.

Transformation, urban development and growth management in China

Since the 1978 reforms, China's economy has been in the process of transforming from state socialism to market capitalism. The transformation involves the interaction of three processes: globalisation, marketisation and decentralisation of administrative and fiscal powers (Chow, 2007; Lin, 1997, 2000; Wei, 2001). Before 1978, the power of the administrative system in China was highly centralised and hierarchical, with the central government playing multiple roles in urban growth and management as an ultimate decision-maker, regulator and participant. After the early 1980s, there was a clear tendency towards the decentralisation of economic and fiscal administration and decision-making. The retreat from the previous political ideology (the so-called 'planned growth' and centralised control), the decentralisation of decision-making and the injection of foreign investment into local economies led to the reorganisation of the decision-making system from a 'top-down' model in which the state determines the 'game rule', into a system of negotiation and interaction in which local jurisdictions, firms and residents have a higher level of participation in decision-making processes (Ma, 2002).

The relationship between the central government, local jurisdictions and enterprises was reorganised or rescaled in the decentralisation process (Shen, 2005). Firstly, local governments have now been given much more autonomy in their pursuit of growth. In contrast to the tight control of the central state in the pre-reform socialist command economy, the central government has encouraged local governments to accept more responsibility for their own economic growth, social development and expansion of their income. In fact, since the 1980s, local governments have emerged as major agents in investment, while the central government now plays a less significant role in investment allocation (Wei, 2001). Secondly, the decentralisation process not only involved changes in the relationship between national and municipal governments, but changes also in municipal, district and sub-district levels of government within a municipality. The local district and county governments are getting to be more powerful social and economic decision-makers. The role of municipal governments in relation to growth is changing from 'command control' to 'governance guidance'. Market-led rules have been introduced into the relationship between the municipal government and local districts and counties. As Wank (1999: p. 250) pointed out, local governments 'have acquired greater administrative control over the market economy in their jurisdictions through new regulatory, taxation, and licensing powers'. Thirdly, the relationship between local government and enterprises or firms entered into 'local state corporatism', as described by Oi (1992, 1998, 1999). Since the 1978 reforms, economic development has become an important criterion in the performance review of local officials, which has significantly motivated the pursuit of economic growth at local level. The relationship between local government and the enterprises within its administrative region are viewed as similar to that of a large multilevel corporation, with local officials holding key positions and sitting on the board of directors. In some extreme cases, local leaders 'often wear two hats with two different titles at the same time: one official, such as mayor or Party chief; the other businessman, such as chairman of the board of a local company or business conglomerate' (Ma, 2002: p. 1552).

The decentralisation of decision-making have promoted market-led development and fundamentally changed the forms of development and urban growth management in China (Gaubatz, 1995a, 1995b, 1999; Gu & Shen, 2003; Lin, 2001; Ma, 2004; Wei, Leung, & Luo, 2006; Wu, 1998, 2001; Wu & Yeh, 1997, 1999). Since the 1980s, China's cities have been increasingly expanding their

urban space and levels of suburbanisation as a consequence of the outward movement of the urban population and industries and the development of housing and industry in the peri-urban regions (Ma, 2004). For example, Wang and Zhou (1999), using census data, found that suburban districts experienced population growth, while the central districts experienced a significant loss of population during the period 1982–1990 in Beijing. Suburban land development is one main factor stimulating the process of Beijing's suburbanisation (Ding, 2004; Zhou & Ma, 2000). In order to maximise financial gains, in particular to attract industrial investment within their region, some local governments have introduced the preferential policy of offering cheap or even free land (Zhu, 1999). In some cases, fiscal revenue from the lease of public land became the main source of local government income following urban land reform. Although these two situations have different aspects, they have a common result: parallel to rapid local growth, urgent and large demand for development land has led to scattered, low density and even illegal development within China's big cities (Zhang, 2000), for example, in Beijing (Deng & Huang, 2004; Wong & Zhao, 1999; Wong & Tang, 2005; Wu, 1990) and Guangzhou (Wu & Yeh, 1999).

