INTERNATIONAL CENTER FOR PUBLIC POLICY

International Center for Public Policy

Working Paper 20-11

June 2020

Towards Sustainable Cities: Lessons from Urban Decentralization in India and Bangladesh

Simanti Bandyopadhyay

Firdousi Naher

Aishna Sharma

Georgia State University | Andrew Young School of Policy Studies

Georgia State University | Andrew Young School of Policy Studies

International Center for Public Policy
Working Paper 20-11

Towards Sustainable Cities: Lessons from Urban Decentralization in India and Bangladesh

Simanti Bandyopadhyay
Firdousi Naher
Aishna Sharma

June
2020

International Center for Public Policy
Andrew Young School of Policy Studies
Georgia State University
Atlanta, Georgia 30303
United States of America

Phone: (404) 413-0235
Fax: (404) 651-4449
Email: paulbenson@gsu.edu
Website: http://icepp.gsu.edu/

Georgia State University | ANDREW YOUNG SCHOOL OF POLICY STUDIES

International Center for Public Policy
Andrew Young School of Policy Studies

The Andrew Young School of Policy Studies was established at Georgia State University with the objective of promoting excellence in the design, implementation, and evaluation of public policy. In addition to four academic departments, including economics and public administration, the Andrew Young School houses eight leading research centers and policy programs, including the International Center for Public Policy.

The mission of the International Center for Public Policy (ICePP) at the Andrew Young School of Policy Studies is to provide academic and professional training, applied research, and technical assistance in support of sound public policy and sustainable economic growth in developing and transitional economies.

ICePP is recognized worldwide for its efforts in support of economic and public policy reforms through technical assistance and training around the world. This reputation has been built serving a diverse client base, including the World Bank, the U.S. Agency for International Development (USAID), the United Nations Development Programme (UNDP), finance ministries, government organizations, legislative bodies, and private sector institutions.

The success of ICePP reflects the breadth and depth of its in-house technical expertise. The Andrew Young School's faculty are leading experts in economics and public policy and have authored books, published in major academic and technical journals, and have extensive experience in designing and implementing technical assistance and training programs. Andrew Young School faculty have been active in policy reform in over 40 countries around the world. Our technical assistance strategy is not merely to provide technical prescriptions for policy reform, but to engage in a collaborative effort with host governments and donor agencies to identify and analyze the issues at hand, arrive at policy solutions, and implement reforms.

ICePP specializes in four broad policy areas:

- Fiscal policy (e.g., tax reforms, public expenditure reviews)
- Fiscal decentralization (e.g., reform, intergovernmental transfer systems, urban finance)
- Budgeting and fiscal management (e.g., local, performance-based, capital, and multi-year budgeting)
- Economic analysis and revenue forecasting (e.g., micro-simulation, time series forecasting)

For more information about our technical assistance activities and training programs, please visit our website at icepp.gsu.edu or contact us at paulbenson@gsu.edu.

Towards Sustainable Cities: Lessons from Urban Decentralization in India and Bangladesh

Simanti Bandyopadhyay,[1] Firdousi Naher,[2] and Aishna Sharma[3]

June 2020

Abstract

Fiscal and financial management in South Asian cities typically face constraints in capacity and utilization of resources. This paper attempts a systematic analysis of three corporations in the region: the Indian city of Kolkata (Kolkata Municipal Corporation, KMC) and the city corporations in Bangladesh's capital city, Dhaka (Dhaka North City Corporation, DNCC, and Dhaka South City Corporation, DSCC). Based on the incomes and expenditures of these corporations, this paper attempts for the first time a comparison in the status of finances and service delivery in cities of two South Asian Countries. The main findings suggest that the revenue receipts of KMC is significantly higher than that of either DNCC or DSCC or even both the bodies combined. This is true for own revenue as well as for grants from the upper tiers. Both DNCC and DSCC have expenses, which are way below the low level of existing earnings. These expenses are less when compared with international expenditure norms also. For KMC the revenue is not sufficient to cover the expenditures. For DNCC and DSCC, levels of expenditures on provision of urban services are abysmally low, which is also reflected in the status of service delivery in these cities. Property tax accounts for the lion's share of the tax revenue in both Kolkata and Dhaka. For Dhaka, non-tax revenues obtained from fees, fines, rates, etc. have a higher share in own revenue, while Kolkata has higher shares of taxes. Interestingly, despite the low revenue generation capacity of the DNCC and DSCC, this is what comprises the bulk of total revenue. Grants received from the upper tiers are very low in DNCC and DSCC compared to the fact that close to half of KMC's total revenue comes from grants. We also estimated the GCP for Dhaka and Kolkata and did some simulation exercises for estimating the revenue capacities. Based on these exercises, we suggest that KMC should generate up to 4 percent of their GCP as revenues for the corporation. For Dhaka, 1 percent of GCP as revenues in both DNCC and DSCC are estimated as their potentials.

[1] Associate Professor, Economics and Public Policy Area, School of Management and Entrepreneurship, Shiv Nadar University, India; [2] Professor, Economics Department, Dhaka University, Bangladesh; [3] Assistant Professor, Economics and Public Policy Area, School of Management and Entrepreneurship, Shiv Nadar University, India

This study is a part of a bigger study on South Asian Cities. We thank the Bureau of Economic Research (BER), a research arm of the University of Dhaka, for funding the Bangladesh chapter of the study. Our sincere thanks to Muhammad Ibrahim Shah for his excellent research assistance. We would also like to thank immensely all the officials in KMC, DNCC and DSCC for their cooperation and help in the data collection process. However, the usual disclaimer applies.

1. Introduction

With a growing rate of population, migration and the burgeoning demand for industrialization, there has been a great pressure on urban infrastructure in the cities of South Asia. India and Bangladesh are no exceptions. The process of decentralization took a strong hold in India during the 74th Amendment Act in 1992, which devolved certain functions and finances to the urban local governments.[1] With a federal system of government, India has fairly independent states which exert substantial control over the local rural and urban bodies, although the devolution varies across the states. Bangladesh, on the other hand, has a unitary democratic form of government with largely deconcentrated rather than devolved local bodies. Since the 1972 constitutional provision of elected local government (Articles 59 and 60) which requires the parliament to determine specific responsibilities for the local bodies, local government has had a checkered history in Bangladesh. Despite the efforts towards decentralization in both Dhaka and Kolkata, the status of basic services like roads, sewerage, sanitation and street lighting continues to remain inadequate.

