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# Are Indian cities spending enough? Evidence from Mumbai and Bengaluru

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by Sukanya Bhaumik

India was 31 per cent urban as reported by the Census of 2011<sup>1</sup>. It is estimated that by 2030, nearly 40 per cent of the population of India will be living in urban areas<sup>2</sup>. In fact, Sridhar<sup>3</sup> finds that if India were to be more liberal in its definition of urbanization, more than 60 per cent of the country would have been urban in 2011 itself, which is consistent with Government of India estimates. Over the next two decades, cities will create 70 per cent of all new jobs in India and will account for 80-85 per cent of India's tax revenue<sup>4</sup>.

The present infrastructure deficit in Indian cities is large, and growing. It is estimated that about 34 per cent of urban households do not have water taps within their premises, that more than 70 per cent of waste is not treated before disposal, and that nearly 21 per cent of the urban population lives in squatter settlements<sup>5</sup>. Even urban mobility in India is in a crisis situation characterized by high levels of congestion, environmental pollution, traffic fatalities and inequity<sup>6</sup>. In order to meet this huge infrastruc-

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<sup>1</sup> Office of the Registrar General Census Commissioner, *Census of India*, New Delhi, India, Indian Census Bureau, 2011.

<sup>2</sup> McKinsey Global Institute, *India's Urban Awakening: Building Inclusive Cities, Sustaining Economic Growth*, 2010.

<sup>3</sup> K.S. Sridhar, *Is India's Urbanization Really Too Low? Some Evidence*, in «Area Development and Policy», vol. 5, n. 1, 2020, pp. 32-49. DOI: 10.1080/23792949.2019.1590153.

<sup>4</sup> P.K. Mohanty, *Financing Indian Cities*, New Delhi, 2016.

<sup>5</sup> See note 1.

<sup>6</sup> IIHS, *Urban Transport in India Challenges and Recommendations. Bengaluru: Indian Institute for Human Settlements*, Bengaluru, Indian Institute for Human Settlements, 2016.

ture deficit in India's cities, the financial requirements are estimated to be nearly half a trillion dollars<sup>7</sup>. Indian cities will not be able to perform their fundamental role as engines of economic growth and structural transformation unless they are firmly in position to meet the «backlog», «current» and «growth» needs of urbanization<sup>8</sup>.

Indian cities in many ways are stuck in a state of low output characterised by low level of services due to high expenditure needs. This paper discusses some of the preliminary findings from the ongoing PhD research titled «Fiscal Gaps in Cities: Case of select ULBs in India». This paper delves into the expenditure needs of cities using a normative approach and tries to understand if Indian cities are underspending on services, and if so, the extent thereof.

Local governments worldwide provide basic services, but expenditure needs depend on the institutional arrangements for providing specific services, and the associated costs in providing these. It is the responsibility of local governments to provide basic services, and estimating expenditure needs is a crucial step in the estimation of costs<sup>9</sup>. While a city's actual budget reflects its expenditure, its expenditure needs are determined by different considerations, such as the topography of the city; allocated expenditure responsibilities; household preferences; efficiency of the urban local body (ULB) and several other factors<sup>10</sup>. «Expenditure needs» is what the city has to take into account to provide public services of a prescribed standard. It is what city governments ought to be spending to meet all their functional responsibilities.

This paper recognizes that city governments' expenditure requirements may be different due to various factors such as diverse institutional ar-

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<sup>7</sup> HPEC, *Report on Indian Urban Infrastructure and Services*, New Delhi, ICRIER, 2011.

<sup>8</sup> See note 4.

<sup>9</sup> A. Reschovsky, *Compensating Local Governments for Differences in Expenditure Needs in a Horizontal Fiscal Equalization Program*, Washington DC, The World Bank, 2006.

<sup>10</sup> K.S. Sridhar, S. Bandyopadhyay and S. Sikdar, *Improving the Fiscal Health of Indian Cities: A Pilot Study of Delhi*, New Delhi, 2007.

rangements, geographical/location diversities, heterogeneity in household preferences across cities; these determine the expenditure needs of the city. High expenditure needs are likely the result of lack of financial viability in services, institutional arrangements, natural topography and poor city administration efficiency. While the expenditure of Indian cities is reflected in their budget accounts, the «expenditure needs» of cities is more sustainable and refers to what cities will have to spend to meet all their functional responsibilities (given the institutional set up, geographical location, characteristics of the population etc.)<sup>11</sup>.