In response to rapid urban growth, growth management policies have been implemented in China since the 1980s. At the municipal level, growth management consists of two components. One is formulation of development planning, which consists of drafting and authorising urban and regional plans, forming development policies, drafting related acts and regulations, and constructing the related institutions and organizations. The other is planning implementation which includes overseeing the implementation of plans and monitoring actual development activities. Before the 1980s, growth management was centralised at the level of the municipal government, but after this period, the management of growth was gradually decentralised to lower level local governments, such as districts and counties. In some big cities, district and county governments were granted greater powers in relation to growth management. For example, in Shanghai, district and county governments can make detailed regulatory development plans and authorise most development activities within their administrative area. However, in some cities, for example, in Beijing, a highly centralised growth management system has remained against a profound economy transformation. Local governments have no right to authorise growth management plans and can only authorise relatively small construction projects, for example, buildings with a floor area of less than 300 m².

This means that there are two opposing trends in growth management in the transformation period in China. In some cases, increasing decentralisation has granted local governments more opportunity to manage growth. In other cases, increasing centralisation has made the municipality adopt more strict centralised growth management policies in order to control local development activities. Thus, the question is raised to policy-makers as: with a dramatic tendency towards market-led urban development fostered by the economic and fiscal transformation occurring throughout economy fields, can the growth management model characterised by the remaining central planning system and strongly centralised control in a municipality still work as expected?

Decentralised-concentration growth management in Beijing

Policy background

Decentralised-concentration growth management is one of the most important forms of growth management used in Beijing. After 1978, when the open policy was implemented, Beijing experienced booming economic and population growth. As a result, the

population of the city centre increased dramatically. By the end of 1985, residential density in the core districts had reached 27,197 persons per square kilometre, which was nearly 54 times that of the mean level throughout the city (BSB, 1986). The very high density within the city centre resulted in serious environmental and social problems. A shortage of housing was the most serious issue and, by the end of 1990, households located in the core districts had an average floor area of only 26.7 m² (BZEC, 2001), compared with the average of 51.1 m² per household in the city overall. At the same time, the booming economy expanded urban space greatly. The unsatisfiable demand for housing in the city centre and rapid suburban development led to the legal and illegal sprawling (Deng & Huang, 2004; Gu, Chan, Liu, & Kesteloot, 2006; Jiang, Liu, Yuan, & Zhang, 2007). From the 1980s, in response to the worsening environmental and social problems caused by high density in the city centre and urban sprawl in urban fringe, Beijing implemented a decentralised-concentration growth management in his urban master plans (BICPD, 1982, 1992, 2004). The aims of decentralised-concentration management are to limit population growth and reduce population density in the city centre and encourage the concentrated development in suburban planned areas. There are two main components of decentralised-concentration growth management: the development of peripheral constellations and greenbelt management.

Development of peripheral constellations

Since 1982, the Beijing Urban Master Plans (BICPD, 1982, 1992, 2004) have implemented the primary spatial strategy of decentralised-concentration growth management, which officially encourages the development of peripheral constellations. In 1982, the development of ten peripheral constellations began in accordance with the plan (see Fig. 1). In terms of this management plan, the spatial structure of the urban area (eight inner districts) in Beijing is composed of five zones, the old city centre, mixed urban areas, greenbelt, peripheral constellations and outer suburban areas. The old city, located in the city centre, consisted of historical, commercial, administrative and old residential areas. A mixed urban area lay outside the old city. It included some new educational and research facilities along with new light industry, which was dispersed throughout the residential areas, making commuting times short by bicycle or foot. Ten peripheral constellations were located outside the mixed urban areas and connected to the centre by a radial road system. These peripheral constellations focused on attracting new factories and population from the city and dispersing existing factories and population from the city centre. According to the management plan, further developments occurring in suburbs should be concentrated in the planned peripheral constellations. The greenbelt was located between the mixed urban area and the peripheral industrial areas to act as a buffer, restricting further growth and development in the mixed urban areas. Outside the peripheral constellations, outer suburban areas were to serve agricultural needs.

The development of peripheral constellations is ensured by a typical central planning system. Firstly, the plan formulation is controlled by the hierarchical central planning system which consists of (from the top to down) the Capital Plan and Construction Committee (national level), Beijing Municipal Government, and the Beijing Municipal Plan Committee (municipal level). The contents of the plan were edited by the Beijing Municipal Institute of City Planning & Design which is a sub-department of the Beijing Municipal Plan Committee. The plan was authorised by the national central government. During the plan-making process, the local governments and branches of planning offices at the relevant local district and county levels had a very limited right to present their own proposals. Secondly, the implementation of development plan