In this paper, we analyze the performance of the two urban local bodies (ULB) in Dhaka- Dhaka North City Corporation (DNCC) and Dhaka South City Corporation (DSCC) and one urban local body in India- Kolkata Municipal Corporation (KMC). The paper is organized as follows: Section 2 sets the context by discussing some socio-economic indicators in all the three corporations. Section 3 gives a broad idea about the finances in the three ULBs. An assessment of fiscal health of each city corporation is attempted in Section 4. Section 5 suggests some simple simulations to assess the maximum revenue potentials of the city governments. A

[1] A list of functions and finances undertaken by Indian urban local government is given in Box A1 and Box A2, Appendix.

comparative analysis of the status of service delivery is offered in section 6. Section 7 concludes the discussions.

2. Socio-Economic Indicators

Population dynamics in Bangladesh is now primarily an urban phenomenon. Approximately 37 percent of the country's 161.8 million people live in the urban areas. The urbanization has been such that Dhaka, the capital city, has also emerged as the primate city. It houses an estimated 11.1 million people making it home to more than 35 percent of the urban population and more than 10 percent of the total population of Bangladesh. The population density in the city exceeds 35,000 people per square kilometer. We collected information on the population figures for the two city corporation areas for 2017-18, which is shown in Table 1 below.

Table 1. Demographics in DNCC and DSCC and KMC*

ULB	Population	Area (square km)	Population Density (persons/km^2)
DNCC	4,832,346	197	24,530
DSCC	3,883,423	109.3	35,546
KMC	4,496,694	207	21,739

Source: Authors' computation based on data collected from DNCC and DSCC; Census of India (2011)
Note: Data for DNCC and DSCC pertain to 2017-18, while for KMC data is for 2011.

A look at few of the other socio-economic characteristics of Dhaka city reveal a literacy rate of 74.6 percent in 2011 (Table 2). When we consider the urban parts of Dhaka Division and overall Dhaka district (Dhaka *zila*) the figures are lower.[2] Literacy rate is an indicator of the extent of awareness and the demands that people place on service delivery. Literacy rate can also throw light on the level of development and hence the revenue raising capacity of the city. Participation of people in economic activities is an important indicator that can inform about the vibrancy of the city, the demand for service delivery and the quantum of revenue that can be generated from

[2] The administrative set-up in Bangladesh is given in the Appendix.

the incomes of the people in the city. We find that the crude activity rate[3] in Dhaka district is only 44.34 percent. With more than half the population outside the sphere of economic activity and yet demanding the services in the area, there exists a tremendous pressure on the city corporations for providing the services to this proportion of the population vis-à-vis revenue generated from the usage of those services by this proportion of population. The population density figures that we have already observed lend further credence to the pressure that is put on the service delivery in both DNCC and DSCC. It may be noted that although the DNCC has approximately one million people more than the DSCC, the pressure on services is higher in the latter, because the population density in DNCC is lower by almost 11,000 people per square kilometer compared to DSCC. Although figures on housing characteristics are not available separately for the city corporation areas, the number of people residing in *pucca* houses for Dhaka district (urban) is approximately 54 percent.

Table 2. Socio-Economic Indicators in Dhaka

Indicators	Percentage
Literacy (7+) (Dhaka division)	64.3
Literacy (7+) (Dhaka district)	71.1
Literacy (7+) (Dhaka City Corporation)	74.6
Crude Activity Rate (Dhaka district)	44.34

Source: BBS (2012, 2014a, 2014b)

The KMC is one of the largest ULBs in India, which has a high population density of 21,739 per square km (Table 1). It is spread over an area of 207 square km as per the Census of India, 2011, which has increased from 186 square km in 2001. There has been a fall in the population from 4,580,546 in 2001 to 4,496,694 in 2011. However, despite the fall, the population density in KMC is as high as 21,739 persons per square kilometer (Census of India, 2011). The literacy rate

[3] The crude activity rate is defined as the ratio of economically active population in the age group 10 years and over to the total population expressed in percentage.

stands at 80 percent. Another indicator of development is given by the percentage of people living in the permanent houses,[4] which stands at 93 percent.

A preliminary comparison of the two cities reveal that the KMC has a lower population density and a higher literacy rate than the Dhaka city corporations. Unfortunately, other indicators available cannot be directly compared. However, it can be deduced that KMC would have a lesser burden on existing level of services compared to DNCC and DSCC. That the demand and revenue generation might not be enough in Dhaka cities can also be concluded by the fact that only approximately 44 percent of their population are economically active. Within Dhaka, we see that DNCC is better placed than DSCC due to lesser population density and hence lower pressure on the existing services. The effect of these on service delivery is seen later in the paper.

3. Finances of the Corporations: Revenues and Expenditures

We took the revenue receipts and revenue expenditure data for all the cities in 2011-12 prices and converted the currencies of each country into US dollars to make the comparison easier between KMC and the two Dhaka city corporations by multiplying the values for each year by the respective exchange rate for each country.[5]

When we compare the finances of DNCC and DSCC with KMC, we find a stark difference. (Table 3). Property tax,[6] which is the more important source of revenue for any local body, is higher in KMC by over 450 percent as compared to DNCC as well as DSCC. In absolute terms, the per capita property tax is higher in KMC by US$ 17.6 for DNCC and US$ 17.8 in DSCC.

[4] Permanent houses refer to those houses whose walls & roofs are made of *pucca* materials, i.e., where burnt bricks, G.I. sheets or other metal sheets, stone, cement, concrete is used for wall and tiles, slate, shingle, corrugated iron, zinc or other metal sheets, asbestos sheets, bricks, lime and stone and RBC/RCC are used for roof.
[5] Source: https://www.exchangerates.org.uk/INR-USD-spot-exchange-rates-history-2020.html
[6] Valuation method of property tax in KMC is provided in Box A3, Appendix.

