Improving the Fiscal Health of Indian Cities: A Pilot Study of Pune

Draft Report Submitted by the

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Any errors remain with the authors.

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CHAPTER 1: INTRODUCTION

The Pune Urban Agglomeration (UA) is a rapidly growing urban area in the western part of India, located 220 kilometres southeast of Mumbai. The Pune UA comprises of five local governments, two of which are municipal corporations, and the remaining are cantonment boards:

1. Pune Municipal Corporation (PMC)
2. Pimpri-Chinchwad Municipal Corporation (PCMC)
3. Kirkee Cantonment Board (KCB)
4. Pune Cantonment Board (PCB)
5. Dehu Road Cantonment Board (DCB)

The main city is administered by the Pune Municipal Corporation (PMC). According to 2001 census data, the central city (Pune Municipal Corporation) alone contains 67 percent of total population among five urban local bodies (ULBs) and the second largest ULB is Pimpri Chinchwad Municipal Corporation which contains 26 percent of the UA's total population. In fact, an Economic Times (ET) *Places to Live and Work Survey* in 2007 ranked Pune the best city in the western region of the country, toppling Mumbai, Ahmedabad, Surat and Nagpur, because of its booming job market and quality of life.[1]

Table 1.1 summarizes the growth rates of population during 1991-2001 for the local bodies in the Pune UA. Clearly the PMC, representing the central city, is the largest local body, accounting for over two-thirds of the UA's population. It is also clear that while the central city (Pune Municipal Corporation (PMC)), the Pimpri Chinchwad Municipal Corporation (PCMC) and Dehu Cantonment Boards steadily gained population over the past two decades, the Pune and Khadki Cantonment Boards steadily lost population over this time period. PCMC's gain in population as a new town is to be expected as the older central city got congested, with the result that it is emerging as a second new centre.

We examined a variety of socio-demographic indicators such as the population, households, literacy rate, and workforce participation rate, for 1991 and 2001, with and without the central city, the PMC, given that it is the largest, and these characteristics for the UA might be influenced to a considerable extent by the PMC. Table 1.2 summarizes these data for the Pune

[1] The ET Survey, conducted jointly with *Indicus Analytics*, was done by categorizing cities of the western region based on their demographics and economic parameters, and is derived from *Indicus Analytics'* annual city survey City Skyline of India 2006-07. This survey ranks cities on three basic parameters – index to earn in, the index to invest in, and the third is the index to reside in. The lower the index, the better the city is.

UA without and with the PMC for 2001. For 1991 there are no significant differences hence we do not report them.

Table 1.1: Total Population, Pune UA, All Local Bodies, 1991 and 2001

Local bodies	Population, 1991	Growth rate of population, 1981-91	Population, 2001	Growth rate of population, 1991-01
Pune Municipal Corporation (PMC)	1,566,651	30.19%	2,538,473	62.03%
Pimpri Chinchwad Municipal Corporation (PCMC)	517,083	134.01%	1,012,472	95.80%
Pune Cantonment Board (PCB)	82,139	-4.47%	79,965	-2.65%
Khadki Cantonment Board (KCB)	78,323	-3.11%	77,473	-1.09%
Dehu Cantonment Board (DCB)	40,555	21.91%	46,921	15.70
Pune UA	2,284,751	35.50%	3,755,304	64.36%

Source: Census of India Primary Census Abstract (PCA), 1991 and 2001, and Authors' Computations.

Table 1.2: Summary of Socio-demographic Data, With and Without PMC, Pune UA

Summary of Socio-demographic Data, All Local Bodies, Pune UA						
Statistics	**Population**	**Number of households**	**HH size**	**Literacy rate**	**SC/ST**	**Workforce participation rate**
Average	7,51,060.10	16,554.8	4.80	76.70	15.33	39.70%
Max	25,38,473	555,771	5.27	82.44	19.73	43.09%
Min	46,921	9,773	4.37	73.03	10.07	37.89%
Std Dev	1,079,708	237,711.5	0.35	3.85	4.02	2.09%
Number of observations	5	5	5	5	5	5
Socio-demographic Data, Pune UA, Without PMC						
Average	30,420.7	68,000.75	4.86	76.87	15.98	39.95%
Max	10,12,472	231,562	5.27	82.44	19.73	43.09%
Min	46921	9,773	4.37	73.03	10.07	37.89%
Std Dev	472,415.1	109,073.6	0.37	4.42	4.33	2.32%
Number of observations	4	4	4	4	4	4

Source: Census of India Primary Census Abstract (PCA), 1991 and 2001, and Authors' Computations.

The most important observation we make from Table 1.2 is that the average number of households in the Pune UA without PMC is indeed higher than it is with PMC. This is because of the presence of PCMC, which had rapidly developed into a new town in 2001.

During 1991-2001, the total number of households increased by 3,60,776 in the Pune UA (including PMC) (Table 1.3). This shows urbanization spreading steadily. There is only a small decline in size of the household; during 1991, the average size of the household was 5.10, but

declined to only 4.80 in 2001 (Table 1.4), consistent with national trends. Consequently, we expect the demand for civic amenities to continually increase.

Table 1.3: Households, Pune UA, All Local Bodies, 1991 and 2001

Local Government	Households, 1991	Households, 2001	% growth during 1991-2001
PMC	3,16,347	5,55,771	75.68
PCMC	113,415	231,562	104.17
PCB	15,055	15,983	6.16
KCB	14,036	14,685	4.62
DCB	8,135	9,773	20.14
Pune UA	466,998	827,774	77.25

Source: Census of India Primary Census Abstract (PCA), 1991 and 2001.

Even while the population of PCB and KCB were declining during 1991-01, the total number of households in all local bodies (including PCB and KCB) show an increasing trend over the years 1991-2001 (Table 1.3). This implies that the population loss experienced by PCB and KCB during this period refers primarily to persons. In terms of the number of households, these local bodies also gained during 1991-2001.

Table 1.4: Household Size, All Local Bodies, Pune UA, 1991-2001

Local Body	1991	2001
Pune (M Corp.)	4.95	4.56
Pune (CB)	5.45	5.00
Kirkee (CB)	5.58	5.27
Dehu Road (CB)	4.98	4.80
Pimpri Chinchwad (M Corp.)	4.55	4.37
Average household size	5.10	4.80

Source: Census of India Primary Census Abstract (PCA), 1991 and 2001.

It is possible that minorities such as SC/ST (Scheduled Castes/Scheduled Tribes) are differentially affected by city-wide urban growth. Table 1.5 summarizes the percentage of SC/ST population by local body for 1991 and 2001. It is evident that SC/STs as a proportion of population have decreased during 1991-2001 in PMC, PCB and PCMC. However we have observed (from Table 1.1) that with the exception of PCB, the other local bodies (the PMC and PCMC) have gained population during the period. So it does appear that SC/STs have had to move out of fast growing areas of the Pune UA, such as the PMC and PCMC.

Table 1.5: Percentage of SC/ST in Total Population

Local Body	1991	2001
PMC	15.86	12.73
PCB	12.31	10.07
KCB	17.18	18.81
DCB	18.84	19.29
PCMC	17.67	15.79

Source: Census of India Primary Census Abstract (PCA), 1991 and 2001.

It would have been instructive to get information on the spatial distribution of slums within the UA, but we did not have access to the relevant data to enable this. Chapter 2 has a small section on how the slum population has grown relative to total population of the PMC over time.

Being called the Oxford of the East, the Pune UA has a relatively high literacy rate of 77 percent as per the census 2001. Table 1.6 shows that literacy rate in all the constituent local bodies of the Pune UA have been increasing during 1991-2001.

Table 1.6: Literacy Rate

Local Body	1991	2001
Pune (M Corp.)	69.32	76.03
Pune (CB)	78.37	82.44
Kirkee (CB)	72.04	78.40
Dehu Road (CB)	64.42	73.03
PCMC	65.42	73.61
Average	**69.91**	**76.70**

Source: Census of India Primary Census Abstract (PCA), 1991 and 2001.

There is a remarkable change in minimum literacy rate, it was 64 percent in 1991 which has increased to 73 percent in 2001. National economic growth and the United Progressive Alliance (UPA)'s flagship program, Sarva Siksha Abhiyan (SSA), have played a role in this. Further, the gap between the literacy rate of males and females in 2001 has narrowed compared to that prevailing in 1991. Increasing literacy implies that citizens are much more aware of the need for better public service delivery.

The workforce participation (for both main and marginal workers) has increased in all local bodies, as per the census 2001. The workforce participation (both for total and marginal workforce) is highest in KCB at 41 percent (Table 1.7). Non-workers represent the remaining

(apart from main and marginal workers) and include housewives and student population. The general increase in the workforce participation is an indication of the higher trajectory of growth the economy is in, and reflects the generation of employment opportunities.

Table 1.7: Workforce Participation

	Total Workforce Participation		Marginal Workforce Participation	
Local Body	**1991**	**2001**	**1991**	**2001**
PMC	36.86	38.70	0.96	2.40
PCB	37.57	37.89	0.31	1.21
KCB	40.52	43.08	0.54	2.23
DCB	36.38	38.50	1.04	2.37
PCMC	39.85	40.28	0.85	2.58

Source: Census of India Primary Census Abstract (PCA), 1991 and 2001.

The participation rate of marginal workers as per the census 2001 in PMC is 2.40 percent as compared to 0.96 percent in 1991. For the other local bodies the percentage of marginal workers has increased substantially over 1991-2001 (Table 1.7). Based on the census definition, this reflects the fact that there is an increase in the number of workers who were looking for work, but were unable to find work through the year.

While overall, agricultural laborers are a negligible share of total workforce, in two out of the five local bodies (Pune CB & Kirkee CB), the proportion of agricultural to total workforce has been rising over the period 1991-2001 (Table 1.8). On the basis of our discussions, this has happened due to the production of commercial crops, which promises high returns. In the other local bodies, the decline in agricultural workforce must be due to industrialization.[2]

Table 1.8: Agricultural Labor in Workforce

Local Body	**1991 (in %)**	**2001 (in %)**
Pune (M Corp.)	0.66	0.63
Pune (CB)	0.01	0.04
Kirkee (CB)	0.09	0.15
Dehu Road (CB)	3.12	1.87
Pimpri Chinchwad (M Corp.)	1.12	0.81

Source: Census of India Primary Census Abstract (PCA), 1991 and 2001 and Authors' Computations.

[2] It is instructive to note that the Census of India defines an urban area as one that has a minimum of 75 percent nonagricultural employment.

Table 1.9 summarizes the economic base of the Pune UA, from the Census, and shows the proportion of workers in the various local bodies of the Pune UA, by sector. The mainstay of all local bodies in the Pune UA is manufacturing (non-household based) or services, consisting of trade & commerce and other services, which is consistent with the Census definition of a minimum of 75 percent non-agricultural employment, for an area to be considered urban.

Table 1.9: Summary of Economic Base, All Local Governments, Pune UA

Category	PMC %	PCB %	KCB %	DCB %	PCMC %
Cultivators	0.65	0.11	0.10	2.43	1.17
Agricultural Labourers	0.68	0.01	0.09	2.99	1.15
Livestock, Forestry, Fishing,etc.	0.61	1.07	1.34	0.67	0.59
Mining & Quarrying	0.08	0.03	0.01	0.28	0.50
Manufacturing & Processing, HH industries	1.75	1.25	0.87	3.29	1.61
Manufacturing & Processing, non-HH industries	25.70	17.24	27.70	24.95	47.93
Construction	11.56	2.67	5.72	5.86	13.71
Trade & Commerce	22.36	18.59	9.18	9.77	10.77
Transport, Storage & Communications	8.45	5.83	4.93	13.49	6.21
Other Services	28.15	53.22	50.06	36.26	16.36
Total	100.00	100.00	100.00	100.00	100.00

Source: Census of India 1991.

Such an economic base also implies quite a bit for delivery of public services, given that manufacturing bases are relatively more polluting when compared with services such as trade and commerce, which generate a lot of solid waste.

Overview of Report

This report is organized as follows. The next chapter focuses on PMC, which is the largest local government in the UA, its finances and service delivery. Following this, in the subsequent chapters, we focus respectively on the expenditure needs, revenue capacities and fiscal gaps for the local governments in the UA, in a summary fashion.

CHAPTER 2: PUNE MUNICIPAL CORPORATION (PMC)--FINANCES AND SERVICES

Background

Given PMC is the largest part of the Pune UA, covering more than two-thirds of its population, this chapter focuses primarily on the PMC, its finances and public service delivery. Established in 1950, PMC is governed by the Bombay Provincial Municipal Corporation (BPMC) Act, 1949. As per this Act, the PMC is obligated to provide basic infrastructure like water supply, drainage, sewerage, roads, conservancy, fire fighting, streetlights, slum clearance, education and primary health, among other general administration and public transport, to its residents. Thus with the PMC in charge of most civic needs and infrastructure of the metropolis, it should be clear that the expenditure responsibilities of the PMC are quite vast and different from that of the Municipal Corporation of Delhi, which does not provide water supply or sewerage.

The executive power of the PMC is vested in the Municipal Commissioner, a bureaucrat (from the Indian Administrative Service (IAS)) appointed by the state government. The corporation consists of directly elected corporators headed by a titular Mayor. The mayor has few executive powers. For administrative purposes, PMC is divided into 14 wards, each headed by a ward officer, and forty-eight zones. The total strength of officers and employees at PMC is about 16,731, as against the approved employment level of about 17,986.

This chapter is organized as follows. First there is a section on PMC's finances which summarizes PMC's expenditures on relevant services and revenue sources. Then there is a section on the physical level of various services including water supply, sewerage, solid waste, roads and street lighting, which will enable us to assess their adequacy in the later chapters.