is implemented using a top-down approach. After municipal plans are authorised, local governments and branches of the planning office must follow these when formulating their local plans, and these must then be authorised by the municipal government. The municipal government has absolute power in monitoring the implementation of decentralised-concentration policy. The municipal government, of course, plays a dominant role in development activities. Various ways has been employed to encourage the development of the peripheral constellations. For example, the government officially relocated some nationally owned enterprises (NOEs) or municipally owned enterprises and factories in these planned periphery concentration areas. These government-owned enterprises are expected to act as 'growth poles', attracting population and other development activities to the planned areas. Thirdly, the developments in these peripheral constellations are encouraged by the other related municipal government's policies. The municipal land use plan, for example, ensures preferential treatment of development within the peripheral constellations, while limiting land allocation outside the peripheral constellations.

Greenbelt management

As well as the development of peripheral constellations, greenbelt management is another key component of decentralised-concentration policy in Beijing. Greenbelt management aims to create a decentralised spatial structure to encourage suburban development in the peripheral constellations and to further control urban expansion in the mixed urban areas, thus reducing population growth and density in the city centre.

In the Beijing Urban Master Plan (BICPD, 1982), greenbelt management was documented in detail and its implementation initiated. In order to promote the greenbelt construction, several new polices were introduced after 1994. Firstly, the management was officially centralised to the municipal government. In 2000, an administrative council headed by the Mayor of Beijing was organised and the greenbelt came under the management of the Capital Plan and Construction Committee (a national institution). The municipal government, nevertheless, still monitors and is involved in greenbelt management directly and, of course, has overall power. Although the local villages, sub-districts and district governments are involved, they have less right in decision-making. Secondly, related laws and regulations were enacted to manage the greenbelt, for example, 'The Municipal Notes on Implementing Related Polices for Greenbelt Construction' (Beijing Municipal People's Government, 1996) in 1996. According to this regulation, several preferential policies were to be implemented to facilitate greenbelt construction, such as land expropriation, infrastructure investment and residential migration. In 2000, Beijing municipality enacted 'The Notes for Improving Greenbelt Construction' (Beijing Municipal People's Government, 2000). According to this regulation, real estate and factories are strictly prohibited from the greenbelt area. At the same time, detailed zoning which would guide land use and protect green space within the greenbelt was authorised by the municipal government. These new regulations strengthened the power of municipal government in greenbelt management. Thirdly, the municipal government was responsible for improvements in facilities and infrastructure inside the greenbelt directly, with the purpose of avoiding illegal development.

The performance of decentralised-concentration growth management

Methodology and data

From a policy perspective, perhaps one of the most effective ways of assessing local urban development is through Key