The predominance of property in total tax revenue yields the same pattern gets in tax revenue as well. The non-tax revenue is also higher in KMC compared to both DNCC and DSCC by a margin of over 200 percent. Per capita grants are in KMC amount to US$75.5 while the corresponding figures for DNCC and DSCC are a paltry US$0.6 and US$ 1.5 respectively. It appears that the both DNCC and DSCC do not get enough support from the upper tiers of the government (See Table A1, Appendix for year wise data on finances in DNCC, DSCC and KMC). It is in the fitness of things to mention here that we have not considered receipts from project funds in case of DNCC and DSCC.[7] This is because projects have separate time-bound expenditure requirement that would give us a misleading picture of city corporation finances, if included with the rest of the income sources. However, from the budget documents, we calculated the grants from the upper tiers of the government because of projects and these varied from less than 15 percent of the total income exclusive of project funds to more than 90 percent of the same.

In terms of per capita revenue expenditure, we see a similar pattern; the gap between KMC and DNCC stands at US$71.9 and between KMC and DSCC stands at US$69.8. Between 2012-13 and 2018-19, the per capita revenue expenditure in both the city corporations in Dhaka did not go beyond a high of US$ 6.5, while for KMC it had reached US$ 112. With a substantially lower level of expenditure by both DNCC and DSCC, we can expect their service delivery to be falling behind KMC. This will be elaborated in a later section.

[7] KMC did not receive any head called ‘project fund’ under its revenue receipts.

Table 3. Summary statistics of per capita revenue and expenditure (in US dollars)

Local body / Finances (in US $)	KMC Geometric Mean (Max, Min)	DNCC Geometric Mean (Max, Min)	DSCC Geometric Mean (Max, Min)
Property Tax	21.5 (31.8, 14.5)	3.9 (4.5, 2.9)	3.7 (4.9, 2.5)
Tax Revenue	22.3 (32.5, 15.3)	4 (4.7, 3)	3.8 (5, 2.6)
Non Tax Revenue	14.2 (20.5, 1)	4.3 (4.9, 3.4)	4.7 (5.7, 3.9)
Own Revenue	36.6 (49.8, 23.5)	8.3 (9.4, 6.4)	8.5 (9.8, 6.8)
Grants	34.2 (40.3, 28.2)	0.6 (2.2, 0.3)	1.5 (5.9, 0.7)
Total Revenue Receipts	72.1 (90.4, 51.7)	9.5 (11.4, 7.1)	10.8 (14.6, 7.6)
Total Revenue Expenditure	75.5 (112, 64)	3.6 (4.1, 2.8)	5.7 (6.5, 5)

Source: Authors' computation

Note: The average value is taken over the year 2010-11 to 2017-18 for KMC (due to availability of average yearly exchange rate from the year 2010 onwards). The period under consideration for both DNCC and DSCC is 2012-13 to 2018-19.

Let us look in more detail at the different components of revenue receipts in all the three ULBs. Table 4 gives us the shares of different components of revenue in own revenue and/or in total revenue receipts. Property tax comprises 97 percent of the tax revenue in all the three ULBs. However, its share is higher in the own revenue in KMC (57 percent) as compared to DNCC (46.8 percent) and DSCC (43 percent). Property tax also forms a lower share of total revenue receipts in KMC as compared to both DNCC and DSCC. We see that KMC draws most of its own revenues through tax income (61 percent) while for DNCC and DSCC this share is less than 50 percent. For the latter, the non-tax revenue forms a greater proportion in their own revenues. With property tax rates remaining stagnant since the late 1980s in the face of failed attempts to revise the rates, this has been an under-explored option for the Dhaka city corporations. Grants as a proportion of total revenue can give us some idea about the extent of decentralization and self-reliance. In KMC, 44 percent of the total revenue is obtained from grants. The corresponding share is much lower for DNCC at 7.5 percent and for DSCC at 13.8 percent. We cannot really tout this as a self-reliance of Dhaka cities rather it is a reflection of poor decentralization of finances from the upper tiers of government. The next section brings revenue receipts and revenue expenditures together to analyze the fiscal health of the ULBs.

Table 4. Share of Different Revenue Components in Own Revenue and Total Revenue (%) (average over years)

Local body / Share (%)	KMC Geometric Mean (Min, Max)	DNCC Geometric Mean (Min, Max)	DSCC Geometric Mean (Min, Max)
Property Tax to Tax Revenue	96.4 (95, 98)	96.7 (98, 95)	96.9 (96.3, 98)
Property Tax to Own Revenue	59% (52, 64)	46.8 (46, 49)	43 (35, 50)
Property Tax to Total Revenue Receipts	30 (27, 35)	40.6 (36, 44.5)	34.2 (27, 41)
Tax Revenue to Own Revenue	61 (54, 65)	48.4 (47, 51)	44.4 (36, 51)
Non Tax Revenue to Own Revenue	39 (35, 46)	51.6 (49, 54)	55 (49, 64)
Own Revenue to Total Revenue	51 (45, 56)	86.8 (79, 92)	79 (58, 93)
Tax Revenue to Total Revenue	31 (28, 36)	42 (37, 46)	35.2 (36, 51)
Non Tax Revenue to Total Revenue	20 (16, 26)	44.7 (42, 47)	43.7 (30.4, 57)
Grants to Total Revenue	47 (38, 55)	7.5 (3, 19)	13.8 (5.6, 40)
Other Income to Total Revenue	0.27 (0.07, 7)	2.7 (0.9, 2.7)	0.6 (0, 11.7)

Source: Authors' computation

4. An Assessment of Fiscal Health

We consider three important determinants of fiscal health, viz. revenue-expenditure gap, own revenue to GCP ratio and revenue capacity. A comparison of the revenue and expenditure gap across the cities reveal that the per capita revenue expenditure exceeds per capita own revenue receipts by US$ 43.4 on an average in KMC, whereas the own revenues are sufficient enough to cover revenue expenditure in both DNCC and DSCC (Table 5). When we compare the revenue expenditure per capita to the total revenue receipts per capita, we see that again the total revenues fall short of the revenue expenditure by US$ 7.8 in KMC. But in DNCC and DSCC the per capita revenue receipts exceed the per capita total revenue expenditure. One might call it a better scenario in DNCC and DSCC as compared to KMC, but we need to note the level of

services provided by the city corporations to comment further on it (It could be because the ULBs are incurring insufficient expenditure on the services)

The own revenue to GCP ratio tells us about the share of the city product generated as own revenue by the cities. Since we do not have data on GCP for each city/corporation, we estimate the GCP by using the Gross District Domestic Product for KMC and the data available for the Dhaka Urban Cluster for DNCC and DSCC. The methodologies differ slightly between India and Bangladesh due to availability of data at different dis-aggregation levels.

