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Is spatial decentralization in National Capital Region Delhi, India effective? An intervention-based evaluation

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A B S T R A C T

Managing growth in rapidly growing complex mega urban regions in India is a growing concern for planners and scholars. Although the government attempts to regulate the development by spatial decentralization, there are no easy solutions, resulting in undesirable growth and associated problems. However, a good mix of (fiscal and regulatory) interventions, although difficult to implement, has the potential to achieve effective urban growth, as exemplified by Tokyo in Asia and London in Europe. Examining the National Capital Region (NCR) Delhi as a case study, this study evaluated the performance of some aspects of spatial decentralization policy. The investigation identified the need to link jobs and housing, redefine the concept of greenbelt, and integrate transport and land-use planning. We recommend introducing a mix of interventions to effectuate spatial decentralization.

Introduction

The second wave of urbanization in India is unprecedented in nature. During the decade 2001–2011, India added 91 million urban dwellers, accompanied with an increase in the number of million-plus inhabitant cities and new towns in the lower hierarchy of the urban system. The total urban population in 2011 was 377 million, with a total of 53 million-plus inhabitant cities (Nijman, 2012). Indian cities are the largest and fastest-growing cities in the world. By 2025, Delhi, Mumbai and Kolkata will be the second, third and eighth largest cities, with 28, 25, and 20 million people, respectively (UN, 2010). The pressure to house this growth transformed the urban landscape from nodes to corridors, eventually merging them into one solid mass (Denis & Marius-Gnanou, 2011; Joshi, Bairwa, Sharma, & Sinha, 2011; UN-Habitat, 2008). The excessive growth termed as sprawl has been identified not only in old megacities but also in the incipient megacities (Taubenböck et al., 2008; Taubenböck, Wegmann, Roth, Mehl, & Dech, 2009).

The majority of Indian GDP is generated by some cities such as Mumbai, Delhi, Kolkata, Bangalore, Hyderabad and Ahmedabad, that attract growth, resulting in high densities associated with crowding (Dowall & Monkkonen, 2008) and exerting tremendous pressure on the natural resources. This situation is far from satisfactory. The economic growth associated with lack of infrastructure provision poses a serious challenge to sustaining the growth, leading to urban gridlock and decline. Hence, most cities are in a state of despair, on the verge of breakdown (Ramanathan, 2011; Rode et al., 2008) and hotspots of disaster due to climatic threats, which are amplified by non-climatic risks such as poor housing conditions and low access to public services (Panda, 2011). In addition, accommodating the large urban population with needed infrastructure remains a challenge that is unprecedented in scale and significance (GoI, 2011; Sankhe, Vittal, & Mohan, 2011). Consequently, the recent growth can be characterized as a wave of concentrated urbanization that is unplanned and unsustainable.

As urban agglomeration begins to generate more costs than benefits, spatial decentralization of urban activities occurs. Such decentralization results in lateral expansion of the metropolitan core to deeper penetration into commuting hinterland, whereby a larger percentage of residential and business activities take place outside of the central location (Berg, Drewett, Klaassen, Rossi, & Vijverberg, 1982; Champion, 2001; Wassmer, 2000). Depending on the government policies, the regional spatial structure transforms from one nucleus during urbanization to multiple suburban centers or satellite towns, polycentric development, and dispersion during sub-urbanization. Although spatial decentralization was adopted to achieve balanced regional growth and reduce population pressure from the Indian metropolises, it did not provide the needed respite. The common problems identified with decentralization were (i) failure of the new towns (Sanyal, 2011) due to lack of resources for infrastructure provision (TCPO, 2007) and (ii) the

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state and central government's long period of neglect of urban planning (Ahluwalia et al., 2011).

Government policies aim to reconcile conflicting claims for scarce resources, foster cooperation amongst actors, and provide benefits to citizens by authoritative allocation (AGPO, 2008), and evaluation helps determine how far these policies meet their objectives (Morrison & Pearce, 2000). Policy evaluation is a difficult task because it requires maintenance of a sound and updated database, which is tedious and expensive. Consequently, few comprehensive evaluations have been conducted (Carruthers, 2002; Nelson & Moore, 1996).

Similarly, the evaluation of Delhi spatial decentralization policies has drawn little attention. In a review, Nath (1988, 1995) analyzed the policies but did not attempt to measure their performance. Furthermore, the National Capital Regional Planning Board (NCRPB) (1999) reviewed the current situation rather than the policy performance. Subsequently, the NCRPB's (2001) review for the formulation of the National Capital Region Plan (NCRP) 2021 was a descriptive analysis based on the trend of development rather than objectives or targets of the formulated plans. Furthermore, when preparing the City Development Plan[1] (CDP), only aspects needed for formulation of the CDP were reviewed (GoD, 2006). In addition, the review conducted by the planners for the formulation of the NCRP and Master Plan Delhi (MPD) 2021 was not based on the performance of the respective NCRP and MPD-2001 interventions. Rather, it was based on the census data comparison for NCRP-2021 and the prevalent situation for MPD-2021. Planners, bureaucrats and academicians have confirmed the dismal situation of policy evaluation in Delhi and its region. This situation was further captured in interviews by Jain (2013).

