

TDR as a Tool for Sustainable and Compact Development

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Abstract— The recently concluded 'Indian Census 2011' showed that the population of India has crossed the 1 billion mark and the population of Maharashtra is somewhere around the 110 million. Considered to be one of India's leading States in terms of revenue and contribution to the GDP, the Census 2011 bore some interesting results for Maharashtra. The State of Maharashtra is the third largest State in the country with an area of about 3 million Sq. Km. Mumbai, a city that is considered to be the financial capital of India is part of the state of Maharashtra and has a population of over 100 million, making it the country's most populous city.

Key words: Development reservation, Land based instrument, Public amenities, Urban Infrastructure, TDR

I. INTRODUCTION

According to the 2001 Census, 27.8 per cent of the population resides in urban areas. This figure was 25.5 per cent in 1991. The urban population is expected to rise to around 40 per cent by 2020. As India's cities continue to swell, the challenge of improving urban infrastructure is enormous. While the number of urban centers doubled between 1901 and 1991, the urban population increased eight-fold, resulting in a top heavy urban settlement hierarchy. The demographic trends of urbanization are accompanied by a change in the management and financing of urban development as a result of liberalization. By 2051, India would be most populous country with 1.70 billion people and per capita land availability would be 0.19 ha. By 2051, 820 million people will live in urban settlements constituting about 48 % of the total population and there would be 6500 urban settlements [(including 15 mega cities, 85 metropolitan (million plus) cities] by 2051. Cities in the country would emerge as centers of both hope and despair: while being engines of economic and social development they may also be congested centers of poverty and environmental degradation.

II. NEED OF STUDY

- To overcome the complex issues of city Mumbai regarding land management.
- To achieve sustainable development, compact development and preservation of land.

III. RESEARCH METHODOLOGY

Due to complication of urban land management process and rapid urbanization process, it is now nearly impossible to cop up with the pace and to accommodate the needs of land as it is a scarce resource. To understand the need and for future vision analysis and assessment of land management tools is indeed, for that some indicators and parameters are useful because it requires the scrutiny to analyze the legal documents and the consumption pattern of that particular

region as India has more than 26 states and every state has its form of legislation.

IV. LAND MANAGEMENT IN MAHARASHTRA: TDR

Large scale land acquisitions for large public projects themselves are fraught with several problems, including public opposition, and would take much longer time than thought earlier, as experienced in the case of development of Navi Mumbai Satellite Township by CIDCO (Shaw 2004). Reservation of land for infrastructure services, thereby denying any other development on it, is another mechanism of master plans to force land owner to surrender land. However, land owners are well aware of the rise of land value in future and, therefore, wait for the expiry of reservation period (which is typically about 5-10 years) to reclaim their rights to land and its development. In this context, land based instruments such as land banks and swaps, taxes/levies on land, land pooling/readjustment schemes, town planning schemes, award of development rights (transferable and purchasable) in lieu of surrender of land rights, and leasing rights of developed space, are becoming some important means of speedi-fying land acquisition for the development of urban infrastructure (Mohanty 2003). Transferable Development Rights (TDRs) are essentially the rights to develop built space on land that can be transferred (i) horizontally from one location to another location (ex situ), or, (ii) vertically from surface to above or below (in situ). Traditionally, the extent and intensity of development of urban land is fixed by urban planning system (under development control), and it is based on the principle of development non-transferable and site-based. However, different features of urban land give rise to different land value and competitive bidding for urban land between competing users bids up its price. In this context, the realisation of development potential offered through such land value is important to distribute such value. TDR program is meant to facilitate the effective utilisation of surplus development potential and value of such location either in situ or ex situ. TDRs have, thus, become a possible alternative to land acquisition by conventional methods for public purposes. The origins of TDR lie in the difficulty to acquire land for public purposes that are laid down in city development/master plans. The Municipal Corporation of Greater Mumbai (MCGM) prepared first development plan for the period of 1964-77 (which was extended till 1981), which proposed several proposals including the development of satellite city - Navi Mumbai. However, it met with difficulties in mobilising adequate fiscal resources in order to realise them (Nallathiga 2006). Based on this experience, it has prepared second development plan, in parts, starting from 1985 with the final part of it submitted in 1993. The plan was approved by the State Government initially for the period of 1991-2005, which was further extended till 2013. Among the various elements of the development plan, the reservation of land