Table 5. Financial Indicators (per capita, USD)

	KMC Geometric Mean (Min, Max)	DNCC Geometric Mean (Min, Max)	DSCC Geometric Mean (Min, Max)
Own Revenue	36.6 (24, 50)	8.3 (6.4, 9.4)	8.5 (6.8, 9.8)
Revenue Expenditure	75.5 (64, 112)	3.6 (2.8, 4.1)	5.7 (5, 6.5)
Own Revenue and Revenue Expenditure gap	-43.4 (-70, -34)	4.8 (3.5, 6)	2.8 (1, 4)
Total Revenue receipts	72.1 (52, 90)	9.5 (7.1, 11.4)	10.8 (7.6, 14.6)
Revenue Expenditure	75.5 (64, 112)	3.6 (2.8, 4.1)	5.7 (5, 6.5)
Total Revenue and Revenue Expenditure gap	-7.8 (-30, 1.6)	6.1 (4.3, 7.7)	5.1 (1.9, 8.1)

Source: Authors' computations

Method of Estimation of Gross City Product for KMC:

For KMC, we took the non-agricultural component of Gross District Domestic Product (GDDP) as a proxy for GCP. We estimate the non-agricultural component of the GDDP by multiplying the share of urban population by the GDDP for each year. We estimate the own revenue to GCP ratio for the period 2007-08 through 2012-13.[8] The geometric mean for 2007-08 to 2012-13 was 1.6 percent.

[8] We had the latest data available for GDDP until only the year 2012-13.

Method of Estimation of Gross City Product for Dhaka

In the absence of any estimate of GCP in Dhaka, we used the contribution done by the Dhaka Urban Cluster in the GDP to estimate the GCP of Dhaka. The contribution of Dhaka Urban Cluster in the national GDP is 36 percent (Jha, Raghuram and Awasthi, 2019). With GDP of Bangladesh in current prices for 2017-18 standing at BDT 22,38,498 crores, the contribution of Dhaka Urban Cluster works out to be BDT 8,05,859 crores. The population for Dhaka Urban Cluster[9] is 18.9 million (Jha, Raghuram and Awasthi, 2019). Thus the per capita income in the Dhaka Urban Cluster is BDT 4,26,381. Taking this as a benchmark, we construct a scenario, where we estimate GCP for both the corporations. We then do a simulation for estimating the revenue capacity.

We assume that the per capita income for Dhaka Urban Cluster is the same in both the city corporations. Thus, we take per capita GCP to be BDT 4,26,381 in DNCC as well as in DSCC. Multiplying by the respective populations of DNCC and DSCC, we get the total estimated GCP generated in each city corporation (Table 6). Using the own revenue generated in the year 2017-18 in DNCC and DSCC at market prices, we find the own revenue to GCP ratio at 0.3 percent in DNCC and 0.28 percent in DSCC.

For KMC, we took the non-agricultural component of Gross District Domestic Product (GDDP) as a proxy for GCP. We take the per capita non- agricultural component of GDDP of Kolkata district,[10] in which KMC is located, as a proxy of per capita GCP in KMC. Multiplying this per capita income by the population of KMC, we generate the estimate of GCP in KMC. We

[9] Map 1 in the Appendix gives an idea about the urban cluster of Dhaka in Bangladesh
[10] Map 2 in the Appendix gives an idea about the location of Kolkata district in the state of West Bengal in India.

estimate the own revenue to GCP ratio for the period 2007-08 through 2012-13.[11] The geometric mean was 1.6 percent.

Table 6. Estimates of GCP and own revenue to GCP ratios

Variables		Dhaka
Contribution of Dhaka Urban Cluster in GDP of Bangladesh		36%
GDP of Bangladesh for the year 2017-18 in current prices in BDT		2238498,00,00,000
GCP (36% of GDP for 2017-18 in current prices) in BDT		805859,28,00,000
Total Population in Dhaka Urban Cluster		1,89,00,000
Per Capita GCP for Dhaka Urban Cluster		4,26,381
Assumption: Per capita GCP is the same in DNCC and DSCC	DNCC	DSCC
Per capita GCP	4,26,381	4,26,381
Population in 2017-18	48,35,180	35,63,376
Estimated Gross City Product in BDT	2061,62,69,15,157	1519,35,42,31,896
Own Revenue for the year 2017-18 in current prices	612,07,36,768	422,99,41,881
Own Revenue to GCP ratio (%)	0.30	0.28

Source: Authors' computation

Table 7 gives own revenue to GCP ratio of all the three city corporations. For Dhaka, we take the most optimistic scenario of 0.30 for DNCC and 0.28 for DSCC and compare this with KMC for which the actual own revenue to GCP ratio is 1.6 percent. Thus, KMC performs better than the Dhaka city corporations in this regard as well. In the next section we estimate the revenue capacity by estimating the maximum own revenue that each city is able to generate.

Table 7. Own revenue to GCP ratio (percent)

	KMC	DNCC	DSCC
Own Revenue-GCP Ratio	1.6	0.30	0.28

Source: Authors' computation

Note: We have taken the geometric mean for KMC (from 2007-08 through 2012-13). For Dhaka cities, the value pertains to 2017-18, for which it was feasible to estimate GCP and hence the ratio.

[11] We had the latest data available for GDDP until 2012-13.

5. Revenue Capacity Estimations

The most optimistic scenario is estimated for all three corporations. We do some simulations to see how much can the own revenue be raised in each city. In case of KMC, we find the actual own revenue to GCP ratio to be 1.6 percent. With this level of own revenue receipts, the KMC was not able to meet its revenue expenditure. We raise the ratio of own revenue to GCP to 2 percent and estimated the own revenue receipts at this ratio. At this level of own revenue also, the local body was not able to meet the revenue expenditure. We do a second simulation where we estimate the own revenue to GCP ratio such that own revenues can cover the revenue expenditure. We took the average revenue expenditure to GCP ratio of 3.2 percent as the benchmark. We find that KMC was able to meet its revenue expenditure in only two of the years under consideration and in the remaining years it could not meet the revenue expenditure with the estimated own revenue. In the third simulation we raised own revenue to GCP ratio to 4 percent and estimated the own revenue, that is the most optimistic scenario. We find that the local body was able to meet its revenue expenditures in all the years with this level of own revenue.