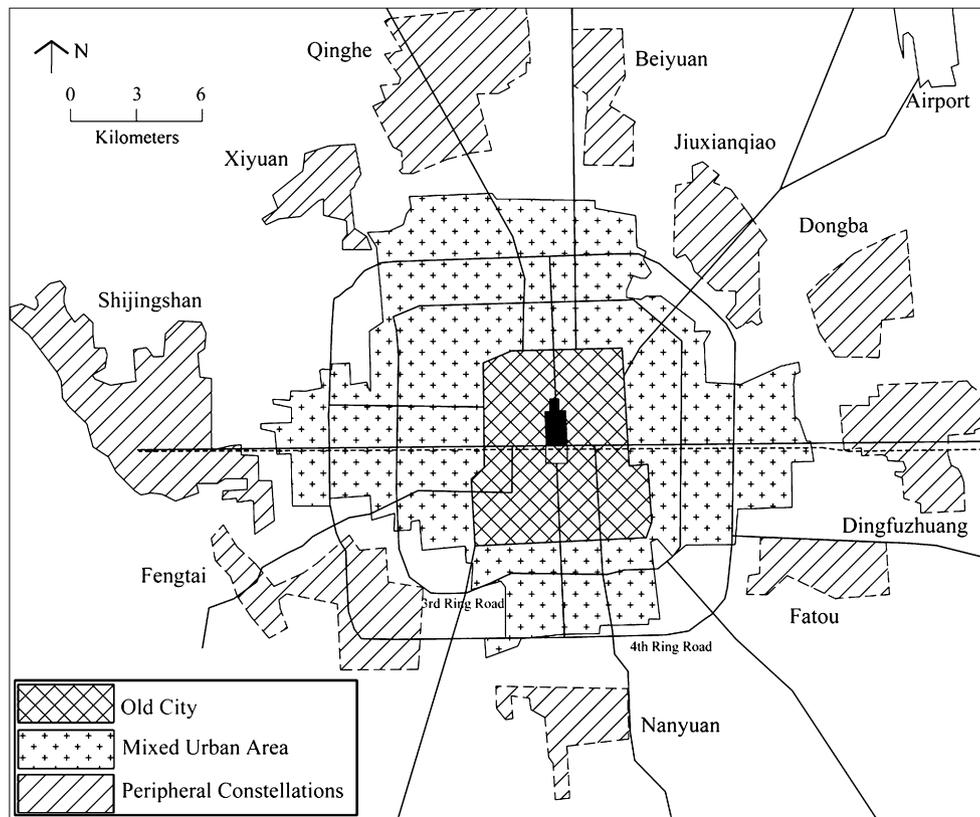


Fig. 1. Planned decentralised-concentration areas of Beijing (1982). Source: author edited from BICPD (1982).

Performance Indicators (KPIs) (Button, 2002). The KPIs measurement provides quantifiable data, preferably collected over time, to identify trends and assess urban policy. The KPIs are used in a growing number of projects and government policies, although there are some arguments concerning the accuracy of these indicators (for example, Carter, 1989, 132). This study employs KPIs to investigate the performance of decentralised-concentration growth management.

The major initiatives in the development of indicators have used three main conceptual approaches (Newton, 2001: pp. 15–36): a policy-based approach, which is associated with issue and goal-based indicators; the thematic/index approach, which is essentially based on establishing broad themes or concepts such as liveability and sustainability; and the systems approach, which delineates linkages and causality between various sectors. This study examines the gaps between the objectives of decentralised-concentration growth management and development facts, thus using the policy-based approach. Since the main aim of decentralised-concentration growth management is to limit population growth and decrease population density in the city centre, as well as to encourage a form of concentrated development in planned peripheral constellations, this study measures the changes in population size and density in different areas and uses these figures as indicators of the performance of decentralised-concentration policy. Four indicators are constructed. The first measures the growth of the population across the sub-district areas. The second measures the growth of the land development in terms of absolute numbers and percentage, the third indicates changes in net population density, while the fourth measures changes in the net density of households.

In this paper, study period is from 1990 to 2000 which was an important period of urban growth management in Beijing. In this period, Beijing underwent the most rapid process of urbanisation,

and several important national policies related to decentralisation were implemented, such as urban housing reform in 1986, urban land reform in 1988 and tax assignment in 1994. At the same time, several fundamental policies were developed in relation to the urban growth management of Beijing, such as the National City Planning Act enacted in 1989 and, in particular, the new version of the City Master Plan of Beijing (1992–2010) in which the decentralised-concentration is still being pursued as one of the most important aspects of growth management in Beijing. The population data used in the study come from the Beijing censuses of 1990 and 2000. The analysis unit is the 139 sub-districts located in Beijing eight inner districts. These sub-districts consist of Street-areas (*Jiedao*) and Towns (*Xiangzhen*), which are basic administrative units in Beijing.

Population growth and land development

During the 1990s, Beijing had a stable population growth following the rapid increase in its economy. The growth of the population occurred at different paces in different areas. The sub-districts located in or near peripheral constellations (2 km surrounding area) had the second highest population growth at 93.0% (see Table 1 and Fig. 2), a rate higher than the originally planned goal of 90.2%. At the same time, the old city witnessed an absolute population decrease of 8.4% per annum. The rate of population decrease in the city centre was also higher than the originally planned goal of 3.4%. These results suggest that decentralised-concentration growth management has achieved its two main aims: to limit population growth in the city centre and to encourage population growth in the planned peripheral constellations. The development in the peripheral constellations, encouraged by decentralised-concentration policy and greenbelt

Table 1
Changes to population growth (%) in different zones in the urban area of Beijing (1990–2000)

Zones	Number of units	Population growth (%)	Land development (from agricultural land and open space)	
			Hectare	(%)
Peripheral constellation areas (inside or near (2 km buffer))	28	93.0	8855	31.3
Greenbelt	18	75.7	5049	17.8
Mixed urban areas	49	45.0	7658	27.1
Old city	28	−8.4	85	0.3
Outer suburban areas	16	93.5	6654	23.5
Total	139	63.1	28301	100

management, plays the positive role of a 'pull' factor, attracting employers and population to the suburban areas.