Despite the long history of planning to manage urban growth in NCR-Delhi, little has been achieved. Therefore, policy intervention-based evaluation is critical for upgrading the prevalent policies in alignment with growth dynamics. The main objective of the current paper is to construct a model to examine the performance of spatial policy interventions with limited available data. Our goal is to develop a better understanding of the relationship between policy objectives and interventions. A comparative study that targets Tokyo and London can provide insight into what interventions work under which conditions. We attempt to ask two interrelated questions, as follows: (i) Which interventions have been successful in attaining decentralization with respect to population, urban containment, and regional integration by public transport? (ii) Are the adopted interventions similar in the Delhi region? If not, what can be learned from the success and failure of Tokyo and London regions? To answer these questions, we first discuss decentralization attempts in London and Tokyo regions. We then propose a model to evaluate the spatial policy interventions for the Delhi region. Finally, we present the results and discussion.

Some characteristics of London and Tokyo decentralization

Some of the main characteristics of spatial decentralization policy that were adopted by the London and Tokyo regions were as follows: (i) containment by greenbelt, (ii) distributing growth to new centers, and (iii) promoting connectivity by transit. These characteristics are also the focal points of the Delhi region decentralization policy. Hence, they provide comprehensive insight into what interventions work under which conditions.

[1] City development plan is a vision for the future that was prepared under Jawaharlal Nehru National Urban Renewal Mission scheme to avail funding from the central government. For information concerning the relationship between the NCRP, MPD and CDP, refer to Jain (2013: p. 116).

London has one of the world's longest traditions of managing urban growth, starting with Abercrombie's Greater London Plan of 1944. This plan aimed to provide a solution to sprawl by proposing to contain London by a greenbelt and construction of new towns to accommodate spill-over migrants and new population growth. The decentralization policy was based on zoning to establish commercial centers, offices, industrial areas, residential sectors, and green spaces. By contrast, the New Town Act was achieved by comprehensive land assembly, capturing a major proportion of land values, as well as incentives and subsidies to boost the development. Due to a strict link between jobs and housing, new towns became self-contained communities (Hall, Gracey, Drewett, & Thomas, 1973; Hall et al., 2007; Merlin, 1969). Subsequently, with direct funding from the Treasury (Booth, Nelson, & Paris, 2007), the central government created single-purpose Urban Development Corporations with powers over planning and administration, land acquisition, installing services and construction of dwellings, shops, offices, factories and public buildings (Merlin, 1969). In addition, the major infrastructure projects, such as transport and affordable housing projects, were funded by the government (GLA, 2012). Nevertheless, the concept was not particularly successful because the towns did not reach the targeted population and were not able to forestall the growth of London (WB, 2009) due to delay in delivering affordable housing, expensive rent prices, lack of job-housing balance, and lack of monitoring and evaluation of the new towns (Bennett, 2005).

Factors that strengthen British urban containment include housing, greenbelt, and countryside policy, directing the use of brown-fields for housing. By contrast, new developments are only permitted along high-capacity public transport lines, and development unrelated to agriculture and recreations are prohibited in the greenbelt and open countryside (Millward, 2006). The protection of the countryside and curtailment of sprawl was achieved by national targets of developing brown-fields through funding and tax incentives (GLA, 2005), prioritizing development in town centers, setting national housing density targets, and creating a sequential approach for allocating land for development (Barker, 2006). Furthermore, any development requires the attainment of a building permit from the relevant local planning authorities (Larsson, 2006). Although the success of the greenbelt was due to extremely powerful development control regulations, it has been criticized for limiting the developable land and increasing the price of housing, resulting in sprawl, increased car reliance and commuting time and distance (Amati & Yokohari, 2006; Freestone, 2002).

The key for the London sustainable regional strategy is its regional metro, which connects various centers and further connects these with a local distributor transit system (Hall & Ward, 1998). The government promotes the transit through tax-free transit incentives such as transit passes, work buses provided by employers (SCL & VTPI, 2011), and a congestion charge, i.e., fees are applied to vehicles to reduce the congestion (Blow, Leicester, & Smith, 2003).

The Tokyo region decentralization policy is based on a multipolar urban structure that is connected by public transport and exhibits a good job-housing balance (Hayashi, Doi, Yagishita, & Kuwata, 2004; SCL & VTPI, 2011). To contain the urban growth of Tokyo, the British greenbelt concept was adopted in 1956. The policy eventually failed and consequently moved toward urban growth boundaries to control the expansion of the urban areas and to provide an adequate level of infrastructure (Okata & Murayama, 2010). The most important local level instrument to regulate urban growth is the City Planning Act, which demarcates the urban area into Urban Promotion Area (UPA) and Urban Control Area (UCA). The UPA is designated to be built for ten years and is regulated by