for various public amenities² and the provision of infrastructure facilities assume greater importance. The reservation of land for public amenities and for the development of infrastructure facilities is an important part of the development/master plan because these two matters decide the residential quality of living enjoyed by the citizens in their premises. The Maharashtra Regional and Town Planning (MRTP) Act 1966 mandated the local and regional planning authorities to prepare plans for the use and development of land in cities and empowered them with imposing regulations on them for orderly city growth (both horizontal and vertical). However, the experience shows that these powers were used to curb growth and development of cities like Mumbai through the pursuit of decongestion policies and through the imposition of restrictions on the development of land, which turned out to be a bane to city development in Mumbai (Nallathiga 2005). Further, they fuelled the price rise of land and housing in Mumbai by restricting development (Nallathiga 2004). The local governments or planning agencies suffered, as they were left with few resources to implement development plan proposals on one hand and they had to pay more amount as compensation if the land reserved for such plan proposals were acquired. Realising the above constraints and based on the experience of difficulty in acquiring land in the previous development/master plan, the Municipal Corporation of Greater Mumbai (MCGM) had introduced the concept of Transferable Development Right (TDR) by following the examples of USA. The TDR concept was introduced under the Development Control Regulations (DCR) of MCGM 1991 of Mumbai Municipal Corporation Act 1888. Under DCR 1991, the owner of a land that has been reserved for public purpose under Development Plan may surrender his land free of cost to the planning authority and in lieu obtain a Development Right Certificate (DRC) in the form of FSI, which forms the TDR. The owner may utilise, transfer or sell Development Right (DR) under DCR 1991 (Datta 2004).

V. EVALUATION OF TDR

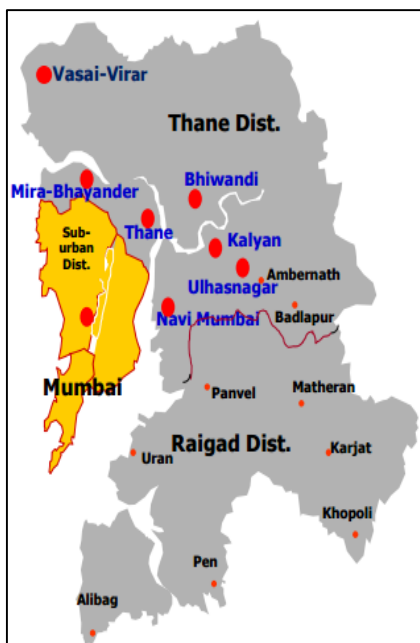


Fig. 1:

Area	4355 sq.km.
Population	1.92 Cr (2001)
Districts in MMR	1. Mumbai 2. Suburban 3. Thane 4. Raigad
Corporations in MMR	1. Greater Mumbai 2. Thane 3. Navi Mumbai 4. Ulhas Nagar 5. Kalyan-Dombivali 6. Mira Bhayandar 7. Bhiwandi- Nizampur 8. Vasai-Virar
Municipal Councils in MMR	1. Ambernath 2. Kulgaon-Badlapur 3. Alibaug 4. Pen 5. Uran 6. Matheran Hill Station 7. Panvel 8. Karjat 9. Khopoli
Villages	1000
Urbanisation	94% Urban Population 6% Rural Population

Fig. 2: Source: Ministry of Housing and Urban Poverty Alleviation, Government of India Conference on Rental Housing

Rapid population growth in cities and being hub for economic activities, cities are transforming based on human activities from rural based to urban based societies, cities have to do careful future planning for its development. To bear the burden of needs of people they have used master plan a traditional tool as for infrastructure development which requires mobilizing finance and urban land, for that allocation Land acquisition Act 1894 is used which has been successful to some extent but with the growth of cities it proved to be insufficient, costly, difficult due to this reasons(1)private owners asked market price value as a compensation for their land (2)long time to process(3)less satisfaction(4)process denying the court litigation “fair price of land” etc. So as a alternative tool TDR emerged which is widely recognized in Mumbai and has been shown its potential for urban development. In this paper author has talked about how under TDR Mumbai has developed, how TDR has the overcome the complex issues of city Mumbai. TDRs root can be found in USA where such land management practice has helped to achieve the objective like compact city development, preservation of land for public, sustainable and healthy environment.TDR is a market based instrument which recognize the development potential of land, achieves the goal without burdening the finance on municipalities. it ensures economic growth of city.TDR was introduced in Mumbai around 1980 after the first development plan(1964-77) for Navi Mumbai.TDR mechanism is laid down in DRC of 1991.In TDR extra FSI or built up area is provided as a compensation for private owner for surrounding land for development bounding the permissible FSI of the zone from land is located.TDR took different forms in Mumbai like, (1) Reservation TDR(2) Road TDR(3)heritage TDR(4) slum TDR(5) amenity TDR. These regulations provided balance, allocation of land for development as well as public infrastructure. This paper discussed the design feature, potential and capacity of TDR for urban development which wouldn't be possible with the conventional land management tool which failed to do so after certain extent.

To assess the land management tool mainly three parameters were chosen as they were appropriate and well enough for the analysis, these three parameters are transparency, effectiveness, efficiency.

PARAMETERS	TPS	TDR
TRANSPERNCY	72%	41.30%
EFFECTIVENESS	34.66%	64.66%
EFFICIENCY	48.12%	54.88%

Table 1: Average Analysis

VI. CONCLUDING REMARKS

- Speedy implementation of development plan proposal.
- TDR's effectiveness is better in terms of land administration and preventing urban sprawl.
- Transparency is issue due to less participation of public.
- TDR is the most cost effective tool.
- TDR has an efficiency in sustainable and compact development.

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