However, the development facts show that the outer suburban areas located outside the planned peripheral constellations had the highest population growth, with a rate of 93.5%. The results are

inconsistent with one aim of decentralised-concentration growth management – that suburban population growth should be concentrated in the planned peripheral constellations and that growth occurring outside the peripheral constellations should be limited. This result suggests that actual population growth occurring at the local sub-district level were in conflict with the aims of municipal growth management. The results also show that the sub-districts located in the greenbelt had the third highest population growth (75.5%) during the 1990s. Such a high rate of population growth suggests that the greenbelt is facing great development pressure from local growth. The main reason is that sub-districts located inside greenbelt have the advantage of being near the city centre and having a higher quality environment compared with other areas. Vacant space within these sub-districts can easily be reallocated as developed space by local governments to stratify great demands on housing and their local revenues. The results suggest that the municipal growth management plans, which attempt to restrict development and protect green space, are facing a serious challenge from local development activities.

After several years of development, the ten peripheral constellations have now become the main focus of urban expansion. In 1989, the peripheral constellations had a total area of 102.26 km², which was 24% of the total urban area. During the period of 'the

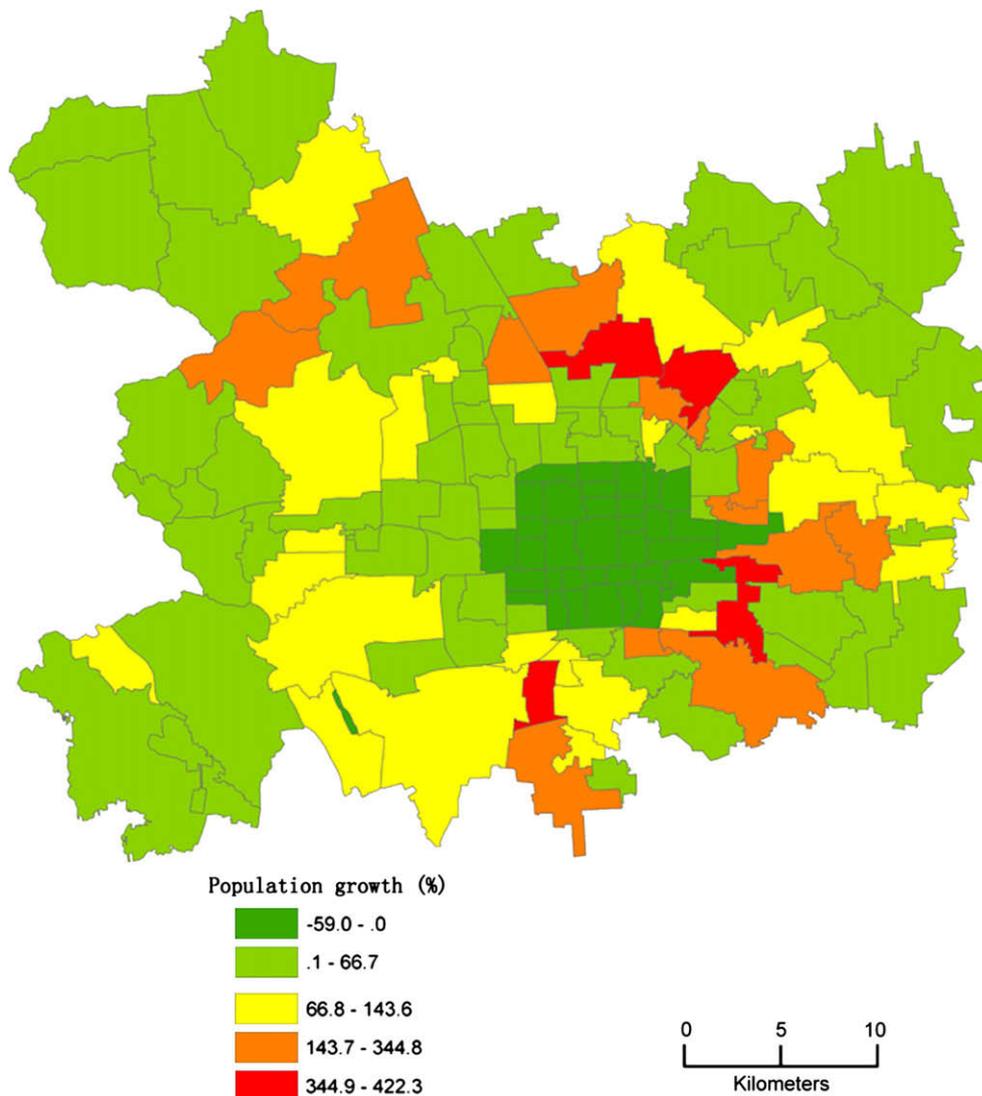


Fig. 2. Changes in population growth in the urban area of Beijing (1990–2000).