In case of DNCC and DSCC, we followed a different approach. We did not consider revenue expenditure as one of the variables to suggest the raise required in the own revenue because own revenue receipts already exceeded the revenue expenditure in both the ULBs. We considered the lowest own revenue to GCP ratio as found for KMC as a guide to decide the most optimistic scenario. The lowest own revenue to GCP found in KMC was in the year 2010-11 at 1.3 percent. We suggest own revenue to GCP to be at least 1 percent in both DNCC and DSCC (which is lower than the lowest ratio found for KMC). Thus, in order to improve the fiscal performance of the cities under the study we suggest own revenue to GCP ratio to be 4 percent for KMC, and 1

percent for both DNCC and DSCC. We now analyze the status of service delivery in KMC, DNCC and DSCC.

6. Service Delivery Indicators

For the Dhaka city corporations, we considered the 2011 census data, when the DNCC and DSCC were unified under the Dhaka City Corporation (DCC). Data on service delivery was collected from the DNCC and DSCC and these are compared it with the physical norms. In the absence of physical norms for service delivery for Bangladesh, we consider the recommendations by the High Powered Expert Committee (HPEC) (GOI, 2011) as benchmarks. In terms of having tap as a source of drinking water and electricity as a source of lighting, both KMC and the Dhaka City Corporation are close to each other (Table 8). Both the cities are performing well in these two aspects particularly with respect to access to electricity with 96 percent and above households having the facility. DNCC has 100 percent closed sewerage while for DSCC the share is only 52 percent. In Kolkata city, about 43 percent of the households have piped sewers. With respect to solid waste management, collection efficiency is much below the recommended norm. Both DNCC and DSCC are able to collect less than 75 percent of the solid waste generated in the city. The remaining lies in the open unattended (Ahmed, 2014). Both the road density as well as area under roads also falls much below the norm. Overall, KMC is doing better than both DNCC and DSCC and within Dhaka; one can say that the higher expenditure in the DSCC is not reflected in better service delivery as compared to DNCC. DSCC falls behind DNCC in both solid waste collection and closed sewerage.

Table 8. Service Delivery for KMC, DNCC and DSCC* vis-à-vis Service Delivery Norms

Services	Kolkata	Dhaka	Norms
Households having electricity as a source of lighting	96%	98.6%	NA
Households having tap as a source of drinking water	88%	85.4%	NA
Sewerage and Drainage	43% households with piped sewers 81% households having access to closed drainage	DNCC-100% closed sewerage DSCC-52% closed sewerage	100% underground sewerage
Solid Waste Generated** (tons/day)	4500 MT/ day	4220 (DNCC) 3300 (DSCC)	
Solid Waste collection (%)	NA	74% (DNCC) (2018-19) (household waste, partial construction waste, street waste and business waste) 70% (DSCC) (2016) (domestic waste)	100% collection efficiency
Road Density (km per square km)		6.9 (DNCC) 9.2 (DSCC)	12.25
Road (% age of area under roads)***		5% (DSCC)	11%

Sources: 1) Field Survey for DNCC and DSCC, 2) Census of India, 2011 and Status Report Solid Waste Management (Feb 2019) for KMC; 3) HPEC (2011); 4) DNCC (2019); 5) Wasim and Nine (2017)
*Data was available for the year 2017-18 (except for road (%age), which was available for the year 2012-13)
** The source for DNCC for solid waste generated and collected was DNCC (2019) and for DSCC was Wasim and Nine (2017)
***data was not available for DNCC

Comparison of Finances with Benchmarks

After comparing the service delivery, we now compare the expenditure incurred by the ULBs to the city size-wise financial benchmarks set by the High Powered Expert Committee (HPEC) (GOI, 2011) for Indian cities. This analysis is done only for KMC, as we could not get the data on service level expenditure incurred by DNCC and DSCC. We compared the existing per capita expenditures with the per capita operation and maintenance financial norms given by the High Powered Expert Committee (GOI, 2011). For all the five basic services together (that is water supply, sewerage and drainage, streetlights, roads and solid waste management), the average expenditure incurred by KMC was much below the financial norms prescribed, indicating a lack

of adequate level of service delivery. In addition, when we look at the trend over time, we see that the gap between actual revenue expenditure and expenditure norms increases over time. While the norms remain the same for each year, we can say that there has been a consistent fall in the revenue expenditure by the KMC over time. Table 9 provides the gap between revenue expenditure on services and expenditure norms over years

Table 9. Fiscal Health in KMC over Years (per capita US$)

Indicator	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Gap between revenue expenditure and expenditure norms	4.1	-6	-2.9	-6.2	-3.9	-6.3	-7.2	-8.3

Source: Authors' computation

7. Summary of Findings and Implications for Policy

The paper has presented an overview of the finances of the corporation in the Indian city of Kolkata (KMC) and the city corporations in Bangladesh's capital city, Dhaka (DNCC and DSCC). Based on the incomes and expenditures of these three corporations, we delve into the implications for service delivery in both Kolkata and Dhaka. KMC is about 2/3rd of the size of DNCC and DSCC combined and has a much lower population density. Data reveals that the revenue receipts of KMC is significantly higher than that of either DNCC or DSCC or even both the bodies combined. This is true for own revenue as well as for grants from the upper tiers. What emerges as a stark difference in our finding is that both DNCC and DSCC have expenses, which are way below the low level of existing earnings. These expenses are less when compared with international expenditure norms. Thus, revenues are higher than expenditures in the case of the city corporations in Dhaka while for the KMC the revenue is not sufficient to cover the expenditures. It is to be noted that the expenses stated in this analysis do not include capital expenditures or loan repayments. Even then, positive revenue expenditure gaps for DNCC and

DSCC would not indicate a 'surplus', but abysmally low levels of expenditures on provision of urban services, which is also reflected in the status of service delivery in these cities.

Property tax accounts for lion's share of the tax revenue in both Kolkata and Dhaka. Total tax revenues constitute the greater part of own revenue for KMC while for Dhaka non-tax revenues obtained from fees, fines, rates, etc. has a higher share in own revenue. Interestingly, despite the low revenue generation capacity of the DNCC and DSCC, this is what comprises the bulk of total revenue. Grants received from the upper tiers is very low in DNCC and DSCC compared to the fact that close to half of KMC's total revenue comes from grants.