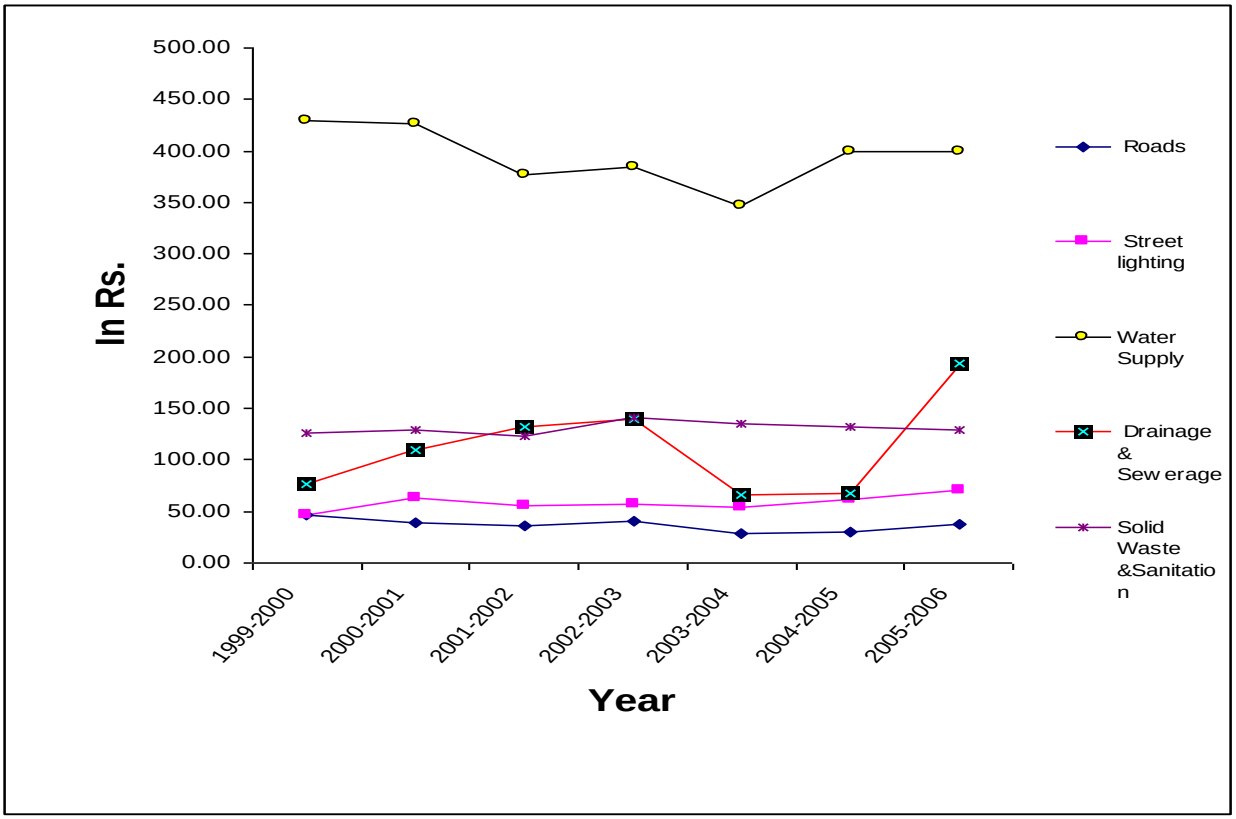
PMC Finances: Expenditure

In this section, we provide a brief overview of PMC's expenditures on relevant services, and revenues from important sources.

Figure 2.1 summarizes PMC's expenditure on relevant services over our study period. Clearly, the expenditure on water supply is well above that for other services in all years, in constant per capita terms. Spending on other services appears to be caught in a low-level equilibrium. One issue of concern is that while PMC's population has been continually rising, real per capita expenditures on drainage and sewerage have been fluctuating, with periods of increases and decreases. With respect to solid waste/sanitation, city roads, and street lighting, real

expenditures have been rising, so effectively per capita real expenditures on these services have remained constant. Remember that expenditure or adequate levels of spending is just one part of service delivery. Later in the chapter on expenditure norms, we compare these expenditures against the requirements to judge their adequacy.

Figure 2.1: Per Capita Expenditure on various services in PMC in (1999-00 Constant Prices)

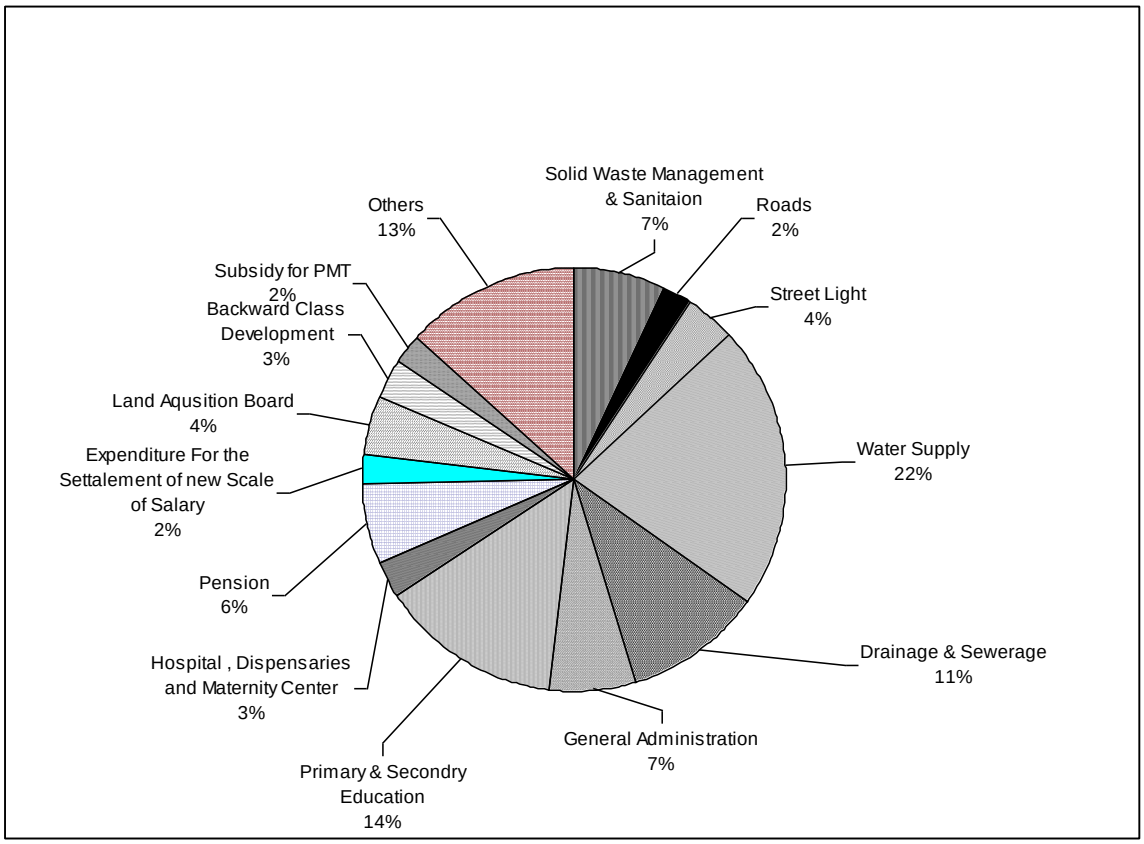


`The relatively high per capita expenditure on water supply is reasonable to expect, given that water supply is one of the biggest recipients of PMC's real expenditure during 2005-06 (Figure 2.1). The largest chunk of PMC's expenditure is indeed "other" expenditures, apart from the core services of our study, which accounted for 54 percent of all revenue expenditure in 2005-06, with primary education accounting for 14 percent, followed by "others" (at 13 percent of PMC's total revenue expenditure).[3]

[3] PMC's other expenditures include expenditures on public health, machinery (those of a revenue or O&M nature), grants for bonus, depreciation of machines, slum rehabilitation and Slum Area Development Board, medical treatment & nutritional food for children, medical aid program for workers, building and land, building regulation, town planning & city development, fire brigade, removal of encroachments, parks, zoo and fisheries, sports and related activity, cultural center, vegetable markets, meat, fish market &

We examined the components of the other expenditures (described in footnote 1) and found that substantial portions of this expenditure are towards O&M of machinery (16.25 percent), grants for bonus to employees (10.5 percent), depreciation of machinery (9 percent), and transfer of funds to water supply and drainage (14 percent, accounted for in the respective services) (Figure 2.2).

Figure 2.2: Expenditure on Various Services by PMC, 2005-06 (in 1999-00 constant prices)



PMC Finances: Revenues

This section gives an overview of the revenues earned by PMC. After giving a description of the components of different categories of revenues we would analyse the data available for a time period of seven years from 99-00 to 05-06 for each of the components, in absolute and per capita terms and also the proportions of each category in total revenue.

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slaughter house, ward development, grants for public institutions, dearness allowance, allowances for PMC employees, allowances for city planning board, improvement of children and women, conservation of forest, grants for development of Pune district, matching grants to those received from Finance Commission, escrow board, and allowances for youth development schemes.

The total revenue can be broadly divided into own source revenues and grants from upper tiers of the government. The own source component has tax revenues and non tax revenues. Property tax and octroi[4] are the main components of the tax sources, while other taxes include special conservancy tax, advertisement tax, entertainment tax, water tax, tax on animals & vehicles, tax on trade and profession, tolls (on roads & ferries) and scavenging tax. The non tax revenue consists of sale proceeds of land, rent from the land property of the ULB, rent from leases, proceeds from licenses, rent from the land other than the property of Government, sale of trees, and receipts from public gardens.

From the distribution of properties in PMC we find that the ULB is dominated by residential properties. The following table 2.1 gives an idea about the number of residential, commercial and industrial establishments in PMC. We find that over the years both the number of residential (category A) and commercial and industrial (category B) have increased steadily to maintain a stable ratio of around 8, (slightly less over the last two years) which means the number of residential properties are eight times as high as the number of commercial and industrial properties taken together. Thus we can infer that the growth of commercial and industrial activities in Pune as a new centre for attracting investments has not led to a higher number of commercial and industrial establishments than residential establishments.

Table 2.1: Property Categories in PMC

Category	2002-03	2003-04	2004-05	2005-06	2006-07
Residential (A)	263220	329864	369737	433371	500048
Commercial and Industrial (B)	32532	42864	48044	57649	68179
Ratio (A:B)	8.09	7.69	7.69	7.51	7.33

`Assessment of property tax is done by ratable value method. From Financial Year 2005 – 06 the Tax rates are revised. Pune Municipal Limit is divided into 5 zones such as 'A', 'B', 'C', 'D' and 'E'. According to the zones and the type of property (Residential, Non-Residential, Open Plots – Developed, Undeveloped and Parking Area), assessment rates are

[4]Mharashtra is one of the very few states in India which still imposes octroi on goods produced in their jurisdiction. The goods manufactured in PMC and going out of its territory are charged lump sum amounts according to their sale values whereas goods entering into the market of PMC for sale are charged at specified rates varying mostly between 1-3% of their transacted values, the minimum rate being 0.5 % and the maximum 6%. In case the goods entering into the jurisdiction are not sold, 10% of the potential transacted value goes to the municipality funds. Though octroi is the major source of revenue for municipalities imposing it, because of its distortionary impact it is a nationwide policy to abolish octroi at the earliest for any municipality which imposes it.

decided and implemented from 1st April 2005. Box 2.1 gives the details of the method for ratable value calculation and the revised rates for PMC.

Box 2.1: Details of Property Tax Calculation in PMC

Ratable Value Calculation

Residential:
Carpet area*market rate*12=Annual Rent
If self occupied, 40% of the annual rent is deducted from total annual rent which amounts to 60% of Annual Rent. 15% of annual rent is exempted for maintenance allowance.45% of annual rent is the Ratable Value for self owned residential properties.
If rented out, 85% of the annual rent is treated as ratable value.

Non-Residential:
85% of annual rent is treated as ratable value

Open plots
Annual Rent=Total area*market rate*12 = Ratable Value

Details of Tax Rates

1. General Tax (Same for residential, non-residential, open space):

Slab (Rs)	Rate (% of RV)
1000-2000	14%
2001-5000	21%
5001-20000	30%
20001 and above	38%

2. Conservancy; 13% of RV
3. Water Benefit Tax: 2%of RV
4. Sewerage Benefit Tax: 4% of RV
5. Fire and Tree Cess: 1.75%of RV
6. Street Tax:5% of RV\
7. Water Tax (non-metered residential properties):

Slab(Rs)	Rate
0-1000	Rs 900 per year
1001-3000	Rs. 1000 per year
3001-5000	Rs. 1100 per year
5001 and above	25% of RV or Rs. 2500 whichever is less

8. Special Conservancy Tax - Hospitals, Restaurants, Marriage Halls
   Applicable for properties above Rs 10,000 RV at the rate of 10% of RV

Though the municipality is coming up with new ideas and implementing them to increase property tax collection, it has remained below the property tax demand in the recent past. Table 2.2 below gives an idea about the collection efficiency of PMC in terms of

property tax collection. It is found that it has remained stable around 34% over the last three years. This ratio is quite low compared to both the overall existing level for India which is 60% and targeted level to achieve 90% collection efficiency in property taxes.

Table 2.2: Collection Efficiency in Property Tax in PMC

Year	Property Tax (Rs Crores)	
2003-04	Demand	167.28
	Collection	57.47
	Collection efficiency	34.35%
2004-05	Demand	185.42
	Collection	63.92
	Collection efficiency	34.47%
2005-06	Demand	261.78
	Collection	89.00
	Collection efficiency	34%

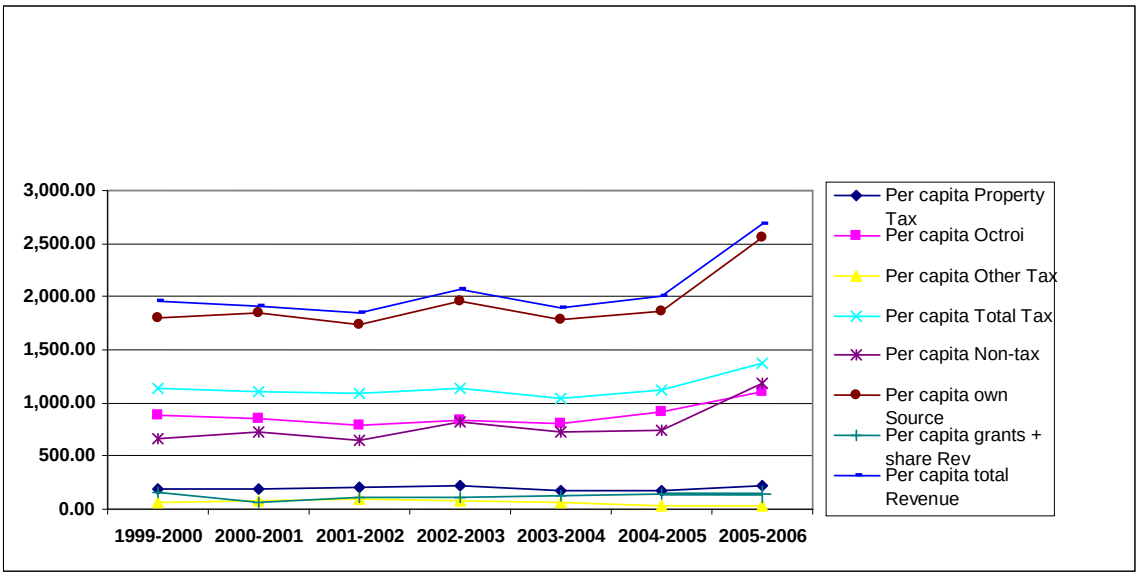
The following initiatives taken to improve collection efficiency in property taxes are worth mentioning:

1. *Citizen Facilitation Center (CFC) :* CFC is furnished with ward wise online Tax collection facility.
2. *Banks: COSMOS* Bank and Bank Of Maharashtra provide facility to property owner to pay tax by simply issuing cheque or Cash in favour of PMC.
3. *Kiosks:* Kiosk is most convenient method for collection of Property Tax. Kiosks are placed in every Kothi and public places so as property owner can pay property tax by mode of cash or cheque without visiting Ward Offices.