Municipal finances in India are characterized by the constant tension between the funds and functions of local governments, which is not sustainable. Even though Article 243W, 12<sup>th</sup> Schedule of the 74<sup>th</sup> Constitutional Amendment Act has in principle devolved a great deal of functional autonomy to local governments, in reality a commensurate devolution of financial autonomy was absent<sup>12</sup>. Municipal bodies in Indian cities face constant power tussles with the state government-appointed metropolitan development authorities (example MMRDA, BDA<sup>13</sup> etc.) that have been tasked with regional and infrastructure planning responsibilities, and in most cases have been empowered in more lucrative revenue areas such as auctioning land parcels for new development. The presence of these overarching development authorities adversely effects the decentralization in Indian cities by impacting the city government's revenue capacities and functional responsibilities.

### **Expenditure needs of Mumbai and Bengaluru** |

This paper assesses the expenditure needs of two of India's mega cities: Mumbai and Bengaluru. The reason for choosing the two cities is their

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<sup>11</sup> H. Chernick and A. Reschovsky, *The Fiscal Health of US Cities*, Cambridge, Lincoln Institute of Land Policy, 2013.

<sup>12</sup> A. Sahasranaman, D. George, D. Rajendran and V. Prasad, *A New Framework for Financial Consumer Protection in India*, Position Paper, IFMR Finance Foundation, 2014.

<sup>13</sup> Mumbai Metropolitan Development Authority (MMRDA), Bangalore Development Authority.

diversity of economic specialization and institutional structures. Sridhar<sup>14</sup> emphasises the specializations of Indian cities and towns, using location quotient (LQ) and shift-share analysis. The paper finds that Bengaluru has the maximum local advantages in transport, storage and communications, in which information and communications technology is included; Mumbai was found to be the corporate and financial capital of the country. Thus, the choice of these two cities provides enough variety in economic base to determine their expenditure responsibilities. Mumbai's expenditure responsibilities are also higher than those of Bengaluru, as water supply is the responsibility of Municipal Council of Greater Mumbai (MCGM) in the city, in addition to other municipal functions. In the case of Bengaluru, water supply and sewerage (WS & S) is provided by a parastatal entity, the Bangalore Water Supply and Sewerage Board (BWSSB) and other services are the responsibility of BBMP (Bruhat Bengaluru Mahanagara Palike), the city government.

Table 1 summarizes the basic characteristics of Bengaluru and Mumbai. It is clear that the population density for Mumbai is higher when compared with that of Bengaluru (at 20,620 persons per sq. km of its area, compared with only 11,931 for Bengaluru).

The High-Powered Expert Committee<sup>15</sup> appointed by the Government of India in 2011 prescribed the expenditure requirements that need to be met by the cities based on size and population to provide basic level of

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<sup>14</sup> K.S. Sridhar, *How to Identify Specialization? The Case of India's Cities*, Tokyo, ADB Institute, 2017.

<sup>15</sup> The HPEC estimates disaggregate each of the urban services into sub-components. For example, in water supply, Per Capita Investment Costs (PCIC) were separately calculated for water production and distribution. In water supply, sewerage, and solid waste management, Per Capita Operations and Maintenance Costs (PCOM) were computed using *i*) unit cost from project data, *ii*) estimates of production volume for each sector, and *iii*) the population covered. For the remaining sectors, the PCOM was assumed to be a percentage of the PCIC.

The HPEC used Census 2011 data supported by service level benchmarks to estimate the service backlog for water supply, sewerage, and solid waste management.

**Table 1. Overview of Mumbai and Bengaluru**

Characteristics	MCGM	BBMP
Geographical area (sq. kms)	437.71	741
Population (per Census 2011)	12,442,373	8,495,492
Population density (persons per sq. km of land area) (Census 2011)	28,426	11,465
Number of wards (Census 2011)	24	198

Sources: MCGM (2011) and BBMP (2015).

services. In order to assess the expenditure needs of cities, we compare the current per capita expenditure incurred by the local body on various services – water supply (WS), sewerage, Solid Waste Management (SWM), roads and street lighting – in relation to a generally prescribed expenditure norm. In order to assess the expenditure needs of the two cities the actual Per Capita Investment Cost (PCIC) has been calculated using the total capital investments and population data (Column I, Table 2 for Mumbai) (Column I, Table 4 for Bengaluru). Similarly, Per Capita Operation and Maintenance (PCOM) expenditure has been calculated by using the operations and maintenance expenditures in the different sectors (water supply, sewerage, solid waste management, roads, street lights) and population data (Column I, II and III, Table 3 for Mumbai) (Column I, II and III, Table 5 for Bengaluru). This data was obtained from the city government’s financial statements<sup>16</sup>. In the case of MCGM, it is seen that the actual per capita capital expenditure for the period of 2014-2017 is less than the normative PCIC recommended by the HPEC report across services (Column III, Table 2). Similarly, the actual per capita capital expenditure for Bengaluru is lower than the recommended PCIC (Column III, Table 4). In fact, the extent of per capita underspending is much higher in the case of Bengaluru. For actual per capita operation and maintenance expenditure, Mumbai is actually overspending on most services (Column VII, VIII and IX, Table 3) as compared to the recommended PCOM (Column IV, V and