Service delivery is a primary manifestation of the level of expenditure. In both DNCC and DSCC, the low spending is reflected in the poor delivery of essential services. When compared with the recommended physical norms, the status quo in Dhaka is much below the norms. Kolkata also falls short of the norms but the gap between the norms and the status quo is smaller compared to that of Dhaka.

We juxtaposed the expenditure norms with the actual revenue expenditure in the case of KMC. This could not be done for Dhaka due to non-availability of service-wise revenue expenditure. We also estimated the GCP for Dhaka and did some simulation exercises for raising the revenue capacity. Based on these exercises, we suggest raising the own revenue to GCP ratio in KMC to 4 percent and to at least 1 percent in both DNCC and DSCC.

For KMC, we propose an increase in own revenue by tapping its property tax and non-tax revenue handles. With respect to the property tax, we need to introduce a GIS mapping of properties. In case of non-tax revenue, we suggest 1) enhancing the rates/charges of the existing handles and 2) introducing new handles. For the existing handles are concerned in the non-tax

component, the services like roads, sewerage and drainage should be improved, which can further help KMC raise revenues from these handles. KMC has plans to improve the Solid Waste Management, which can help it raise revenue from this handle by increasing the existing charges. Another potential handle is car-parking fees. Given the increasing numbers of private cars, KMC should raise the car parking fees, which is still on hold. The cable operators pay a share of their fees to Multiple System Operators, as prescribed by TRAI, but it is found unjustified by the operators. Some portion of this could be diverted to KMC as cable operator charges. The unrecorded (illegal) installation of mobile towers over building rooftops need to be tracked and charges should be levied on them.

As far as revenue expenditure is concerned, we saw that only is the KMC not spending as desired by the expenditure norms to fund basic services but there is also a consistent fall in revenue expenditures. We recommend proper audit to monitor the expenditures of the ULB. For Dhaka, even though the expenditure is significantly below the revenue income, this can hardly be considered as good fiscal health, given the poor deliverance of services to the city dwellers. Understandably, the large migrant population, who do live in the city but lack a sense of ownership given their bearings outside Dhaka, does not generate sufficient demand for quality services. There are a couple of reasons for that. Firstly, a large majority of the people in Dhaka city live on rented accommodation, and as such, their willingness to contribute in terms of charges or taxes would be less as compared to the owners of those dwellings. Secondly, factors such as low literacy rate and low-income levels (which are a characteristic of the city) are a key deterrent to the demand for augmented services. Against this backdrop, improvement in the services and amenities of the city must be supply-driven, based on the premise that enhanced supply will raise standards and expectations of the people, eventually leading to higher demand.

Utilizing all the revenue handles to a fuller extent is key to augmenting revenues. The property tax rates in Dhaka have not been revised for more than three decades. Just this one reform alongside a good collection efficiency can significantly raise the corporations' own revenues. Several unexplored areas can be reined in for raising non-tax revenues. First, cable operator and mobile tower charges should be tapped. Second, given the congestion in the city some conservancy charges should be introduced. Third, the car-parking problem should be tackled in structured manner. The car-parking fee should be introduced such that the fee structure is contingent on the vehicle type and the space it is occupying. Moreover, differential charges for peak time and off time, commercial and residential areas should be introduced. In addition to this, one-time parking fee could be introduced as per the price of the car.

Bangladesh is slated to graduate from the UN's Least Developed Country status in 2024. A key development challenge would be to make Dhaka, a city that houses more than 35 percent of the country's urban population, more sustainable. Towards that end, we recommend that an urban renewal mission be introduced for the cities of Dhaka. The reform should clearly delineate the role of upper tiers of the government in supporting the urbanization in the city. In addition, there should be physical norms designed, which should state the level of service delivery desired according to the size class of the city corporations. Corresponding to the level of service delivery there should also be the financial norms instituted. Such an exercise would help assess the expenditure needs of the cities. Last but not the least, we recommend a proper audit of the accounts of the local bodies. These measures would help accelerate the pace to making Dhaka a world-class sustainable city.

Bibliography

Ahluwalia, I. J., Mohanty, P.K., Mathur, O., Roy, D., Khare, A., & Mangla, S. (2019). *State of Municipal Finances in India: A study prepared for the fifteenth finance commission*. New Delhi: Indian Council for Research on International Economic Relations.

Ahmed, Salehuddin. 2012. Level, structure and distribution of urban public finance. In Hossain Zillur Rahman (ed.) 2012. *Bangladesh: Urban dynamics*, Dhaka: Power and Participation Research Centre.

Ahmed, S. 2014. Public finance and urban development in Bangladesh. Presented at First Bangladesh Economic Conference, Dhaka.

Ahmed, T. 2015. Bangladesh: Reform agenda for local governance. BRAC Institute of Governance and Development.

Ahmed, Sohel, K. M. Nahiduzzaman and Glen Bramley. 2014. From a town to a megacity: 400 years of growth. In Dewan, Ashraf and Rober Corner (eds.) 20-14. *Dhaka Megacity: Geospatial Perspectives on Urbanisation, Environment and Health*, Springer geography. DOI: 10.1007/978-94-007-6735-5_2

Bagchi, S. (1999). Myth of empowering urban local bodies. *Economic and Political Weekly, 34* (37), 2637.

Bagchi, S. (2001). Constraint in accessing capital market by urban local bodies: Financing capital investments in urban infrastructure. *Economic and Political Weekly, 36* (4), 385-398.

Bandyopadhyay, S. (2013a). A framework for assessing fiscal health of cities: some evidence from India. *Urban Public Economics Review, 19*, 12-43.

Bandyopadhyay, S. (2013b). Property tax reforms in India: A comparison of Delhi and Bangalore. *International Centre for Public Policy, Working Paper 13-21*, Andrew Young School of Policy Studies.

Bandyopadhyay, S. (2014a). Municipal finance in India: Some Critical Issues. *International Centre for Public Policy Working Paper 14-21*, Andrew Young School of Policy Studies, Georgia State University.

Bandyopadhyay, S. (2014b). Some new thoughts on Performance Evaluation of governments: An application to Indian cities. *International Centre for Public Policy. Working Paper Series*. Andrew Young School of Policy Studies.