A scrutiny of a time series data on revenues of PMC from the municipal budgets throws some light on the behavior of different components of total revenue over years 99-00 to 05-06. We find similar trend in the revenue components in both absolute and per capita terms. All the components of tax revenue i.e. property tax, octroi and other tax and also grants component show moderate fluctuations over the years with an increasing trend whereas the non-tax component shows a steep rise from 04-05 to 05-06. It is interesting to note that the revenue from rent and sale proceeds from land and sale of tender for roads, show phenomenal increases both in absolute and relative terms in this period. We find that the earnings from rent increased from Rs. 71. 25 lakhs in 04-05 to 2.28 crores in 05-06 showing an increase of 219%; earnings from sale proceeds of land increase from Rs. 23.75 lakhs to Rs 58 lakhs showing an increase of 145%; earnings from

sale of tender on roads increased from Rs 1.5 lakhs to Rs. 2.3 lakhs recording an increase of 50% over the period. This is an outcome of the city's restructuring to accommodate the growing needs of the high income class emerging due to development of software and IT industries in the city. The utilization of the city's land resources in terms of leases to industries, building shopping malls and multiplexes in the recent years have inflated the revenues to the ULB. A growing demand for roads for better communication in the city has compelled the government to float new tenders for road construction. Other components of non tax revenues like fees collected from educational institutions, slum rehabilitation charges, revenues collected from issue of medical licenses, medicine sale proceeds, and laboratory fees show moderate increases. These are mostly caused by increased economic activities due to rise in population.

Figure 2.3: Components of Per Capita Revenue (in Constant 1999-00 Prices) With Octroi

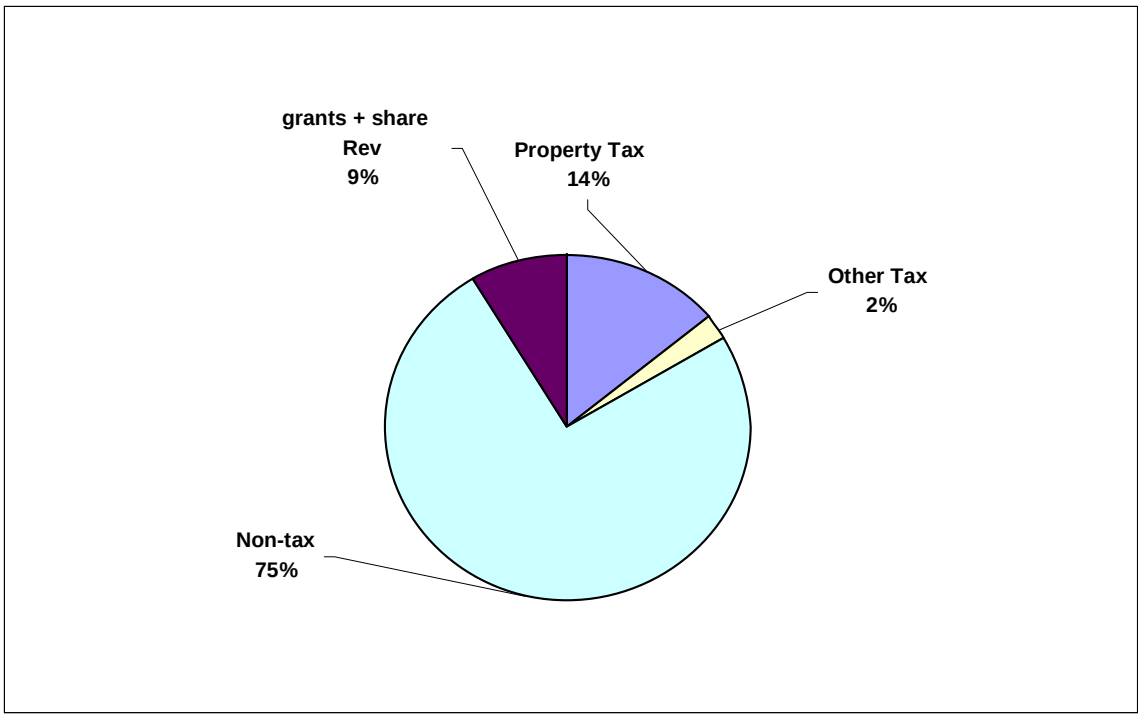


It is because of the non-tax component that the total revenue both in absolute and per capita terms shows a steep rise in the said period. The average (over the time period mentioned above) total revenue per capita of Rs. 2054 has Rs 198 as per capita property tax, Rs 883 as octroi, Rs. 64 as other tax, Rs 787 as non tax revenue and Rs. 121 as grants. It is interesting to note that per capita property tax has remained almost stable over the time period of our consideration, while in absolute terms property tax collection recorded a fall only in 03-04 after which the reforms in the property tax system started in the city. Among the tax components octroi has the highest value followed by non tax revenues, both higher than the property tax component.

If we take the total revenues without octoi there is a decrease by Rs. 787 per capita which is quite large. Figure 2.3 gives the year wise details of the components of per capita revenues for PMC.

A close look at the average proportions of different components of total revenue over the time period reveals that octroi has a major share of 43% followed by non tax revenues which is 38%, property tax 10%, other tax 3% and grants 6%. If we examine the proportions of different components of total revenue for the most recent year that is 2005-06, we find that non tax component in the total revenue accounts for the highest share of 45% followed by octroi which accounts for 41%. Property tax accounts for only 8% whereas grants accounts for 5% and other taxes accounts for 1%. Figure 2.4 gives the details of this break-up.

Figure 2.4: Composition of Total Revenue without Octroi (2005-06)



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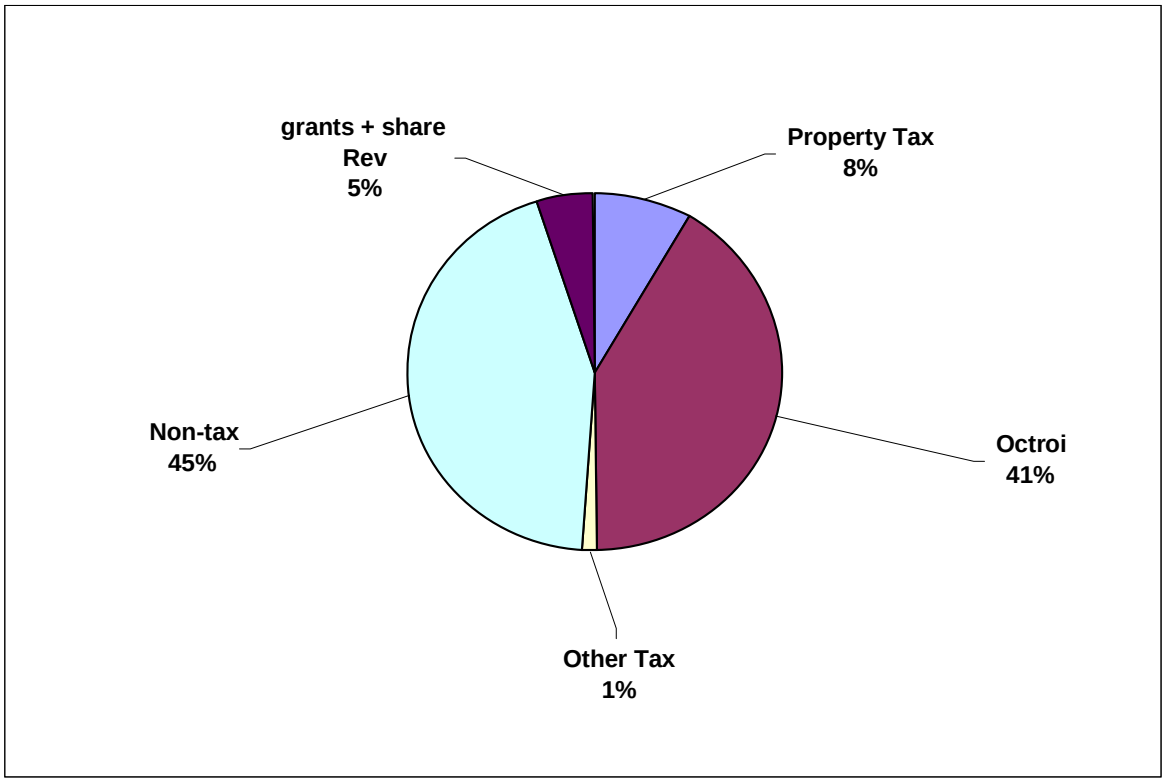
If we consider a scenario where there is no octroi we find that share of property taxes goes up to 14%, grants to 9%, other tax to 2% and non-tax revenues to 75%. Figure 2.5 gives the details of this break-up.

Figure 2.5: Composition of Total Revenue with Octroi (2005-06)



One thing which emerges clearly after analyzing the revenue is that PMC needs to tap its resources through property taxes by increasing the collection efficiency and a thoroughly reformed property tax system with a view to abolishing octroi in near future. Over the most recent years 04-05 and 05-06, we find octroi has increased by 31% whereas property tax has increased by 28 %. Overdependence on octroi as a ready source of finances has resulted in half hearted efforts in terms of utilizing the city's property tax potential.

The dominance of non tax component in the revenue share is visible both in absolute and relative terms. This is a clear indication of a tremendous rise in economic activities in the city, be it individual, commercial or industrial. In the coming years this is likely to create more properties which would add to the property tax potential of the city. It was not possible to check from the available data whether the property tax base covers the entire set of taxable properties. It is important to identify the correct base and bring all taxable properties under the tax net.

The market rate applied for property tax calculation should reflect the true values of properties without which undervaluation would lead to loss of revenues. The change in the

market rate with rise in demand for properties should be taken into account. Also, the city can multiply its gains only if the collection efficiency can be improved to tap the property tax potential to its fullest extent.

For PMC it seems finances are not the constraining factor for the city's development. In the coming years even with the abolition of octroi, the compensatory transfers from the upper tiers of the government can prove to be sufficient only if the city is in a position to operate at higher administrative efficiency. Recent evidence shows that big industries are closing down because of heavy levy of octroi. Abolition of octroi would lead to sustained industrial growth in the city which would ensure continuous increase in revenues in the long run at the cost of short run losses in revenues. But the success of the city depends on how efficiently it can reform the existing property tax system.

Physical Level of Services

The following sections describe the physical levels of services in the PMC for water supply, sewerage, solid waste, roads and street lights.

Water Supply

As described earlier, the development and operations of water supply is done by the PMC. This section presents a brief overview of current water supply schemes in Pune, their source and treatment capacities, and distribution network. The level of services and key issues with regard to water supply operations are also discussed.

Sources and Distribution System:

There are 39 storage reservoirs in the city, fed by two principal water supply sources -- *Mulla* and *Mutha* rivers. Of these, 11 reservoirs (sumps) with a storage capacity of 42.96 million litres (ML), function as balancing storages. The other 28 reservoirs, with a storage capacity of 177.96 ML, act as service reservoirs. The *Swar gate* Water Works came into existence in 1873. Water from *Mutha's* right bank canal was picked up at *Swar* gate, treated and supplied to the city. After Pune reached the status of Municipal Corporation in year 1950, a project of 45 million litres daily (MLD) was developed on the Mutha's right bank canal again, for supply to the city and the cantonment. Another scheme, with 110 MLD capacities in 1975, was constructed at *Parvati* in 1968. It was augmented to 270 MLD capacities and further expanded to its present capacity of 470 MLD in two more stages in 1980 and 1990. The capacity of the Pune cantonment water works, which was earlier governed by *Maharashtra Jeevan Pradhikaran*, and later handed over to PMC, was augmented from 173 MLD to 273 MLD.

Distribution Network:

The distribution network consists of pipelines varying from the smallest size diameter of 80 mm to the largest diameter of 1,600 mm. The total length of the network is 647.18 kilometres. This apparently does not include all the tertiary pipelines. The total length of distribution is indicated to be about 2,474 kilometres including 24 kilometres of transmission lines. The total length of the roads in the city is 1,750 kilometres. This implies that some roads may have more than one pipeline, laid at different points of time to meet the demand.

Table 2.3: Supply Statistics, Water Supply, PMC

Details	Unit	Service Level Indicator
Source availability	800 MLD	260 LPCD
Treatment capacity	797 MLD	100%
Storage Reservoirs (OHT)	180 MLD (27 in number)	22.40%
Storage Reservoirs (GLSR)	41 MLD (12 in number)	5.20%
Total Storage Capacity	221 MLD	27.60%
Distribution network	2450 km	136% of roads covered (about 70% of developed area)
Individual House Service Connections - Numbers		
Metered Residential	61,559	66%
Non-metered Residential	12,044	13%
Commercial	19,275	21%
Total Connections	**92,878**	

Source: PMC and Pune CDP.

Table 2.3 summarizes some supply statistics for water supply in PMC. The number of house connections (73,603 (61,559+12,044, Table 2.3) is low, compared to the total number of housing units (555,771, see Chapter 1), accounting for only about 13 percent. Even if allowance were to be made to exclude low income households and slums, one would agree that this is quite low.[5] Table 2.4 summarizes the water tariff structure for PMC's residential and non-residential connections, and the selling rate for the Khadki and Pune Cantonment Boards, given the KCB and PCB buy water in bulk from the PMC. It is clear that in the PMC, there is no incentive to control the use of water, especially so in the case of unmetered connections.

[5] A case study by the Water and Sanitation Program, South Asia (2000) speaks of the cancellation of the $185 million Pune water supply and sewerage project. There are several reasons the case study cites were responsible for cancellation of the project, after great initial interest and enthusiasm. First, institutional structures were partly responsible, for when the Commissioner was transferred, the project was left without a local champion. Further, the estimated costs of the project were perceived by the local administration to be high, and were designed to ensure a high rate of return to the private operator at the expense of the consumer. Further, local contractors were averse to the idea of international firms being awarded the contract. The cancellation of this project thus highlighted how the lack of a well-informed public debate resulted in the cancellation of what may have been a model for other projects in the country.

Table 2.4: Existing Water Tariff Structure, PMC

Category	Charge
Residential metered	Rs. 3 Per KL
Residential, unmetered	
If taxable amount is <1,000	Rs.75 per month
If taxable amount is 1,000-3,000	Rs. 83 per month
If taxable amount is >3,000	Rs. 93 per month
Pune & Khadki CB	Rs. 5.00 per KL
Commercial and Industrial	Rs. 21 per KL

Source: PMC

On average, the supply of water is 260 LPCD (litres per capita daily) for the whole of PMC (Table 2.3), with residential supply varying from 70 to 195 LPCD. Water supply is intermittent; typically, water is supplied twice a day. The duration varies from 3 to 4 hours, both in the morning and evening. While the National Commission on Urbanization recommends a norm of 135 LPCD, it is difficult to judge the adequacy of PMC's water supply range because there are seasonal, zonal and geographic variations.