Ninth Five-Year Plan' (1995–2000), the total urban area of peripheral constellations reached 200 km² and accounted for up to 51% of the total area of the city's urban growth. The land development facts in this paper show that the planned peripheral constellations had the highest land development, with the share of 31.3% of the total land development from agricultural land and open space in the 1990s. However, the areas located in the outer suburban areas still witnessed a third highest land development with the share of 23.5% of the total land development from 1990 to 2000. These land development facts are inconsistent with the objective of decentralised-concentration growth management to concentrate suburban developments into the planned peripheral constellations, while limiting developments occurring outside the peripheral constellations. In addition, the development facts suggest that sub-districts located in the mixed urban areas with the second highest land development are facing the huge pressure of local development activities.

Density changes

From 1990 to 2000, the sub-districts located in the city centre experienced a dramatic decrease in population and household density (see Table 2 and Fig. 3). The net population density and net density of households had decreased by 9.2% and 3.1% respectively. These changes are consistent with the aims of decentralised-concentration growth management. The sub-districts located in peripheral constellations, with a growth rate of 9.9% in the net density of the population and 16% in the net density of households, had a higher density growth than those located in the mixed urban areas and the old city. The result suggests that development within the planned peripheral constellations is to some extent consistent with the aims of decentralised-concentration growth management.

The sub-districts located within the greenbelt had the highest density growth, with 42% growth in net population density and 51.6% in the net density of households. There are two main reasons for this. Firstly, greenbelt areas still have high population growth due to the advantage of proximity to the city centre. Secondly, the population increased at a faster pace than land development due to the land development control within the greenbelt. The sub-districts located in the outer suburban areas, however, have the second highest growth in population density. This result strengthens the argument that in Beijing there is an obvious trend towards urban expansion, even urban sprawl, outside the growth management areas (Deng & Huang, 2004).

Concluding remarks

The population growth and land development facts suggest that in Beijing during the 1990s local developments were partly consistent with the aim of municipal decentralised-concentration growth management. The development of peripheral

constellations acted as a 'pull' factor, attracting population to these areas, while greenbelt management acted as a 'push' factor, limiting the population and development close to the high-density centre and mixed urban area. The development facts shows that during the period 1990–2000, sub-districts located in peripheral constellations experienced a greater increase in population in terms of absolute number and density. At the same time, the absolute number and density of residents in the city centre has declined markedly.

However, during the same period, unexpected growth outside the peripheral constellations and inside the greenbelt has also been apparent, with the outer suburban areas having the highest population growth and the greenbelt experiencing the highest density increase. The results show that the aims of concentrated development in suburban areas and decentralised population distribution are only partly achieved by actual local development activities. Since most of these unexpected developments were authorised by local district or sub-district governments, the results reveal that local development activities fostered by political and fiscal decentralisation are challenging the municipal decentralised-concentration population policy ensured by the remaining central planning system and centralised control. Above findings in this paper, verify the conflicts between the local demands on revenue and the municipal growth management in development process in urban fringe in the transformation era.

Against an obvious trend towards political decentralisation, local districts or counties governments in a municipality are becoming more involved and accepting greater responsibilities in policymaking. In Beijing, the intention of the municipal policy to concentrate development in the suburban decentralised constellations is threatened by political decentralisation at two sides at least. One is growing local autonomy. The other is fiscal decentralisation. In the transformation process, the idea of 'equity' among districts is emerging as an important political aim to be pursued by city governments. Equity is also a popular slogan used by local district governments to gain greater development opportunities. According to the 'equity' idea, it should be possible for each local jurisdiction to have control over its own development rights. Thus, it is argued that development opportunities should be allocated impartially to each local jurisdiction rather than just those located within the peripheral constellations. The demand for equitable development rights from local governments is certainly contrary to the aims of city-level growth management, in particular, the decentralised-concentration policy which prefers to concentrate development in given areas rather than having it dispersed across the city. The question of where or in which district development can occur is difficult to answer in a market-oriented reform environment which encourages free competition among different districts.