Bandyopadhyay, S. (2015). Financial Management and Service Delivery: a nonparametric analysis for Indian cities. *Annals of Regional Science, 54*, 721-751.

Bangladesh Bureau of Statistics. 2015. *Preliminary report of the census of slum areas and floating population 2014*. Dhaka: Ministry of Planning, BBS.

Bangladesh Bureau of Statistics. 2012. Socio-economic and demographic report. Statistics and Information Division. Ministry of Planning.

Bangladesh Bureau of Statistics. 2014a. Population and Housing Census 2011. National Volume 2: Union Statistics. Statistics and Information Division. Ministry of Planning.

Bangladesh Bureau of Statistics. 2014b. Population and Housing Census 2011. National Volume 3: Urban Area Report. Statistics and Information Division. Ministry of Planning.

Bandyopadhyay, S., & Rao, M. G. (2009). Fiscal health of selected Indian cities. *Policy Research Working Paper 4863*. Washington DC: The World Bank.

Bandyopadhyay, S., & Bohra, O.P. (2010). *Functions and Finances of Urban Local Bodies in Jharkhand*. New Delhi: NIPFP

Bandyopadhyay, S., Bohra, O.P., & Sharma, A. (2011). Decentralisation in Jharkhand: Some implications for service delivery. *International Centre for Public Policy. Working Paper 11-14.* Andrew Young School of Policy Studies, Georgia State University.

Bandyopadhyay, S. & Bagchi, D. (2013). Are user charges underutilized in Indian cities? An analysis for Delhi. *International Centre for Public Policy. Working Paper 13-26*, Andrew Young School of Policy Studies, Georgia State University.

Bandyopadhyay, S. and Sharma, A. 2020. Assessing the performance of Kolkata Municipal Corporation: Implications for service delivery. *International Center for Public Policy Working Paper 20-02*. Andrew Young School of Policy Studies, Georgia State University.

Bird, R. M. & Slack, E. (2007). Taxing Land and Property in Emerging Economies: Raising revenue….and More? In Gregory K Ingram and Yu-Hung Hong (eds.), *Land Policies and their outcomes.* Massachusetts: Cambridge

Chattopadhyay, S. (2006). Municipal bond market for financing urban infrastructure. *Economic and Political Weekly, 41*(26), 2787-2791.

Dhaka North City Corporation 2019. Future vision of solid waste management in Dhaka North City: New Clean Dhaka Master Plan 2018-2032. Draft version. Bangladesh.

Ellis, Peter and Mark Roberts. 2016. *Leveraging urbanization in South Asia: Managing spatial transformation for prosperity and liveability.* South Asia Development Matters. Washington, DC: World Bank. doi: 10.1596/978-1-4648-0662-9.

Fox, William F. and Balakrishna Menon. 2008. *Decentralization in Bangladesh: Change has been illusive*, International Studies Program Working Paper 08-29, Andrew Young School of Policy Studies, Georgia State University.

Gandhi, S., & Pethe, A. (2017). Emerging challenges of metropolitan governance in India. *Economic and Political Weekly, 52* (27), 55-65.

Government of India (2011). *The high-powered expert committee for estimating the investment requirements for urban infrastructure services*. New Delhi: Ministry of Urban Development.

Government of India (2019). Report for the year 2020-21 XV Finance Commission. New Delhi: Ministry of Finance.

Hossain, Md Anwar and Shahana Sultana. 2015-16. Urbanization and Urban Population in Bangladesh: The Census Data of 2001 and 2011 Revisited. June 2016. CUS Bulletin on Urbanization and Development, No. 69 and 70, December 2015-June 2016. ISSN: 24147311

Huda, M.S. and Hasan, M.R. 2009. Problems and prospects of municipal holding taxation system: A study of Bhairab Pourashava

International Centre for Diarrhoeal Disease, Bangladesh (ICDDRB). 2016. *Baseline Population and Socioeconomic Census: Slums of Dhaka (North and South) and Gazipur City Corporations, 2015-16*. Urban Primary Health Care Services Delivery Project, Local Government Division. Ministry of Local Government, Rural Development & Cooperatives (MoLGRDC).

Jha, Shikha, Sangeetha Raghuram and Siddhant Avasthi. 2019. *Exploring strategies for planned urban cluster development in South Asia*, ADB South Asia working paper series no. 64, Manila: Asian Development Bank.

Local Government Division (2009), Local Government (City Corporation) Act of 2009, Local Government Division (LGD), the Government of Bangladesh, Dhaka.

Local government division (2016). City Corporation Standard Tax Schedule. Local Government Division (LGD), the Government of Bangladesh, Dhaka.

Mathur, O. P. (2011). *Municipal finance matters: India municipal finance report*. New Delhi: National Institute of Public Finance and Policy.

Mathur, O. P. (2013). Finances of Municipalities: Issues before the fourteenth finance commission. *Economic and Political Weekly, 48* (22), 23-27.

OECD (2018). Subnational governments in OECD countries: Key data 2018 edition. OECD.

Pethe, A., & Lalvani, M. (2006). Towards Economic Empowerment of Urban Local Bodies in Maharashtra. *Economic and Political Weekly, 41* (7), 635-641.

Rahman, Shamsur.2017. Holding tax varies from city to city. Prothomalo. https://en.prothomalo.com/bangladesh/Residents-face-disparity-in-holding-tax-rates

Rao, M.G. (2013). Property Tax Income in India: Problems and Prospects of Reforms. *Working paper number-2013-14*. National Institute of Public Finance and Policy, New Delhi.

Rao, M.G. & Bird, R.M. (2012). *Coping with the change: the need to restructure urban governance and finance in India.* International Centre for Public Policy Working Paper 12-03, Andrew Young School of Policy Studies, Georgia State University.

Samad,R.B., & Akhter,M.S.(2012):A comparative analysis of proprty tax assessment methods,2Journal of property tax assessment and administration,9(3),35-46

Sridhar, K. S. (2007). Reforming delivery of urban services in developing countries: evidence from a case study in India. *Economic and Political Weekly, 42* (33), 3404-3413.

Sridhar, K.S., Bandyopadhyay, S., & Sikdar, S. (2008). Improving fiscal health of Indian cities: A Synthesis of Pilot Studies, NIPFP, New Delhi.