Sewage

The present water supply to the city is about 800 MLD. Since the water supply distribution network has been developed in various stages, substantial water must be lost due to leakage from the old pipe lines and household plumbing. Allowing for about 30-35 percent losses, the net supply reaching the consumers may be in the range of 520-560 MLD. The quantity of sewage generated is thus in the range of 416-448 MLD, assuming 80 percent of the water (520-560 MLD) finds its way into the sewage system.

Collection System:

The total length of sewers laid so far is 975 kilometres (kms), comprising 187 km long trunk sewers, and 788 km of long-branch sewers. The sewer network covers about 54 percent of road length and 80 percent of the present population. While all the developed areas in the city are provided with sewer collection network and sewage is collected and pumped through seven pumping stations located in different parts of the city, the question arises as to why the coverage with sewerage network is less than complete.

Service Levels:

While the coverage with sewerage network is less than complete, 54 percent of PMC's road length is covered with the sewer network and over 90 percent of the population being estimated to be covered. However, the availability of adequate sewage treatment capacity,

currently at 68 percent of sewerage generated, assuming losses of 30 per cent during distribution, is a concern. In case PMC manages to reduce the distribution losses to 15 per cent as envisaged, the gap in treatment plant at current service levels will be about 143 MLD. Tables 2.5 and 2.6 summarize some service level indicators for PMC's sewerage system.

Table 2.5: Supply Statistics, Sewerage System, PMC

Details	**Units**	**Remarks**
Water Supply	800 MLD	
Distribution losses	30%	
Sewerage generated	448 MLD	30% distribution losses (800-30% of 800(240)=560) and 20% of net supply loss during consumption (560-20% of 560 (112)=448)
Current treatment capacity	305 MLD	68% of sewerage generated
Sewer network length	975 km.	54% of road length
Gap in treatment capacity		
If losses continue to be at 30%	255 MLD (560-305)	
If water distribution losses are reduced to 15 %	143 MLD (448-305)	

Source: PMC and Pune CDP

Table 2.6: Service Level Indicators, Sewerage, PMC

Year	Total length of drains/ underground drains	Total length of high/big drains	Total length of storm water drains	% of area covered under sewerage network	% of pop. covered by drainage and storm water drainage system
2005	1,727 km	380km	60km	95	95

Source: PMC

Proposed Projects:

In order to ensure sewerage treatment and increase the coverage network, the Pune Municipal Corporation has proposed certain projects. It plans to augment the *Naidu* sewerage treatment plant (STP) by 115 MLD. Also, it proposes to set up four new STPs at *Vithalwadi* (32 MLD), *Mundhwa* (45 MLD), *Baner* (30 MLD) and *Kharadi* (40 MLD). Thus the proposal will enhance the sewerage treatment capacity by 262 MLD. This will not only enable the treatment of all the sewerage being generated currently but will also cater to the increasing demand for sewerage treatment along with increased water supply in the future. Besides, the PMC also plans to set up two pumping stations at *Topkhana* and *New Kasba* and two rising mains, one from

Topkhana to *Naidu* and the other from *New Kasba* to *Naidu*. This proposal will also eliminate the flow of sewerage into the river and will improve the overall environment.

Solid Waste

Consumption, linked to per capita income, has a strong relationship with waste generation. Waste is unwanted material left over from the manufacturing process and refuse from places of human and animal habitation. As per capita income rises, more savings are spent on goods and services, especially when the transition is from a low income to a middle income level. Urbanization not only concentrates waste, but also raises generation rates since rural consumers consume less than urban ones. Some estimates are that India will probably see a rise in waste generation from less than 40,000 metric tones per year at present, to over 125,000 metric tones by the year 2030 (Economic Times, 2007).

Table 2.7: Source-wise Quantity of Solid Waste Generated, PMC

Source Category	Quantity of waste generated per day-tons	% Composition
Domestic (Households)	400	40
Commercial	250	25
Market areas	50	5
Hotels and restaurants	250	25
Vegetable waste (from 19 markets)	50	5
Total	1000	100

Source: PMC
Note: Bio-medical and hazardous wastes are not included.

Solid waste comprises unwanted and discarded materials of about 1,000-1,200 tones (approximate generation per capita per day is 360 grams) in the PMC, each with 50 percent dry and wet waste generation. PMC is responsible for collection, transportation and disposal of all solid waste generated in the city, except untreated bio-medical waste, which is assigned to a private operator appointed by the PMC on pay and use basis by the respective hospital. Currently, PMC has strategic plans for safe disposal of municipal solid waste and has the necessary infrastructure for collection, storage, segregation, transportation processing and disposal. The health department of the PMC is vested with the responsibility of day-to-day solid waste collection and disposal. The PMC organizes the collection and transportation through a team of its own conservancy workers and a fleet of vehicles and dumper-placers. The waste is also collected with the help of rag pickers by carrying out door-to-door collection in certain areas; these rag-pickers are not the employees of PMC, but they make their livelihood by salvaging

recyclable waste from collection points and dump yards and they are also paid Rs.10 per month by each household.

Table 2.7 summarizes the quantity of solid waste generated in the PMC, by source. The greatest generators of waste are households, followed by commercial establishments and hotels/restaurants. Figure 2.6 presents the constituents of municipal solid waste. Consistent with Table 2.7 which shows that households are the largest generators of garbage, Figure 2.6 confirms that a majority of municipal solid waste is fermentable matter.

Figure 2.6: Constituents of Municipal Solid Waste

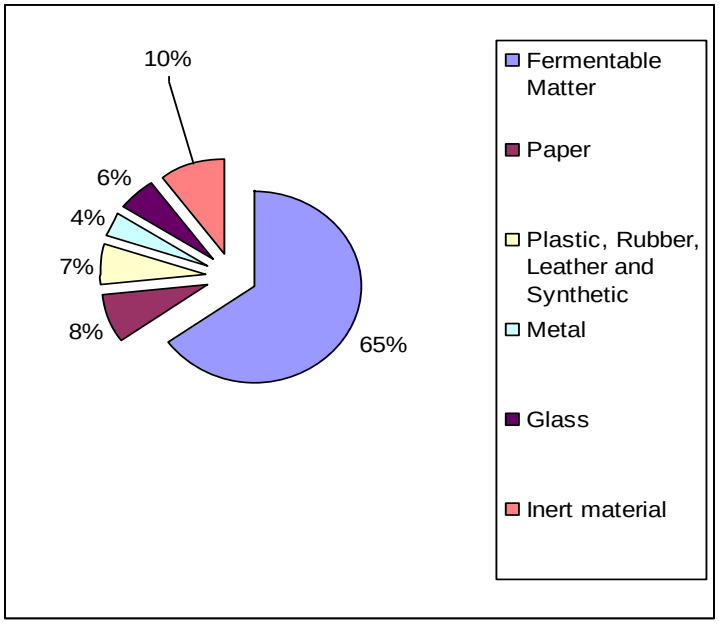


Table 2.8 summarizes some indicators for solid waste management in PMC. It demonstrates that the solid waste collection efficiency is less than complete (that is, less than 100 percent), required of all class I cities. It does appear that either the number of workers has to increase in order to ensure greater area coverage, or the average spacing between dustbins has to be decreased, to ensure greater collection efficiencies. Given both these options have financial implications; if their management were to be outsourced, it is less likely to be financially burdensome for the PMC.

Over 2.6 billion people, representing 40 percent of the world's population do not have access to toilets. While 63 percent of the country's households do not have access to a toilet, in urban areas, 26 percent of the population does not have access to a toilet. In fact, in New Delhi

Table 2.8: Solid Waste Management Indicators, PMC

Indicators	Value	Units
Waste generated per capita (2006)	360	Grams
% Waste collected as per PMC's estimate	79.5	%
% Waste collected as per available capacity	76.1	%
% Households covered by door-to-door collection by private sector	60	%
Total rated capacity of vehicles	1,052.5	Tonnes
% Rated capacity to waste generated	95.7	%
Number of trips per vehicle/day	2	Number
Average spacing between dustbins	545	Meters
Area coverage per collection point	0.11	Sq.km
Mode of disposal	Compost & Landfill	
Road length per sweeper	878	km/person

Source: PMC and Analysis

recently (October 31-Nov 3, 2007), a World Toilet Summit, jointly organized by Sulabh International Social Service Organization in collaboration with the World Toilet Organization and its member associations all over the world, was held to talk about issues surrounding sanitation, and to spread awareness about sanitation and safe water so as to attain Toilets for All. We did not have physical data on toilets or sanitation in general either from the PMC or other local governments, hence we are unable to assess them.

Road Network

Pune is split into three segments by the two rivers *Mula* and *Mutha* and the Cantonment areas of *Khadki* and *Pune* on this geographical set up. While it was once a city of bicycles, the evolution of roads and their network is now primarily based on two wheelers. PMC has a very small road network for a city its size for a land area of about 243.84 square kilometres. The total length of roads in the city is 1,800 km including about 50 km of national highways and state highways.[6] A study indicated that only 5 percent or about 10.4 square kilometers of the city's land area is covered by roads, and only 25 percent of roads in the city possess a road width greater than 24 metres,[7] majority of these being highways. This is less compared with the 13 percent area for transportation proposed in PMC's development plan.

[6] If data on the average width of roads had been available, it would have enabled us to compute the proportion of area covered by roads, when compared with that of land. Recall that length (of roads) is a uni-dimensional measure, whereas area is a multiplicative measure, so length cannot be compared with area, except if information is also available on the width of roads. With information both on length and width, we can easily compute area and compare that area covered by roads to land area.

[7] This was clear to us, given the fact that in the area where we were staying, taxis are not allowed, primarily due to the width of these roads, with the result that only three-wheelers such as auto rickshaws are allowed, which was the only mode we used for commuting between the various departments and organizations.

Table 2.9: Municipal Road Length, PMC

Surface Type	Length (in kms)	Percentage of Municipal Road Length
Municipal Roads		
Concrete	32	2
Black-topped	1202	69
WBM (Water Bound Macadam)	258	15
Gravel and Earthen	258	15
Total Road Length	1750	100
Other Agencies' Roads(NH/SH/PWD Roads)	50	
Grand Total	1,800*	

* *This does not include the extent of kaccha roads in the newly added villages*.
Source: PMC and Pune CDP

While only a meager 2 percent of municipal roads is made of concrete (which is the most superior form of road surface), more than two-thirds are black-topped. It is surprising that even in a million-plus city such as the PMC, about 15 percent of municipal roads are gravel or earthen (Table 2.9).

Slums

As per the secondary information collected from PMC, there are 564 slums in Pune, of which 353 are declared and 211 are undeclared slums. With growing economic activity, the slum population has been increasing at a tremendous rate. Table 2.10 indicates that the growth of the slum population was higher than that of the total population every decade. During 1961-71, the annual growth in slum population was about 10 per cent against the total growth in population at 3.5 per cent. This trend continued further but at a lower pace and picked up again in 2001. In terms of proportion of the population living in slums, it has also increased from 15 per cent in 1961 to 40 percent in 2001. This growth in the composition of slum population could be attributed to non-availability of housing stock at affordable costs, leading to the emergence of a large number of slums.[8]

[8] It is relevant to ask whether slums are also places where households Below Poverty Line (BPL) live. Surveys of some urban slums in India indicate that the mean income of population living in slums ranges between 9 and 16 percent above the poverty line. Surveys also indicate that 40-50 percent of slum households live just below the poverty line while 11 percent live just above it. The remaining 30-40 percent of slum dwellers lives well above the poverty line. Conversely, it is estimated that only 40-60 percent of the urban poor live in slums or squatter settlements. The balance lives on pavements (close to sources of income), overcrowded tenements, or commute daily to and from peri-urban areas. This fragmented pattern of location of urban poor makes it difficult to target programs without risk of some leakage of benefits to the non-poor.

Table 2.10: Comparative Growth of City and Slum Populations Over Time, PMC

Year	Total Population	Slum Population	% Slum Population	City Population Annual growth (%)	Slum Population Growth (%)
1961	606,777	92,101	15.18	2.19	9.63
1971	856,105	239,701	28	3.5	10.04
1981	1,203,363	377,000	31.33	3.46	4.63
1991	1,691,430	569,000	33.64	3.46	4.2
2001	2,538,473	1,025,000	40.38	4.14	6.06

Sources: Census of India and PMC Environmental Status Report (ESR) 2004-05.

Street Lights

The provision and maintenance of streetlights is an obligatory function of the respective local bodies in the Pune UA. The electricity department of the local bodies is responsible for installation, replacement, repairs, operation and maintenance of streetlights in the city. In the case of PMC, there are about 100,200 street light poles (as per CDP). For a total road length of about 1,800 km (or 1,800,000 metres) in the PMC limits, the average spacing of streetlight poles works out to about 18 meters (1,800,000 metres/100,200 street lights), which is better when compared with the international norm of 30 meters (India Infrastructure Report 1996).

The next chapter summarizes the expenditure needs of the various local governments, comparing them with actual expenditures on each of the services whose physical levels of the services are discussed above. Then we will be in a position to anecdotally determine whether there is some relationship between spending and the physical level of services.

CHAPTER 3: EXPENDITURE NEEDS

In the case of Pune which consists of five local governments, it was not possible to adopt an econometric approach to estimate expenditure needs, as in the case of Delhi. Moreover, time-series data for a reasonably long period of time was not available for all the local governments. Hence we had to adopt a structured case study approach in the case of Pune as well, in which we rather computed expenditure gaps by comparing actual expenditures of the local governments over time, to relevant norms for various services.

In this chapter, we summarize expenditure gaps for water supply, sewerage, solid waste and sanitation, municipal roads and street lighting, comparing the Pune UA ULBs' actual expenditures on these services, with those generally accepted as norms for them. Finally, we compare the total expenditure needs with the total actual spending on these services, to arrive at gaps. The chapter concludes by summarizing caveats.

Water Supply

When the objective is to assess actual expenditures for the provision of any given service, it is necessary to compare it with some benchmark expenditure required to meet a certain physical level of the service. For doing this, we examined and studied various norms for the provision of the relevant services. After a detailed examination during our field visits and of existing studies relating to this area, we found that very few studies deal with ideal expenditure norms. Our discussion with officials in all cities indicated that while a physical requirement of 135 liters per capita daily (LPCD) (proposed by the National Commission on Urbanization) is broadly followed with respect to water supply, no expenditure norms are actually used. For other services such as solid waste, sanitation/sewerage, roads and street lights, no expenditure or financial norms were being followed in any of the cities where we visited.

Based on our discussion, we found one study which summarizes various norms for most public services with which we are concerned, a National Institute of Urban Affairs (NIUA) Working Paper, by Mathur et.al. (2007). For water supply, solid waste, and sewerage/sanitation, we used norms summarized in Mathur et.al. (2007). These are national norms for these services expressed in per capita terms.