Growing local autonomy has not only given local government freedom and incentives in relation to their growth but also created the 'Duke economy' (*zhu hou Jing ji*) (Shen and Dai, 1990) in which local municipality interests prevail over national interests, and local district or county, town and village interests prevail over municipal interests at the city level. The competition between different levels of local government prevails over cooperation between them. One of the negative results of this competition is that local governments relax development controls in order to obtain more investment opportunities, with some local governments even tending to challenge the municipal growth management.

Fiscal decentralisation is another major challenge to decentralised-concentration policy and greenbelt management. Since 1994, China's cities have been able to carry out financial reform, characterised by a 'separated tax' regulation. This reform centralised income tax and left local governments only limited control of other taxes. For example, 70% of the total value added tax is collected by

Table 2

Changes in population density (%) in different zones in the urban area of Beijing (1990–2000)

Zones	Number of units	Changes in net population density (%)	Changes in net households density (%)
Peripheral constellation areas (inside or near 2 km buffer)	28	9.9	16.0
Greenbelt	18	42.0	51.6
Mixed urban areas	49	9.8	11.2
Old city	28	-9.2	-3.1
Outer suburban areas	16	22.1	31.5
Total	139	0.9	6.5

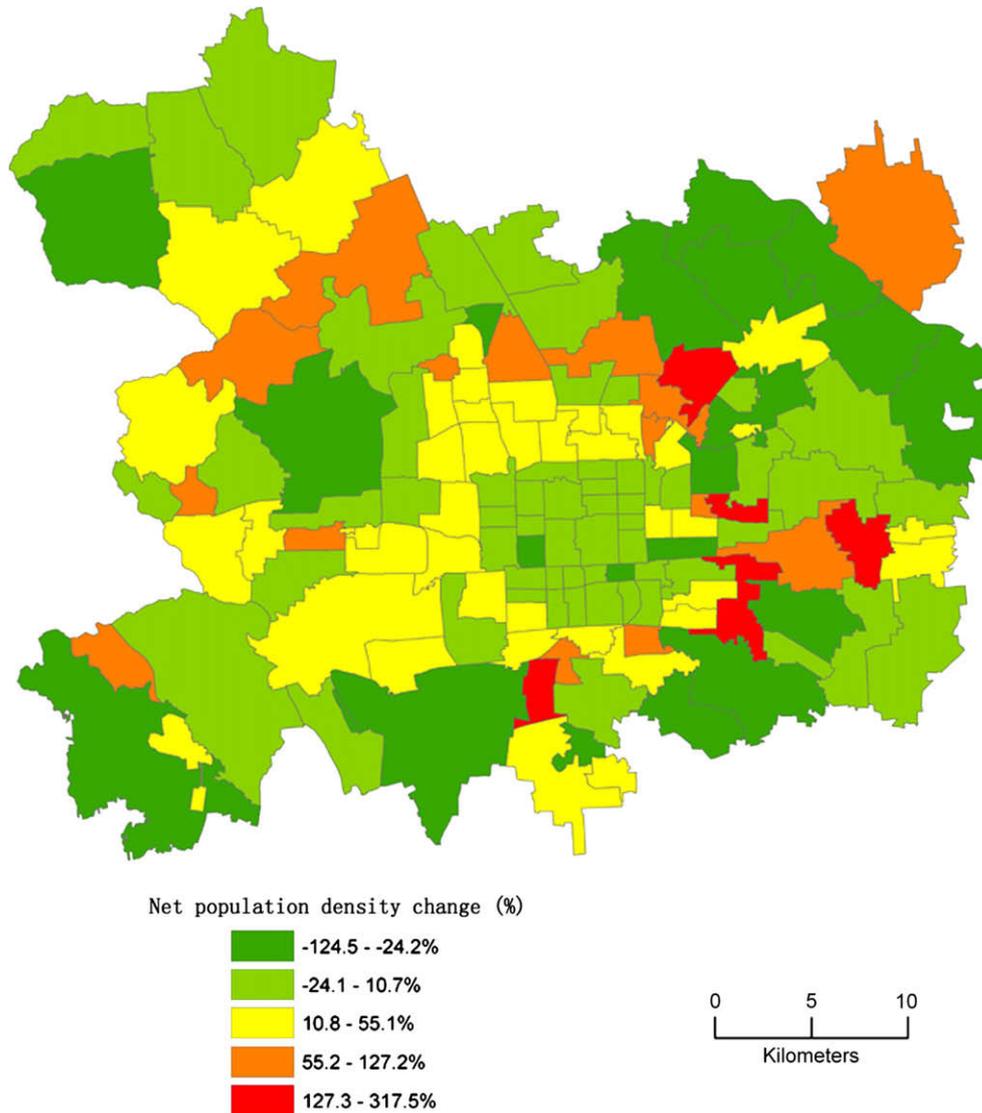


Fig. 3. Changes in net population density in the urban area of Beijing (1990–2000).