Wasim, J. & Nine, A.K.M.H.J. 2017. Present outlook of sustainable solid waste management: A case study of Dhaka. Proceedings of the 5th international conference on solid waste management in South Asian countries, Khulna, Bangladesh.

Appendix

Box A1. List of functions devolved under the 74th Amendment Act to Urban Local Bodies in India

1. Roads and bridges
2. Water supply for domestic industrialization and commercial purpose
3. Burials and burial ground, cremation ground and electric crematorium
4. Public amenities including street lighting, parking lots, bus stop and public conveniences
5. Safeguarding interest of weaker section of society, including the handicapped and mentally retarded
6. Slum improvement and upgradation
7. Urban poverty alleviation
8. Provision of urban amenities and facilities such as parks, gardens and playground
9. Promotion of cultural, educational and aesthetic aspects
10. Cattle pounds and prevention of cruelty to animals
11. Urban planning, including town planning
12. Regulation of land use and construction of building
13. Planning for economic and social development
14. Fire services
15. Urban forestry, protection of environment and promotion of ecological aspects
16. Vital statistics including registration of births and deaths
17. Regulation of slaughter houses and tanneries
18. Public health, sanitation conservancy
19. Solid waste management

Box A2. List of finances devolved to Urban Local Bodies in India

Tax Revenue

1 Property tax
2 Profession tax
3 Sanitation/Conservancy tax (if 'charge', then it's a non tax)
4 Scavenging tax
5 Latrine tax
6 Drainage tax
7 Education tax
8 Entry/Terminal tax
9 Taxes on vehicles
10 Advertisement tax
11 Entertainment tax
12 Pilgrim tax
13 Environment tax/land revenue
14 Betterment/Development tax
15 Passengers & goods tax
16 Timber tax
17 Tax/toll on animals
18 Cable operator tax
19 Toll/Tax on bridges/vehicles

Non-Tax Revenue

20 Sanitation/Conservancy charge
21 Water charges
22 Surcharge on sales tax
23 Birth/Death registration fees
24 Betterment fees
25 Mutation fees
26 Dangerous and offensive trade license fees
27 Slaughter house fees
28 Market fee
29 Fee for fire services
30 Fees on dogs
31 Fees for registration of animals etc.
32 Parking fees
33 Fee on building application
34 Duty on transfer of immovable property
35 Penalty for late tax payment
36 Stamp Duty
37 Rent from municipal properties
38 Receipts from fines
39 Receipts from interest
40 Octroi (After the introduction of GST, this has been abolished)

Box A3. Valuation Method of Property Tax in Kolkata Municipal Corporation

The property tax is evaluated on the basis of annual rental value. The annual value is determined by multiplying the monthly rent by 12. Where property is owned by someone, the monthly rent is determined by comparing the property with similar rented properties in the locality. A 10 percent statutory allowance is deducted to arrive at annual value. In case of theatre/cinema halls, 7.5 percent of gross annual receipts less taxes is considered as annual value of the hall. The tax rates are applicable as following:

S No	Annual Valuation (in rupees)	Annual Tax	Rebate if tax deposited on time
1	AV less than 600	0.11*AV	0.05* Quarterly Tax
2	AV greater than 600 but less than 18000	(AV/600+10)*1/100*AV	0.05* Quarterly Tax
3	AV greater than 18000	0.4*AV	0.05* Quarterly Tax

Quarterly Tax = Annual Tax/4

Source: KMC Website

Table A1. Year-Wise Per Capita Revenue Receipts and Per Capita Revenue Expenditure in KMC, DNCC, DSCC from 2012-13 to 2017-18 (US$)

2012-13			
Category	KMC	DNCC	DSCC
Property Tax	31.8	4.3	4.9
Tax Revenue	32.5	4.5	5.0
Non Tax Revenue	17.3	4.9	4.8
Own Revenue	49.8	9.4	9.8
Grants	33.6	0.4	0.7
Total Revenue Receipts	89.6	11.0	11.9
Total Revenue Expenditure	87.9	3.4	5.9
2013-14			
	KMC	DNCC	DSCC
Property Tax	20.2	4.5	4.7
Tax Revenue	20.9	4.7	4.8
Non Tax Revenue	18.0	4.4	4.6
Own Revenue	38.9	9.2	9.4
Grants	31.3	0.3	2.8
Total Revenue Receipts	70.3	10.6	12.6
Total Revenue Expenditure	74.9	3.7	5.8
2014-15			
	KMC	DNCC	DSCC
Property Tax	19.8	4.4	4.1
Tax Revenue	20.4	4.6	4.3
Non Tax Revenue	13.1	4.7	5.1
Own Revenue	33.6	9.3	9.4
Grants	30.1	1.3	3.1
Total Revenue Receipts	63.7	10.7	12.5
Total Revenue Expenditure	74.5	3.6	5.9
2015-16			
	KMC	DNCC	DSCC
Property Tax	20.5	4.1	4.0
Tax Revenue	21.6	4.2	4.1
Non Tax Revenue	11.5	4.8	4.4
Own Revenue	33.1	9.1	8.5
Grants	39.8	2.2	5.9
Total Revenue Receipts	72.9	11.4	14.6
Total Revenue Expenditure	76.2	3.7	6.5
2016-17			
	KMC	DNCC	DSCC
Property Tax	20.1	3.9	3.5
Tax Revenue	20.8	4.0	3.6
Non Tax Revenue	11.1	4.1	5.7
Own Revenue	31.9	8.0	9.3
Grants	33.4	0.5	0.7
Total Revenue Receipts	65.3	8.7	10.1
Total Revenue Expenditure	65.7	4.1	5.3
2017-18			
	KMC	DNCC	DSCC
Property Tax	14.5	3.3	2.8
Tax Revenue	15.3	3.4	2.9
Non Tax Revenue	8.1	3.8	3.9
Own Revenue	23.5	7.2	6.8
Grants	28.2	0.6	0.9
Total Revenue Receipts	51.7	8.2	7.6
Total Revenue Expenditure	64.0	3.7	5.8

Source: Authors' computation

Map 1. Dhaka Urban Cluster in Bangladesh

D = distance by road, M = million, P = population.
Map data: Google (extracted on 25 May 2018).

Map 2. Districts in the State of West Bengal in India