This paper by Mathur et al (2007) also summarizes state-specific norms adopted by State Finance Commissions (SFCs) by some states whose cities are included in this study. While Maharashtra is one of these, estimation of expenditure needs on the basis of simple projections does not take into account the needs of the future and also assumes that existing deficiencies will continue. Further, the state-specific norms summarized by Mathur et. al (2007) are also not

disaggregated for various public services such as water supply, sanitation and so forth. In many cases, actual allocations by states for these services are summarized as norms. Given we are not interested in actual spending by the states, but in a desired norm, we decided to use the national norms which are disaggregated for various public services and for which expenditures are stated separately for the cost of provision and of operations and maintenance (O&M) in (2004-05 constant prices) summarized by Mathur et.al. (2007).

Given that there are five local governments in the Pune UA, for all services including water supply, we used different norms for cities of different sizes, which correspond to the size of the five local governments. For PMC and PCMC, for water supply, the norm we use is summarized in Mathur et.al. (2007) and is based on a 1995 study by NIUA on the costs of urban infrastructure. Given that PMC and PCMC are large cities, with Census 2001 population of 2.5 million and 1.01 million respectively, we used the norm suggested by the 1995 NIUA study of Rs.1,043.06 per capita (in 2004-05 prices) for the cost of provision of water supply in *large cities*, and the costs of O&M to be Rs.315.93 (in 2004-05 prices) per capita in *large cities*, in order to meet an average of 115-210 litres per capita daily (LPCD).[9]

The remaining local governments in the Pune UA are much smaller than the municipal corporations, and it is unfair to apply the same norm for the cantonment boards as for the municipal corporations. For all services, for the smaller ULBs, we used the norms corresponding to *small cities* summarized in Mathur et al (2007), for PCB, KCB, and DCB, which had Census 2001 populations of 80,000, 77,000 and about 47,000 respectively (as described in Chapter 1).

Given the fact that we had data on revenue expenditures (in the case of PMC, O&M and revenue expenditure in the case of PCMC, expenditure on maintenance and repairs, establishment and contingencies in the case of KCB and PCB, O&M and monies paid to Maharashtra Industrial Development Corporation (MIDC) in the case of DCB) on water supply, we compared these with the per capita O&M requirement of Rs.315.93 (expressed in the NIUA study in 2004-05 prices per capita) recommended for water supply. Since all our data are in real terms with 1999-00 as the base, we converted the O&M norm from 2004-05 prices as the base, to 1999-00 as the base. In per capita terms, this norm for water for *large cities* turns out to be Rs.355.45 in 1999-00 prices.

Further, we had data on estimated (not actual) capital expenditures on water supply by the PMC, (not for the other ULBs), hence we used norms for the *cost of provision* of water supply

[9] It is interesting to note from the NIUA (1995)'s norms that the per capita requirements both for cost of provision and O&M keep declining with size of city, reflecting scale economies. For instance, the norm summarized by this study for metropolitan areas is Rs.372.37 per capita for the cost of provision of water supply, and Rs.139.83 for meeting the costs of O&M per capita, both lower than they are for *large cities.*

in *large cities* (which is Rs.1,043.06 (in 2004-05 terms, per capita), Rs.1,173.52 in 1999-00 prices), to compare against the estimated cost of provision in the PMC. We deflated both the capital (cost of provision) and O&M norms for smaller cities and for the PMC/PCMC using the price index for water, gas and electricity for Pune district. All the five ULBs in the Pune UA are located in Pune district, so such a computation is certainly reasonable.

Table 3.1 summarizes the various norms we have used for water supply, for cities of varying sizes, for the cost of provision and O&M, in 1999-00 prices. For ULBs other than the PMC, we did not have any data on capital expenditure on any of the services including for water supply, so the norm for the cost of provision of water supply (and other services) for smaller cities was not used.

Table 3.1: Norms for Water Supply Used, by City Size

Size of city→ Capital/O&M Norm↓	**Large cities (Rs. Per Capita, in 1999-00 Prices)**	**Small cities (Rs. Per Capita, in 1999-00 Prices)**
Capital	Rs.1,173.52	Rs.1,000.13
O&M	Rs.355.45	Rs.290.80

Source: NIUA (1995) study on "Costs of Urban Infrastructure" and Authors' Computations.

As described in an earlier chapter, the PMC supplies water to its residents. The PCMC has its own network to provide water supply to its residents. The PCB buys all its water in bulk from the PMC and distributes it through their network to the residents. The KCB partly buys water from the PMC and partly from the MIDC (Maharashtra Industrial Development Corporation (MIDC)) in bulk and distributes to residents through its network. DCB buys water directly and only from the MIDC.

Table 3.2 summarizes the per capita expenditures on, and expenditure gaps, when compared with the relevant norms (summarized in Table 3.1) for water supply by all local governments in the Pune UA for the years for which data are available. It is clear that PMC is the highest spender on water supply in per capita terms, when compared with the other local bodies. Even without comparison to a norm, local governments such as the PCB spend abysmally low on a basic service such as water supply, spending on average less than Rs.15 per capita on O&M. When compared with the relevant norms summarized in Table 3.1, it becomes very clear that PMC is the only local government that spends just about the right amount, and is in fact, left with a positive expenditure gap of about Rs.40 (in constant 1999-00 terms) per capita, as far as water supply is concerned. This means that PMC spends on average Rs.40 above the recommended norm for O&M expenditures on water supply.

Table 3.2: Summary of O&M/Revenue Expenditures on Water Supply, All Local Bodies, Pune UA

Local Body	Year	Per capita (Revenue/O&M) Exp on Water Supply (Rs. Per Capita, in 1999-00 prices)	Exp. Gap, WS, O&M (Rs. Per Capita, in 1999-00 prices)
PMC	1999-2000	429.04	73.59
PMC	2000-2001	426.59	71.14
PMC	2001-2002	377.10	21.65
PMC	2002-2003	383.80	28.35
PMC	2003-2004	346.22	-9.23
PMC	2004-2005	399.90	44.45
PMC	2005-2006	399.42	43.97
PCMC	2004-2005	163.81	-191.64
PCMC	2005-2006	154.46	-200.99
PCB	2001-2002	8.82	-281.98
PCB	2002-2003	5.84	-284.96
PCB	2003-2004	2.95	-287.85
PCB	2004-2005	5.40	-285.40
PCB	2005-2006	51.31	-239.49
KCB	1999-2000	44.46	-246.34
KCB	2000-2001	38.90	-251.90
KCB	2001-2002	34.29	-256.51
KCB	2002-2003	40.78	-250.02
KCB	2003-2004	34.38	-256.42
KCB	2004-2005	38.70	-252.10
KCB	2005-2006	78.69	-212.11
DCB	2003-04	191.59	-99.21
DCB	2004-05	251.06	-39.74
Average, all		**169.89**	**-146.21**
Average, PMC		**394.58**	**39.13**

Source: PMC, PCMC, PCB, KCB, DCB, and Authors' Computations.

When all local governments are included, on average, there is a gap of nearly Rs.146 per capita, on water supply O&M expenditure alone, when compared with the respective norms recommended for O&M expenditure on water supply. It is not quite clear what the cause of the gap in spending is in PCB and KCB. While we do know that water tax is a flat 4 percent of the annual rental value (ARV) of property in these two local governments, we did not have data on actual revenues from water supply from the local body budgets. We of course had data on this for PMC from Pune's City Development Plan, which is prepared for funding from the JNNURM, and hence is usually inflated. Given that all our actual expenditures and revenues are from the budgets, we refrain from comparing the water revenue from the CDP to expenditures in the budget.

Further, we note that the ARV itself is flawed as a method of property tax assessment since it tends to freeze rental values (especially where there is rent control), and always underestimates the true value of property. Hence 4 percent of the ARV might form a very small portion of expenditures on water in the case of the smaller ULBs, this could partly explain their low spending on the service.

According to Pune's CDP, PMC's cost recovery through direct user charges (excluding taxes and other water income) is about 93 percent as far as water supply operations are concerned. However, the growth in the number of house service connections is just about 1 percent against high population growth and 12 percent growth in assessed properties indicating large numbers of illegal and irregular connections in the PMC. Pune's CDP also refers to the low collection performance of water revenues at just around 15 percent of the demand.

In the PCMC, on the other hand, the CDP indicates that the growth in the number of house service connections is high, averaging about 12 percent indicating reasonable service coverage and reach. However, the problem there is the low collection efficiency at 44 percent.

These anomalies have to be corrected for complete cost recovery on the service, to enable the ULBs to spend more in accordance with the norms, and deliver better levels of the service.

We had information on only PMC's estimated capital expenditures on water supply for a few years, which on average, was Rs.1,236 (in constant 1999-00 terms) (Table 3.3), when compared against the norm specified by the NIUA (1995) study for the (capital) cost of provision of water supply being Rs.1,174 (Table 3.1) (in 1999-00 prices) for large cities.

Table 3.3: PMC's Capital Expenditure and Expenditure Gaps, Water Supply

Year	Per Capita Capital Expenditure, Water Supply (Rs. Per Capita, in 1999-00 prices)	Exp.Gap, WS, Capital (Rs. Per Capita, in 1999-00 prices)
1999-2000	555.77	-617.75
2000-2001	899.36	-274.16
2001-2002	NA	NA
2002-2003	1,229.36	55.84
2003-2004	2,027.72	854.20
2004-2005	NA	NA
2005-2006	1,472.23	298.71
Average	**1,236.89**	**63.37**

Source: PMC and Authors' Computations

These estimated capital expenditures on water supply by the PMC are very close to the recommended norm. However, the expenditures are estimated, not actual, hence difficult to judge.

Solid Waste and Sanitation

We performed a similar exercise for other services as we did for water supply, to arrive at expenditure gaps. For solid waste, we relied upon an Operations and Research Group (ORG) (1989) study which suggested norms for waste collection and transportation. For sanitation, we relied on the NIUA (1995) study for norms. Given the actual expenditures of the ULBs were combined for solid waste and sanitation, we had to combine the norms for these services as well. In the case of each of these services, we made an attempt to distinguish between ULBs of various sizes.

The national norm suggested by ORG (1989) is Rs.60-183 per capita (in 2004-05 prices) for waste collection (depending on the quantity of waste collected) and Rs.165 per capita for transportation of the waste. This assumes average waste generation level of 380 grams per capita per day.[10] In PMC, the average waste generation is about 360 grams per capita per day (see Chapter 2). Given its compatibility with ORG's assumptions, we used the upper end of ORG's estimates for norms relating to solid waste for PMC and PCMC. The norm for solid waste alone (generation, collection and transportation) in the two municipal corporations is Rs.348 per capita (in 2004-05 prices), which is Rs.282.27 per capita (in 1999-00 prices).

For the three cantonment boards, for solid waste, we used the lower end of the norm summarized above, i.e., Rs.60 per capita, and included the cost of transport, Rs.165 per capita, making for a total of Rs.225 per capita for solid waste management in the smaller ULBs (in 2004-05 prices) or Rs.164.05 in 1999-00 prices.

The actual expenditures on solid waste in all the ULBs (except the PMC) were combined with that on sanitation, whereas the norms on solid waste were separate (from the ORG (1989) study), and the norms for sanitation and sewerage were combined in the NIUA (1995) study. Hence our approach was to divide the norm from the NIUA (1995) study on sewerage and sanitation equally and separate them out. Then we added the norm on sanitation with that for solid waste, to arrive at norms which would be comparable to the combined actual expenditure by all ULBs on solid waste and sanitation.

For sewerage/sanitation, the norm suggested by the NIUA (1995) study is Rs.214.77 per capita (in 2004-05 prices) for the cost of provision, and Rs.36.82 (in 2004-05 prices) for O&M, both for *large cities*. In 1999-00 prices, these respectively turn out to be Rs.174.28 and Rs.29.88 per capita. Given that we would like to separate sewerage from sanitation, and add sanitation to solid waste, we divided equally the sewerage/sanitation norm for O&M expenditures (from the

[10] The approach used by ORG (1989) to arrive at these norms, relies on the estimation of waste collected, and estimates vehicle demand based on transport options in terms of trucks, compactors or matador and trips, with the compactor being the most expensive.

NIUA (1995) study) of Rs.29.88 and took Rs.14.94 per capita each for sewerage and sanitation. We added Rs.14.94 to the norm for solid waste, which is Rs.282.27 per capita (also in 1999-00 prices). This gave us a norm of Rs.297.21 for solid waste and sanitation for PMC and PCMC per capita (in 1999-00 prices). This norm applies to the costs of O&M of sewerage, and both capital and O&M of solid waste (since in the case of solid waste it is difficult to separate the capital from O&M expenditures). We arrived at norms for solid waste and sanitation for all ULBs, using the appropriate city sizes for generation of solid waste per capita. The smaller city norm for solid waste and sanitation based on a similar method turns out to be Rs.183.32 (Rs.164.05 per capita for solid waste (for collection and transportation) and Rs.19.27 per capita for sanitation (O&M), in 1999-00 prices).

Table 3.4: Summary of Revenue Expenditures and Expenditure Gaps on Solid Waste and Sanitation, Pune UA

Local Body	Year	Per capita Exp on SWM & Sanitation (Rs. Per Capita, in 1999-00 prices)	Exp. Gap, SWM & Sanitation (Rs. Per Capita, in 1999-00 prices)
PMC	1999-2000	126.55	-170.67
PMC	2000-2001	128.56	-168.66
PMC	2001-2002	122.77	-174.44
PMC	2002-2003	141.45	-155.76
PMC	2003-2004	135.42	-161.79
PMC	2004-2005	132.01	-165.20
PMC	2005-2006	129.85	-167.36
PCMC	2003-2004	162.68	-134.53
PCMC	2004-2005	171.39	-125.82
PCMC	2005-2006	166.71	-130.51
PCB	2001-2002	319.66	136.34
PCB	2002-2003	338.59	155.27
PCB	2003-2004	284.57	101.25
PCB	2004-2005	352.62	169.30
PCB	2005-2006	291.94	108.62
KCB	1999-2000	153.22	-30.10
KCB	2000-2001	140.98	-42.34
KCB	2001-2002	123.12	-60.20
KCB	2002-2003	123.42	-59.90
KCB	2003-2004	125.51	-57.81
KCB	2004-2005	143.33	-39.99
KCB	2005-2006	153.38	-29.94
DCB	2003-2004	214.71	31.39
DCB	2004-2005	229.87	46.55
Average, all		**183.85**	**-46.93**
Average, PMC		**130.94**	**-166.27**

Source: PMC, PCMC, PCB, KCB, DCB, and Authors' Computations.

We compared the norms thus constructed, to the actual expenditures of the local bodies on solid waste and sanitation. Table 3.4 summarizes the actual per capita expenditures on these urban services by the various ULBs and the expenditure gap, when actual per capita expenditures are compared with the norms summarized above.