the national tax department, with only 30% going to local governments. At the same time, the central government encouraged local governments to accept more responsibility for their own fiscal growth. As a result, there is increasing pressure to undertake local development which enhances local revenue. The revenue-enhancing developments create new political and social problems for municipal growth management. Firstly, greater fiscal responsibility causes the rapid development of local industrialisation, in particular, industrial development of rural land in the vicinity of suburban towns and villages. Many township or village enterprises (*xiang zhen qi ye*) are owned by towns and villages and controlled by the local district or county governments. The rapid growth of township-village enterprises has given rise to a great demand for land. Compared to state-owned land in urban areas, collectively owned land within towns and villages is much more liberally managed. The agricultural land loss associated with becoming township or village enterprises is a new key issue in municipal growth management in Beijing (Wu, 1990).

Beijing's growth is indicative that a policy fit for local growth may not be appropriate in achieving municipal growth objectives. The decentralisation is claimed to be a way to promote the democracy and to promote better governance for peri-urban areas

in the developing countries, for example in Palestinian metropolis (Afshar, 2002). The negative of decentralisation, however, affects the performances of metropolitan growth management too. It was just Chinitz (1990) argued as 'local growth management programs are a mixed blessing. In some ways they assist in achieving national and global environmental goals and in other ways they detract from this mission'. In this sense, there is no absolute answer to whether centralisation or decentralisation is good or bad (Conyers & Hills, 1984: pp. 213–4). As a result, to achieve balance between decentralisation and centralisation may be a reasonable way to mitigate the conflicts between the local demands on growth and the municipal growth management and improve the performances of growth management in a transformation context. The level at which centralised or decentralised decisions should be taken depends on the nature of those decisions themselves and overall institutional contexts. However, the base line for the balance in developing and transitional countries is promoting whole social welfares not only for urban residents but also for those who live in urban fringes.

In marketisation process, there are two main opposing opinions about growth management. The first is 'neo-free market' oriented which favours the non-intervention and non-interference of

government-controlled planning processes in urban growth, with planning limited to the local level, and its effect being mainly confined to the layout of individual developments. Those who advocates the neo-free market argues that the market is best and most efficient device for resolving our urban problems. The urban growth management are blamed for some negative effects, such as loss of growth opportunities caused by the spillover effects (Brueckner, 1998; Carruthers & Ulfarsson, 2002), high land and property prices (Cheshire & Sheppard, 1995, 2005; Evans, 1991), etc. The second is 'strict planning' oriented, which maintains that it is crucial to intervene in development through the adoption of sectoral and spatial planning policies, and considers, even, that strong, centralised 'top-down' planning is essential to the management of urban growth. With the growing concerns for local economic growth and democracy process, the first opinion is becoming popular in the developing countries. With the concerns for global and local environmental problems, however, the second opinion is likely welcomed by planners and policy-makers to achieve more sustainable development pattern in the developed countries. Although the marketisation combined by the administrative decentralisation do better for some local economic growth, its limitations should not be neglected for all and for a long-term benefit. The balance between the management and market significantly relates to the performances of municipal growth management in the developing countries.

To sum up, the economic transformation in Beijing is towards a market-led economy in which investment capital plays a decisive role in a changing urban space. The transformation has complicated the urban development process and related urban growth management. The local government's willingness on land related revenue and other economic benefits prevail over the whole municipal strategic aims. The present urban growth management based on the central planning system is facing challenges from political and fiscal decentralisation. In the interest of future policymaking, the dominant central planning system in Beijing should take these decentralisation trends into growth management account, compared with the great progress of decentralisation in economy field. Local benefits and the equity of these benefits, in particular economic benefits, should be realised by the municipal governments because local benefits can determine the expected performance of city-level growth management. The urban policy need shift from the dictatorial manner and put more efforts into creating a harmonious relationship between municipal growth management and actual local demands on development.

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