<sup>16</sup> Annual Financial Statements of Municipal Corporation of Greater Mumbai (MCGM) and Bruhut Bengaluru Mahanagara Palike (BBMP) and Bangalore Water Supply and Sanitation Board (BWSSB).

**Table 2. Under-spending in Mumbai, Capital Costs, Various Selected Urban Services**

	2014-2017 Actual capital expenditure I	Recommended PCIC 2016-17 (adjusted for inflation) II	Expenditure Gaps III (II – I)
WS	4,382	5,437	-1,055
Sewerage	1,881	5,194	-3,312
SWM	974	1,391	-416
Roads	8,801	40,119	-31,318

Source: HPEC (2011) report, Municipal Corporation of Greater Mumbai (MCGM) and Authors' Calculations.

**Table 3. Under-spending in Mumbai, Operations and Maintenance Costs**

	Actual Per Capita O & M Expenditure (2015-2017)			Recommended PCOM (2015-2017)			PCOM (Surplus/Gaps)		
	2014-15 I	2015-16 II	2016-17 III	2014-15 IV	2015-16 V	2016-17 VI	2014-15 VII (I – IV)	2015-16 VIII (II – V)	2016-17 IX (III – VI)
WS	4,169	4,261	4,453	2,843	2,843	2,843	1,326	1,418	1,610
Sewerage	664	610	630	635	635	635	29	-25	-5
SWM	2,739	1,464	1,615	1,626	271	271	1,113	1,193	1,344
Roads	573	532	526	543	423	423	30	109	103

Source: HPEC (2011) report, Municipal Corporation of Greater Mumbai (MCGM) and Authors' Calculations.

**Table 4. Under-spending in Bengaluru, Capital Costs, Various Selected Urban Services**

	2014-2017 Actual capital expenditure I	Recommended PCIC 2016-17 (adjusted for inflation) II	Expenditure Gaps III (II – I)
WS & S*	4,877	10,632	-5,755
SWM	79	1,391	-1,312
Roads	1,044	36,268	-35,224
Street lights	24	3,851	-3,827

\* Includes expenditure on water supply & sewerage from BWSSB.

Source: HPEC (2011) report and Authors' Calculations (from BBMP and BWSSB Financial Statements).

VI, Table 3). However, Bengaluru (both BBMP and BWSSB) continues to significantly underspend on operation and maintenance for all services (Column IV, V and VI, Table 5).

Table 5. Under-spending in Bengaluru, Operations and Maintenance Costs

	Actual Per Capita O & M Expenditure (2015-2017)			Recommended PCOM (2015-2017)			PCOM (Surplus/Gaps)		
	2014-15	2015-16	2016-17	2014-15	2015-16	2016-17	2014-15	2015-16	2016-17
	I	II	III	IV	V	VI	VII (I – IV)	VIII (II – V)	IX (III – VI)
WS & S*	892	842	903	1,761	1,800	1,872	-869	-958	-969
SWM	190	240	255	304	311	323	-114	-71	-68
Roads	260	390	425	475	486	505	-215	-96	-80
Street lights	12	21	44	131	134	139	-119	-113	-95

\* Includes expenditure on water supply & sewerage from BWSSB.

Source: HPEC (2011) report and Authors' Calculations (from BBMP and BWSSB Financial Statements).

## Conclusion

The contribution of this paper is the separation of actual expenditures from their needs and norms, and determining the extent of any expenditure gaps. That plays a significant role in determining whether or not service delivery in the two megacities can be sustainably transformed, in addition to household preferences and city-level efficiency, which we have not been able to measure. While this paper discusses only Mumbai and Bengaluru, two quintessentially typical Indian mega cities to study in respect of expenditure requirements, the methodology developed in this paper can be applied to any Indian city. Nonetheless a caveat is that cultural factors, which can be important in determining expenditure needs, may not be taken into account given that they are not easily measurable.

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