On average, there is a clear shortfall in spending on these basic services, when compared against the norms. Even a large municipal corporation like the PMC is unable to spend adequately on solid waste and sanitation. The average expenditure gap by the PMC alone is roughly Rs.167 per capita, that too on O&M for sewerage, taking an account of a spending norm of Rs.14.94 in per capita terms (1999-00 prices) on sewerage. The required expenditure on solid waste, taking into account both capital and O&M expenditures, is of course the larger component, being Rs.282.27 in per capita terms (1999-00 prices). This means that the PMC is unable to spend according to the recommended norms for a city of its size, to the extent of Rs.167 per capita, or nearly an *additional* Rs.447 million on solid waste and sanitation, at the average population of the PMC we projected for the period 1999-2005.

While the per capita spending of all ULBs (including the PMC) on solid waste and sanitation is well above than what it is for PMC alone, the other ULBs, with the exception of PCB and DCB, also fall short of the required expenditures on solid waste, to attain 100 percent solid waste collection efficiency. Clearly, even PCMC is unable to spend adequately on solid waste and sanitation, in comparison with the recommended norms. It is not quite clear what the cause of the low spending is.

Indeed when compared against the norms summarized above, cantonment boards such as PCB and DCB spend well above the norms specified. On average, the PCB has a positive expenditure gap of Rs.134 per capita (in 1999-00 prices) with respect to solid waste and sanitation, whereas DCB exhibits a positive expenditure gap of Rs.39 per capita. While both of them are cantonment boards, one probable reason for the apparently adequate level of spending is that solid waste and sanitation expenditure in these two ULBs refers to establishment and contingencies. Having said this, the differences in spending across these two ULBs could directly be a function of scale economies; given PCB is a much larger local government, when compared with DCB (see Chapter 1).

While the norm refers to collection of solid waste and its transportation, actual expenditure on solid waste consists of revenue expenditure for the PMC, O&M and revenue expenditure in the case of PCMC, and O&M in the case of DCB (it is worth noting that capital expenditures were not available for any service (except for water supply) for the PMC or other local governments).

Sewerage/Drainage

As described earlier, for sewerage/drainage, we used the norm developed by NIUA (1995) for the cost of O&M on sewerage/sanitation and divided the norm equally between sewerage and sanitation. The sanitation part of the norm was added to that on solid waste, as explained in the previous section, and the norm for sewerage was used for comparison against actual expenditures on sewerage/drainage. The norm summarized by NIUA (1995), is Rs.36.82 per capita for O&M on sewerage/sanitation in *large* cities (in 2004-05 prices). We converted this to 1999-00 prices, using the appropriate price index, and the O&M norm turns out to be Rs.29.88.

Table 3.5: Summary of O&M Expenditures and Expenditure Gaps on Sewerage/Drainage, All Local Governments, Pune UA

Local Body	Year	Per capita Exp on Sewerage/Drainage (Rs. Per Capita, in 1999-00 prices)	Exp. Gap, Sewerage/Drainage (Rs. Per Capita, in 1999-00 prices)
PMC	1999-2000	76.13	61.19
PMC	2000-2001	109.87	94.93
PMC	2001-2002	131.69	116.75
PMC	2002-2003	139.76	124.82
PMC	2003-2004	65.69	50.75
PMC	2004-2005	67.20	52.26
PMC	2005-2006	194.09	179.15
PCMC	2003-2004	25.67	10.73
PCMC	2004-2005	23.59	8.65
PCMC	2005-2006	28.72	13.78
PCB	2001-2002	34.17	14.90
PCB	2002-2003	14.48	-4.79
PCB	2003-2004	3.43	-15.84
PCB	2004-2005	16.58	-2.69
PCB	2005-2006	11.25	-8.02
KCB	1999-2000	28.33	9.06
KCB	2000-2001	76.65	57.38
KCB	2001-2002	34.82	15.55
KCB	2002-2003	35.74	16.47
KCB	2003-2004	28.37	9.10
KCB	2004-2005	24.47	5.20
KCB	2005-2006	18.60	-0.67
Average, all		**54.06**	**36.76**
Average, PMC		**112.06**	**97.12**
Average, PCB		**15.98**	**-3.29**
Average, KCB		**35.28**	**16.01**

Source: PMC, PCMC, PCB, KCB, DCB, and Authors' Computations.

The relevant norm for sewerage is half of this (with the other half having been allocated to sanitation), Rs.14.94 per capita. We compared actual expenditures on sewerage against this norm

for the larger ULBs (PMC and PCMC). For the smaller ULBs, the sewerage norm turns out to be Rs.19.27 (in 1999-00 prices).

The comparisons of actual expenditures with norms for sewerage/drainage O&M expenditures for all local governments in the Pune UA are summarized in Table 3.5. On average, when the entire UA is taken into account, there is a positive gap as far as sewerage/drainage O&M expenditure is concerned. Clearly, the PMC is the highest spender per capita on sewerage, followed by KCB, PCMC and then the PCB.[11] It is surprising that even cantonment boards such as KCB are in a position to spend more per capita on this service, when compared with a municipal corporation like PCMC.

On average, it is only the PCB that spends below the norm on sewerage O&M, the expenditure gap on this service being Rs.3.29 per capita. If we were to translate the per capita expenditure gap on this service by the PCB to total terms, at the average population of the PCB we have projected for the time period 2001-2005 (which is 79,538), the per capita Rs.3.29 expenditure gap (see Table 3.5) translates to an *additional* Rs.2,61,679 for sewerage O&M alone. While the physical level of the service corresponding to this expenditure norm is not suggested by the NIUA (1995) study, we assume that this level of spending would be required for 100 percent coverage of population with sewerage networks.

Table 3.6: Summary of Capital Expenditures and Expenditure Gaps on Sewerage/Drainage, PMC

Year	Per Capita Capital Expenditure on Drainage (Rs. Per Capita, in 1999-00 prices)	Exp.Gap, Drainage, Capex (Rs. Per Capita, in 1999-00 prices)
1999-2000	173.71	86.57
2000-2001	241.26	154.12
2001-2002	NA	NA
2002-2003	255.26	168.12
2003-2004	303.83	216.69
2004-2005	NA	NA
2005-2006	675.83	588.69
Average	**329.98**	**242.84**

Source: PMC and Authors' Computations.

Data on capital expenditure for drainage was available just from the PMC. Hence we compared this to norms for capital expenditure on drainage in large cities, which was Rs.214.77 per capita (in 2004-05 prices), which turns out to be Rs.174.28 per capita in 1999-00 prices. The story is promising as far as PMC's spending on capital projects on sewerage/drainage is

[11] Data on sewerage/drainage were not available from the DCB, hence excluded from Table 3.5

concerned. On average, taking into account the entire period of our study and the years for which the data were available, we find positive expenditure gaps in the case of PMC's capital expenditures on sewerage/drainage (Table 3.6), against a norm of Rs.174.28 per capita (in 1999-00 prices).

So there appears to be no great problem as far as spending on O&M or capital expenditure by the PMC (or most other ULBs) is concerned. Adequate spending on capital projects relating to sewerage by the PMC is possibly one reason why most (95 percent) of its area is covered by sewerage networks (see Table 2.4, Chapter 2).

Municipal Roads

In the case of municipal roads and street lights, nationally recommended expenditure norms were not readily available. Mathur et.al (2007) is silent regarding these services.[12] Based on our consultations with cities and various local governments, for these services, no state-specific or city-specific norms are being used. Hence we used expenditure norms developed by PricewaterhouseCoopers (2000) for these services for towns of various sizes, for a study they did for the Government of Chhattisgarh. These norms basically refer to the Zakaria committee norms for O&M expenditure, updated to 2000-01 prices. These norms for municipal roads, for towns with population greater than 20 lakhs (PMC's size), population between 5-20 lakhs (PCMC's size), those with population between 0.5-1 lakh (PCB and KCB's sizes) and for towns with 0.2-0.5 lakh population (DCB's size) are respectively Rs.43.45, Rs.35.55, 23.71 and Rs.21.73 per capita (in 2000-01 prices). In 1999-00 prices, these norms respectively are Rs.39.02 (for PMC's size), Rs.31.93 (for towns of PCMC's size), Rs.21.29 (for towns of KCB and PCB's sizes) and Rs.19.51 (for towns of DCB's size). Municipal roads are one service for which we had data on O&M expenditure for all the years for which we sought information. We compared the norms for roads to actual expenditures on the service. The comparisons of the actual expenditure to the relevant norms are summarized in Table 3.7.

On average, all local governments in the Pune UA appear to spend adequately on municipal roads. Surprisingly, the low spender here both in terms of the relative average and in comparison with the O&M norm is the PMC itself. This comes as a surprise indeed because a very small proportion of PMC's land area is covered by roads (see Chapter 2). On average, there is a shortfall of Rs.2 per capita (in 1999-00 prices) with respect to O&M expenditure on municipal roads by the PMC. At PMC's average population over our study period (1999-00 to

[12] We tried very hard, but were unable to get a copy of the NIUA (1995) draft report on the costs of urban infrastructure.

2005-06), this translates to a total *additional* expenditure gap of nearly Rs.5.35 million on roads alone (in 1999-00 prices).

Table 3.7: Summary of O&M Expenditures and Expenditure Gaps for Municipal Roads, All Local Governments, Pune UA

Local Body	Year	Per capita Exp on Roads (Rs. Per Capita, in 1999-00 prices)	Exp. Gap, Roads (Rs. Per Capita, in 1999-00 prices)
PMC	1999-2000	46.53	7.51
PMC	2000-2001	38.71	-0.31
PMC	2001-2002	36.66	-2.36
PMC	2002-2003	40.91	1.89
PMC	2003-2004	28.47	-10.55
PMC	2004-2005	30.14	-8.88
PMC	2005-2006	37.74	-1.28
PCMC	2001-2002	59.63	27.70
PCMC	2002-2003	59.24	27.31
PCMC	2003-2004	40.50	8.57
PCMC	2004-2005	55.81	23.88
PCMC	2005-2006	51.43	19.50
PCB	2001-2002	209.10	187.81
PCB	2002-2003	354.79	333.50
PCB	2003-2004	162.21	140.92
PCB	2004-2005	215.07	193.78
PCB	2005-2006	345.72	324.43
KCB	1999-2000	139.60	118.31
KCB	2000-2001	164.14	142.85
KCB	2001-2002	133.19	111.90
KCB	2002-2003	178.40	157.11
KCB	2003-2004	153.95	132.66
KCB	2004-2005	82.39	61.10
KCB	2005-2006	125.34	104.05
DCB	2003-04	91.30	71.79
DCB	2004-05	42.80	23.29
Average, all		**116.87**	**89.23**
Average, PMC		**37.02**	**-2.00**
Average, PCMC		**49.24**	**17.31**
Average, PCB		**257.38**	**236.09**
Average, KCB		**139.57**	**118.28**
Average, DCB		**67.05**	**47.54**

Sources: PMC, PCMC, PCB, KCB, DCB, and Authors' Computations.

A much smaller municipal corporation such as the PCMC is able to meet the norms for O&M expenditure on roads, and indeed spends above the norm, to the extent of Rs.17.31 per capita, on average.

The biggest surplus spenders on O&M of municipal roads are the PCB, KCB and DCB, which spent on average, respectively Rs.236, Rs.118 and Rs.48 more per capita for O&M on their municipal roads, than is suggested by the PWC norm. This is understandable because capital expenditure on their municipal roads is met by the Ministry of Defence, Government of India. Hence it is understandable that they have more resources to spend on the O&M of these roads. On the other hand, the municipal corporations are hard-pressed for funds, however rich even with octroi, hence cannot spend enough. Given the PCMC spent on average, more per capita on municipal roads' O&M, does this suggest that roads in PCMC are maintained better than they are in PMC? Well, this is debatable. While we had some data on PMC's road network, we did not have any on PCMC's to enable us to make an assessment there.

Street Lights

As described in the previous section on roads, we did not have national norms with respect to spending on street lights. Hence we used the PWC norms, which are the inflation-adjusted norms of the Zakaria Committee for towns in Chhattisgarh of various sizes. For street lights, these norms respectively are Rs.59.26 (for towns the size of PMC), Rs.56.29 (for towns of PCMC's size), Rs.45.44 (for towns of PCB and KCB's size), and Rs.42.47 (for towns of DCB's size), all in per capita terms, and in 2000-01 prices. These per capita norms in 1999-00 prices respectively are, Rs.75.99, Rs.72.19, Rs.58.27, and Rs.54.46, for towns of the sizes we are concerned with here.

Data were not available from the KCB and PCB for any year on street lights expenditure (O&M or capital projects). We had data on this from PCMC and DCB for a couple of years, and PMC for a number of years. Table 3.8 summarizes the differences between actual and required O&M real expenditures on street lights in all the local governments from which data were available, in per capita terms (in constant 1999-00 prices).

Surprisingly again, it is the largest municipal corporation, the PMC, which is the low spender on street lights (O&M) as well. On average, there is a shortfall of Rs.18 per capita (in real 1999-00 terms) as far as spending on street lights by the PMC is concerned. While the installation of street lights in the PMC area meets even international norms (see Chapter 2), since street lights are usually an indicator of safety, low spending would mean that either the lighting is either of good quality and does not need to be replaced often, but it could also mean that not enough defective street lights are replaced, or that the PMC is unable to afford enough engineers/technicians to fix defective lights. If the latter were to be the case, low spending on street lighting would cast doubt on the PMC's ability to provide safety to its residents.

Table 3.8: Summary of O&M Expenditures and Expenditure Gaps for Street Lights, All Local Governments, Pune UA

Local Body	Year	Per capita Exp on Street Lights (Rs. Per Capita, in 1999-00 prices)	Exp. Gap, Street Lights (Rs. Per Capita, in 1999-00 prices)
PMC	1999-2000	46.00	-29.99
PMC	2000-2001	62.97	-13.02
PMC	2001-2002	56.24	-19.75
PMC	2002-2003	56.32	-19.67
PMC	2003-2004	54.30	-21.69
PMC	2004-2005	61.98	-14.01
PMC	2005-2006	70.71	-5.28
PCMC	2004-2005	77.58	5.39
PCMC	2005-2006	73.89	1.70
DCB	2003-2004	43.01	-11.45
DCB	2004-2005	71.15	16.69
Average, all		**61.29**	**-10.10**
Average, PMC		**58.36**	**-17.63**
Average, PCMC		**75.74**	**3.55**
Average, DCB		**57.08**	**2.62**

Sources: PMC, PCMC, DCB, and Authors' Computations.
Note: No data were available from the PCB and KCB for expenditures on street lighting.

The PCMC's spending on street lights meets the norms, indeed, and given that it is an area that is increasingly inhabited by households (rather than persons, see Chapter 1), its picture as a safe place to live is likely to encourage more in-migration into the area. While DCB's spending during one year is below the norm, it is well above the norm during the most recent year for which data were available. Hence on average, it is adequate, taking into account the norm. We did not have information on the average spacing between street lights in the other ULBs, hence difficult to match the spending with the physical level of the service.

Total Expenditure

Total expenditures include all revenue and O&M expenditures on the relevant services, and spending on "other" services such as public health, primary education, slums, city planning, pensions and so forth. In addition to this, the ULBs also have debt payments (not included here). We examined total expenditures per capita for all ULBs during 1999-00 to 2005-06, on the relevant services, namely, water supply, sanitation & solid waste, sewerage, municipal roads and street lights, and examined this with and without PMC and PCMC. The descriptive statistics are summarized in Table 3.9.

Table 3.9: Per Capita Total Expenditure, Local Governments, Pune UA

Total Per Capita Expenditure, All Local Governments, Rs. Per Capita, in 1999-00 Prices							
	1999-2000	**2000-2001**	**2001-2002**	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**
Average	2,649.35	2,223.03	2,433.50	3,618.99	3,189.25	3,359.15	4,210.29
Maximum	3,572.57	2,814.28	3,361.55	7,892.95	7,842.09	8,152.24	9,188.89
Minimum	1,726.12	1,631.79	1,774.03	1,974.08	1,647.57	1,743.36	1,840.53
Standard Deviation	1,305.63	836.14	674.94	2,854.20	2,621.94	2,713.59	3,362.95
Number of observations	2	2	4	4	5	5	4
Total Per Capita Expenditure, Without PMC & PCMC, Rs. Per Capita, in 1999-00 Prices							
Average	3,572.57	2,814.28	2,764.82	5,135.61	3,932.50	4,086.87	5,923.32
Maximum	3,572.57	2,814.28	3,361.55	7,892.95	7,842.09	8,152.24	9,188.89
Minimum	3,572.57	2,814.28	2,168.09	2,378.28	1,799.65	1,787.64	2,657.74
Standard Deviation	NA	NA	843.90	3,899.46	3,390.48	3,530.79	4,618.22
Number of observations	1	1	2	2	3	3	2

Sources: PMC, PCMC, PCB, KCB, DCB and Authors' Computations.

First, we note from Table 3.9 that the total per capita expenditure in real terms has been constantly increasing on average in all the ULBs. Second, we observe that on average, the per capita total expenditures of the ULBs other than the PMC and PCMC are always higher than those when the two municipal corporations are included. It is possible such disparity exists because the ULBs apart from the PMC and PCMC are cantonment boards, and given that they are under the jurisdiction of the Ministry of Defense, Government of India, they have funding from the central government in addition to their own, and hence are able to spend on providing civic services.

The next and final step was to compare total actual expenditures on relevant services – water supply, solid waste and sanitation, sewerage/drainage, roads and street lighting -- to that specified by the expenditure norms for the services. Given that expenditure on all services was not available for all the local governments, we computed *total expenditure norms* only for those civic services for which we had data on *actual expenditures* from the ULBs.

For the PMC, we had data on all services, hence total expenditure on water supply, sewerage, sanitation and solid waste, roads and street lights was compared to the total of norms for these services. For the PCMC, total expenditure consists of all services again, compared with total norms, as with PMC, but only for two recent years, for which data were available, and these were compared to the norms consisting of these services.

For KCB and PCB, data on actual expenditures on street lights were not available, so total expenditures for these local governments consists of that on water supply, sewerage, solid waste and sanitation, and municipal roads. Hence the *total* norms for these two cantonment

boards also refer to the sum of norms for only these services and exclude those for street lights. For the DCB, data on its actual O&M expenditures on sewerage/drainage were not available, hence the total expenditures here refer to the above mentioned services except sewerage, and the *total expenditure norms* for DCB exclude sewerage. Finally, note the caveat that the total expenditures refer only to O&M expenditures on all services. While we did have data from the PMC on its capital expenditures on water supply and sewerage, we did not count them toward the total expenditures, given they were not available for other local governments.

Table 3.10: Summary of O&M Expenditures and Expenditure Gaps for All Relevant Urban Services, All Local Governments, Pune UA

Local Body	Year	Per capita Exp on All Relevant Services (Rs. Per Capita, in 1999-00 prices)	Total Exp. Gap (Rs. Per Capita, in 1999-00 prices)
PMC	1999-2000	724.23	-58.38
PMC	2000-2001	766.69	-15.92
PMC	2001-2002	724.46	-58.15
PMC	2002-2003	762.24	-20.38
PMC	2003-2004	630.11	-152.50
PMC	2004-2005	691.23	-91.39
PMC	2005-2006	831.81	49.20
PCMC	2004-2005	492.17	-279.55
PCMC	2005-2006	475.21	-296.51
PCB	2001-2002	571.75	57.07
PCB	2002-2003	713.70	199.02
PCB	2003-2004	453.17	-61.51
PCB	2004-2005	589.66	74.98
PCB	2005-2006	700.22	185.54
KCB	1999-2000	365.62	-149.06
KCB	2000-2001	420.67	-94.01
KCB	2001-2002	325.41	-189.27
KCB	2002-2003	378.35	-136.33
KCB	2003-2004	342.21	-172.47
KCB	2004-2005	288.90	-225.78
KCB	2005-2006	376.00	-138.68
DCB	2003-04	540.62	-7.47
DCB	2004-05	594.88	46.79
Average, all		**554.75**	**-66.73**
Average, PMC		**732.97**	**-49.64**
Average, PCMC		**483.69**	**-288.03**
Average, PCB		**605.70**	**91.02**
Average, KCB		**342.18**	**-172.50**
Average, DCB		**567.75**	**19.66**

Sources: PMC, PCMC, PCB, KCB, DCB, and Authors' Computations.

With these caveats in order, Table 3.10 summarizes the total expenditure gaps for all services we computed for the ULBs in the Pune UA. We find that the municipal corporations, PMC and PCMC, are the low spenders on an aggregate level as well. On average, there is an expenditure gap of nearly Rs.50 in the PMC and Rs.290, both in per capita terms, as far as the PCMC is concerned.

The PCMC gap is of greater concern because it is the largest of that for the ULBs, and greater than that for smaller ULBs. The PCMC's expenditure gap implies an *additional* Rs.369.15 million (in constant 1999-00 prices) on various urban services, when compared with generally accepted norms for spending on them. While the PCMC spends very little (in comparison to the norms) on water supply, solid waste and sanitation, and street lights, the areas in which it spends above the norms are in sewerage, municipal roads and street lighting. So possibilities of substituting expenditures in the deficient service areas exist.

The fiscal implication of the total expenditure gap for the PMC is an *additional* Rs.127 million on various civic services. While the PMC spends in accordance with norms on water supply, and sewerage, its' spending on other services, especially solid waste management and sanitation is highly inadequate. Even here redistribution of expenditures is possible and may be directed toward deficient areas.

While the two municipal corporations display expenditure gaps, it is not a surprise to observe that KCB is the other ULB which has a negative expenditure gap to the tune of Rs.172.50 per capita, taking into account its actual spending on all relevant urban services considered here. The fiscal implication of this gap is that the KCB has to spend an *additional* Rs.13 million on water supply and solid waste and sanitation, at the average population we projected. This is excluding expenditure on street lighting, data on which were unavailable from the KCB. If street lights were to be included and if expenditure gaps were to be found, then the fiscal implications could be much worse for the KCB.

While PCB and DCB both spend very inadequately on water supply (Table 3.10), and PCB a little inadequate on sewerage, overall, their expenditure gap is positive, implying that they spend above the norms considered here for most of the relevant services. As we have repeatedly emphasized, data on the physical level of services was not available from the smaller ULBs. If the level of services on which spending seems be adequate judged against norms used here, then it is possible that smaller ULBs such as PCB and DCB can 'transfer' their expenditure from the surplus service areas such as municipal roads (where they have additional support from the Ministry of Defense, Government of India), to those on deficient services we have identified here.

Overall, there is an expenditure gap of nearly Rs.67 per capita on all urban services, when

all ULBs are taken into account, with actual per capita expenditure of Rs.555 on average (in 1999-00 prices) on basic services such as water supply, solid waste and sanitation, sewerage, municipal roads and street lighting, which we have studied here.

We examined per capita expenditures on "other services" which includes primary education, O&M for machinery, public health, bonus to employees, pensions, general administration (such as collection of taxes and fees), among others. Table 3.11 presents a descriptive summary of the expenditure on "other" services by year, over time, for all the ULBs.

Table 3.11: Per Capita 'Other' Expenditure, All ULBs, Pune UA

Rs. Per Capita (in 1999-00 constant prices)							
	1999-2000	**2000-2001**	**2001-2002**	**2002-2003**	**2003-2004**	**2004-2005**	**2005-2006**
Average	2,104.42	1,629.35	1,894.01	3,463.67	2,869.74	2,827.78	3,614.48
Maximum	3,206.95	2,393.61	3,036.13	7,514.60	7,499.87	7,863.34	8,812.89
Minimum	1,001.89	865.10	1,049.57	1,211.85	1,017.46	1,052.14	1,008.72
Standard Deviation	1,559.21	1,080.82	1,026.19	3,515.50	3,099.77	2,857.66	3,532.44
Number of observations	2	2	3	3	4	5	4

Sources: PMC, PCMC, KCB, PCB, DCB and Authors' Computations.

We find that on average, "other expenditure" is much higher than it is for the services studied here, Rs.2,629 per capita (the average of averages row, Table 3.11). It is possible that the ULBs, despite having an expenditure gap on the services studied here, might be spending adequate amounts on other, equally important, services which are beyond the scope of our study.

The next couple of chapters discuss revenue capacities and fiscal gaps for local governments in the Pune UA.

CHAPTER 4: ANALYSIS OF REVENUES

This chapter focuses on the revenues of the five ULBs of Pune urban agglomeration. The first section gives an overview in terms of averages of the different components of revenues. The second section attempts to estimate the maximum revenue capacities for the ULBs.

Revenues in Pune: An Overview

This section brings together sources and compositions of revenues in the ULBs of Pune. Though the heads are roughly the same for all the ULBs there are slight differences because of the differences in the structure, functions and nature of economic activities pursued in the municipalities and cantonment boards. These differences are reflected mostly in the grants, octroi and the other tax components. The cantonment boards are eligible for some special grants from the upper tiers of the government, apart from the regular grants for education which all the municipalities get. Apart from their own collections from their check posts, KCB and PCB get shares of PMC's octroi[13], while DCB generates octroi from its own check posts only.

Property tax assessment is done by ARV method in all the ULBs, taking into considerations the characteristics of the areas in a particular ULB which is divided into zones. Rates of property taxes differ slightly across ULBs; the details of the rates available for some of the ULBs are summarized in Table 4.1.

Table 4.1: Property Tax Rates

PCMC	
ARV Slabs In Rs.	Rate of Property tax Per annum
1 - 12,000	18%
12,001 -30,000	21%
30,001 and above	28%
PCB	
ARV Slabs In Rs.	Rate of Property tax rates Per annum
1 - 999	10%
1,000 - 4,999	14%
5,000 - 29,999	15%
30,000 - 49,999	16%
50,000 - 99,999	18%
100,000 and above	22%
DCB	
ARV Slabs In Rs.	Rate of Property tax Per annum
1 - 999	9%
1,000 - 4,999	12%
5,000 - 49,999	15%
50,000 and above	18%

Source: Municipality Budgets, Author's Computations

[13] Most recent data shows that PMC shared around 2% of its octroi collection to each of these cantonment boards.

We find that the rates are higher in the municipalities[14] than the cantonment boards.

Data on demand and collection of property taxes are not available for all the ULBs. Table 4.2 below shows the collection efficiency figures for PCMC and DCB of which DCB shows a higher collection efficiency. This is because of the fact that cantonment boards have lower demand for property taxes. PCMC shows fluctuations in the collection efficiency over the years but it is less that 40% for all the years.

Table 4.2: Collection Efficiency in Property Taxes

Year	Property Tax (in Rs crores)	PCMC	DCB
2003-04	Demand	60.82	0.16
	Collection	23.33	0.10
	Collection efficiency	38%	62%
2004-05	Demand	88.31	0.19
	Collection	25.75	0.17
	Collection efficiency	29%	93%
2005-06	Demand	99.80	NA
	Collection	36.62	NA
	Collection efficiency	37%	NA

Source: Municipality Budgets, Author's Computations

Unfortunately time series data on the components of revenues are available for only two years viz 03-04 and 04-05, for all the ULBs. In what follows we would like to analyse each component in per capita terms and also their shares in total revenue across ULBs. To make the comparisons more valid we would analyse each component for three groups: all ULBs, the cantonment boards and municipalities (PMC and PCMC). The purpose is to highlight the differences in terms of the magnitudes and relative importance of the components of resources across groups and over time. We would use average values for each group for each category of revenues for our analysis. All the magnitudes are expressed in 99-00 prices.

Per Capita Property Tax

Analysing the per capita values of the property tax we find that for both the years the average per capita values are higher for the municipalities than the cantonment boards. This is partially because of the lesser number of properties in the cantonment boards[15]. The rise in per capita values however is more pronounced in the cantonment boards than the municipalities. The rise in case of cantonment

[14] PMC rates are given in chapter 2, it ranges between 14 to 38%.

[15] Due to non availability of data on the number of properties of the cantonment boards we cannot substantiate our argument by citing figures. But a comparison of population figures for the two groups can give a valid explanation. Also, cantonment boards are dominated by properties of the government.

boards can be partially explained by the fall in population in these areas. The magnitude of increases in the municipalities is again indicative of undervaluation of properties and low collection efficiency. Table 4.3 gives the details on this account.

Table 4.3: Per Capita Property Tax (in Constant 1999-00 Prices)

	2003-04	2004-05
Average All ULBS	117.96	138.69
Average Cantonment Boards	81.46	115.06
Average PMC & PCMC	172.72	174.15

Source: Municipality Budgets, Author's Computations

Per capita Octroi

For the municipalities the average per capita values of octroi are higher than those of the cantonment board averages. This is caused by a relatively lower level of production activities in cantonment boards that the municipalities. Per capita octroi values are higher than per capita property taxes in Pune, in general, the former is almost 8 to 9 times as high as the latter. The rise over the year is also higher than those recorded for property taxes. This indicates the importance of octroi as a growing source of revenues and also the rise in production activities in the area.[16] Table 4.4 gives the details of the per capita average values of octroi for the ULBs in Pune.

Table 4.4: Per capita Octroi (in Constant 1999-00 Prices)

	2003-04	2004-05
Average All ULBs	1,052.39	1,246.95
Average Cantonment Boards	817.24	983.05
Average PMC & PCMC	1,405.11	1,642.79

Source: Municipality Budgets, Author's Computations

Per Capita Tax Revenue

We have also analysed the averages for total tax revenue with and without octroi. We find that there is a drastic fall in revenues, be it cantonment boards or municipalities if octroi is not taken into account. While the average tax revenues are reducing to one thirds when we take all the ULBs together, for the cantonment boards the averages shrink to half their values while for municipalities they shrink to one eighth of their values. This shows the dominant role played by octroi in the tax revenues of Pune ULBs. However the per capita averages for the cantonment boards without octroi are seen to be higher

[16] Octroi rates are amended from time to time but same rates are being followed by all the municipalities. Octroi rules are part of the Bombay Provincial Municipal Corporation Act 1949, with successive amendments. Recently a number of instances of shut down of big production companies all over Maharashtra make it very clear that in near future the state has to take a decision on abolition of octroi if it wants to retain its production base. Because of this we have focused on an analysis considering revenues without octroi.

than those for municipalities indicating to the fact the relative importance of octroi is more for the municipalities than the cantonment boards. The averages for per capita other tax revenues are much higher in the cantonment boards. It is partially because of the fact that cantonment boards collect some taxes as other taxes which are not collected by municipalities; partially because of a lower population leading to higher values in per capita terms. However, a close investigation of their budgets shows that it might be partially because of the difference in the mode of accounting also. Table 4.5 gives the details for the per capita total tax averages.

Table 4.5: Per capita Total Tax Revenue (in Constant 1999-00 Prices)

Per capita Total Tax Revenue(Average)						
	All ULBs		Cantonment Boards		PMC & PCMC	
	With Octroi	Without Octroi	With Octroi	Without Octroi	With Octroi	Without Octroi
2003-04	1,700.92	648.53	1,761.04	943.79	1,610.76	205.65
2004-05	1,770.35	523.41	1,727.42	744.37	1,834.75	191.96

Source: Municipality Budgets, Author's Computations

Per Capita Non-Tax Revenue

Analysis of the average values of non tax revenues in per capita terms shows that it has increased slightly in the municipalities while decreased in the cantonment boards over the period. This indicates that the non tax revenues have increased in lesser proportions than the increase in population. Also, it is higher for the cantonment boards than the municipalities. This is caused by a much lower population in cantonment boards as compared to the municipalities. Table 4.6 gives the details of the per capita non tax revenues for Pune.

Table 4.6: Per capita Non Tax Revenue (in Constant 1999-00 Prices)

	2003-04	2004-05
Average All ULBs	1122.22	926.45
Average Cantonment Boards	1507.62	1169.72
Average PMC & PCMC	544.11	561.54

Source: Municipality Budgets, Author's Computations

Per capita own source revenue

An analysis of the per capita own revenues show that the average values are almost one and a half times for all ULBs, 1.2 times for cantonment boards and almost 3 times for the municipalities when octroi is included. However the absolute values are higher in per capita terms for the cantonment boards than the municipalities which can again be attributed to lower population in these areas and not higher collections. It is interesting to note that the per capita own revenues have fallen over the year for cantonment boards but risen slightly for municipalities. The details of the per capita revenue figures are

given in Table 4.7. Figure 4.1 in the appendix gives the components of own source revenues for the different groups for the most recent year (for which data is available for all the ULBs) 04-05.

Table 4.7: Per capita own source revenue (in Constant 1999-00 Prices)

Per capita own source revenue(Average)						
	All ULBs		Cantonment Boards		PMC & PCMC	
	With Octroi	Without Octroi	With Octroi	Without Octroi	With Octroi	Without Octroi
2003-04	2823.14	1770.75	3268.65	2451.41	2154.87	749.76
2004-05	2696.80	1449.86	2897.15	1914.10	2396.29	753.50

Source: Municipality Budgets, Author's Computations

Per Capita Total Revenue

Per capita grants figures are not very different across the cantonment boards and the municipalities in 03-04 while it is higher for cantonment boards in 04-05. The increase over the years for the cantonment boards is phenomenal, it has almost doubled, which can be mostly explained by political economy factors. This is reflected in per capita total revenue averages and we find that per capita total revenues are much higher for cantonment boards, which is around three times without octroi and 1.2 times with octroi if compared with the municipalities. Also the figures have fallen over the year for the cantonment boards but have increased for the municipalities. Table 4.8 below shows the details of the per capita total revenue averages. Figure 4.2 gives the components of total revenues for the different groups in 04-05)

Table 4.8: Per capita Total Revenue (in Constant 1999-00 Prices)

	All ULBs		Cantonment Boards		PMC & PCMC	
	With Octroi	Without Octroi	With Octroi	Without Octroi	With Octroi	Without Octroi
2003-04	2904.98	1852.59	3350.84	2533.60	2236.19	831.08
2004-05	2841.13	1594.18	3066.71	2083.66	2502.75	859.96

Source: Municipality Budgets, Authors' Computations

The main problem with the above analysis is that the per capita averages are very sensitive to the population differences between the municipalities and the cantonment boards. Figures 4.3 and 4.4 give respectively the proportions of the components of own source revenues and total revenues across the categories of ULB.

Revenue Capacity Estimations

Revenue Capacity is a normative concept. It measures the maximum potential of a municipality in terms of collection of revenues from different sources. The sources of municipal revenues are not homogeneous. So the rate applied to each source is different from the other. As a result defining a single rate for the overall revenues of a municipality becomes difficult.

A second difficulty arises in defining the base for urban revenues. The bases for different taxes and user charges levied by the municipality are widely different. So defining each base and aggregating across all the bases become problematic. The main problem is the non-availability of data in India at the city level.

Table 4.9: GCP Estimates for Pune ULBs (in Constant 1999-00 Prices)

ULB	PER CAPITA REVENUE WITH OCTROI	PER CAPITA TOTAL REVENUE (WITHOUT OCTROI)	PERCENTAGE DECREASE IN REVENUE WITHOUT OCTROI	GCP
Average PMC	2054.42	1170.85	43%	173,982,480,161
Average PCMC	2964.27	609.32	79%	80,745,291,233
Average PCB	2878.48	1830.11	36%	5,185,821,078
Average KCB	4205.85	2862.77	32%	5,493,357,128
Average DCB	1958.38	1287.07	35%	3,234,157,602
Average All ULBs	2813.93	1605.66	43%	64,610,505,968

Source: Municipality Budgets, Authors' Computations

For revenue capacity estimations we need to define an ideal aggregate base and an ideal rate of taxation on the base which can generate the true revenue potential of the municipality. In the absence of proper data on the individual bases for urban taxation Gross City Product (GCP) can be taken as the proxy. But in India GCP data are not available. So the first step in our revenue capacity estimation is the estimation of GCP on the basis of non-agricultural component of district level GDP[17]. All the municipalities of Pune Urban Agglomeration are situated in Pune District, so we have used the non-agricultural component of the District Domestic Product for Pune District and used the per capita value to generate the GCPs of the municipalities. The per capita value of the non agricultural component of DDP of Pune district is multiplied by the respective populations of the ULBs to get their GCP estimates for the respective

[17] The rationale behind considering the non-agricultural component of the DDP is that the way census of India defines urban areas, the possibility of agricultural activities in urban areas are minimal.

years. The average figures for each ULB are recorded in Table 4.9[18].

We find that the average GCP for Pune Urban Agglomeration on the basis of our calculation is of the order of Rs 64,610,505,968 in 99-00 prices. Among the ULBs PMC has the highest GCP and DCB has the lowest. Once the GCP estimates are ready we have to search for the ideal rate which can be applied on the GCP estimates to get the revenue capacity estimates for each ULB. We find that on an average Pune as an agglomeration is raising around 2.5 per cent[19] of the GCP without octroi [20]. We propose to apply a slightly higher rate that is 3% to estimate the revenue capacity figures. The estimates are recorded in Table 4.10.

Table 4.10: Estimated Revenue Capacity Statistics for Pune ULBs (in Constant 1999-00 Prices)

ULB	REVENUE GCP RATIO WITH OCTROI	REVENUE GCP RATIO WITHOUT OCTROI	REVENUE CAP	PC REVENUE CAP	ABSOLUTE INCREASE IN PER CAPITA REVENUE	REV CAP AS PROPORTION OF ACTUAL REVENUE
Average PMC	3.17%	1.81%	5,219,474,404	1940.78	769.94	168%
Average PCMC	4.42%	0.92%	2,422,358,736	2006.40	1,397.09	330%
Average PCB	4.40%	2.81%	155,574,632	1956.59	126.48	107%
Average KCB	5.92%	4.04%	164,800,713	2135.38	-727.39	97%
Average DCB	2.96%	1.95%	97,024,728	1993.20	706.13	161%
Average All ULBs	4.25%	2.46%	1,929,957,268	1958.64	354.99	161%

Source: Municipality Budgets, Authors' Computations

We find that on an average Pune Urban Agglomeration is capable of raising revenues of the order of Rs 1,929,957,268 in 99-00 prices which is 61% higher than the actual revenues. If translated to per capita terms the difference between per capita revenue and per capita revenue capacity, on an average, amounts to Rs.355. The highest average revenue capacity is recorded for PMC and the lowest for DCB, whereas in per capita terms the highest value is recorded for

[18] For our revenue capacity estimations we have considered a scenario where there is no octroi. We would be interested to know the revenue potential of a ULB in the absence of octroi keeping in mind the future policy initiatives of the state in favour of abolition of octroi to eliminate its distortionary effect on the economy. It is clear from Table 4.9 that on an average there is a loss of 43% of revenue if we do not consider octroi in the total revenues. For PCMC the magnitude of loss is the maximum, as high as 79% which amounts to Rs 2355 in per capita terms. The loss of the cantonment boards on this account is lower as recoded in Table 4.9.

[19]Time periods for the data available for all the municipalities are not the same. The averages for each municipalities are calculated on the basis of the available data across time. The average across all the ULBS are calculated across all the ULBs taking the entire dataset.

[20]With octroi the average ratio is much higher, which is around 4%.

KCB[21] and the lowest for PMC. The case for PCMC needs special mention. The difference in actual revenues and revenue capacity, both in absolute and per capita terms are the highest in PCMC. This is because of the dominant role played by octroi in this ULB. If we do not consider octroi the revenue GCP ratio is even less than 1% which is why the revenue capacity estimates generated exceeds the actual revenue by a huge margin (Rs. 1397 in 99-00 prices in absolute per capita terms and 230% increase in relative terms)[22].

The next and final chapter makes an assessment of the fiscal health of the ULBs of the Pune UA taking into account both revenue capacities and expenditure needs, reiterates data caveats and contains concluding remarks.

[21] KCB however raises more than what we have estimated by our revenue capacity. Their revenue GCP ratio is as high as 4% even without octroi. It is interesting to note that population in KCB has been falling for the past few years, so the per capita revenues are very high. However looking at the ratio of urban revenues and the non agricultural component of GDP for the state of Maharashtra, which ranges between 1-2% in the recent years, it seems logical not to use a ratio a rate higher than 3% for the municipalities.

[22] Considering the difference in the revenue raising sources and the functioning of the Cantonment Boards and the other municipalities in Pune another way of estimating the revenue capacity would be to apply differential rates for different municipalities. But at the policy level this might lead to complications, so we refrain from doing such analysis.

Appendix

Figure 4.1: Components of Own Source Revenue for Pune ULBs for 2004-05 (99-00 Prices)

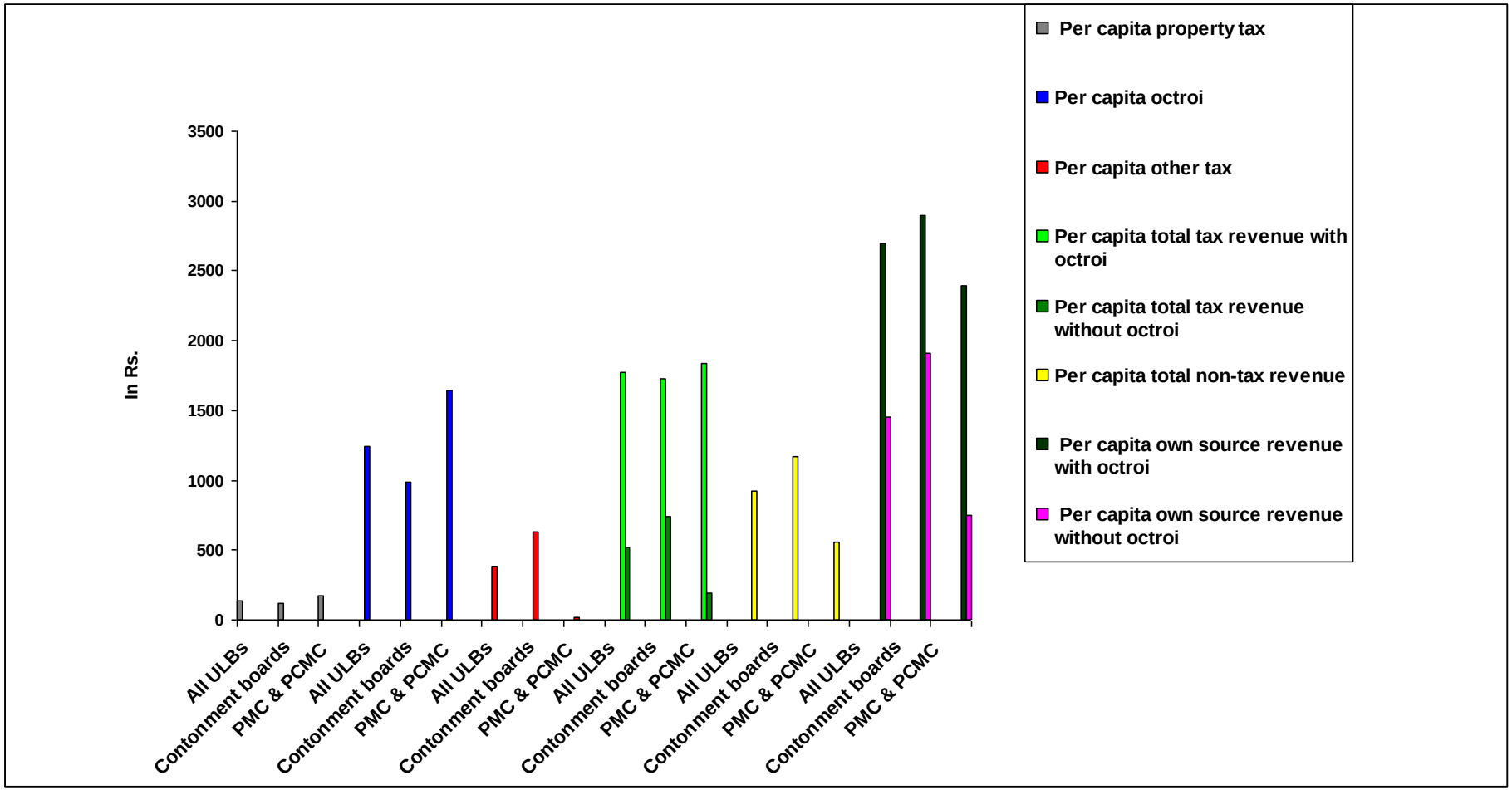


Figure 4.2: Components of Total Revenue for the year 2004-05 (in Constant 1999-00 Prices)

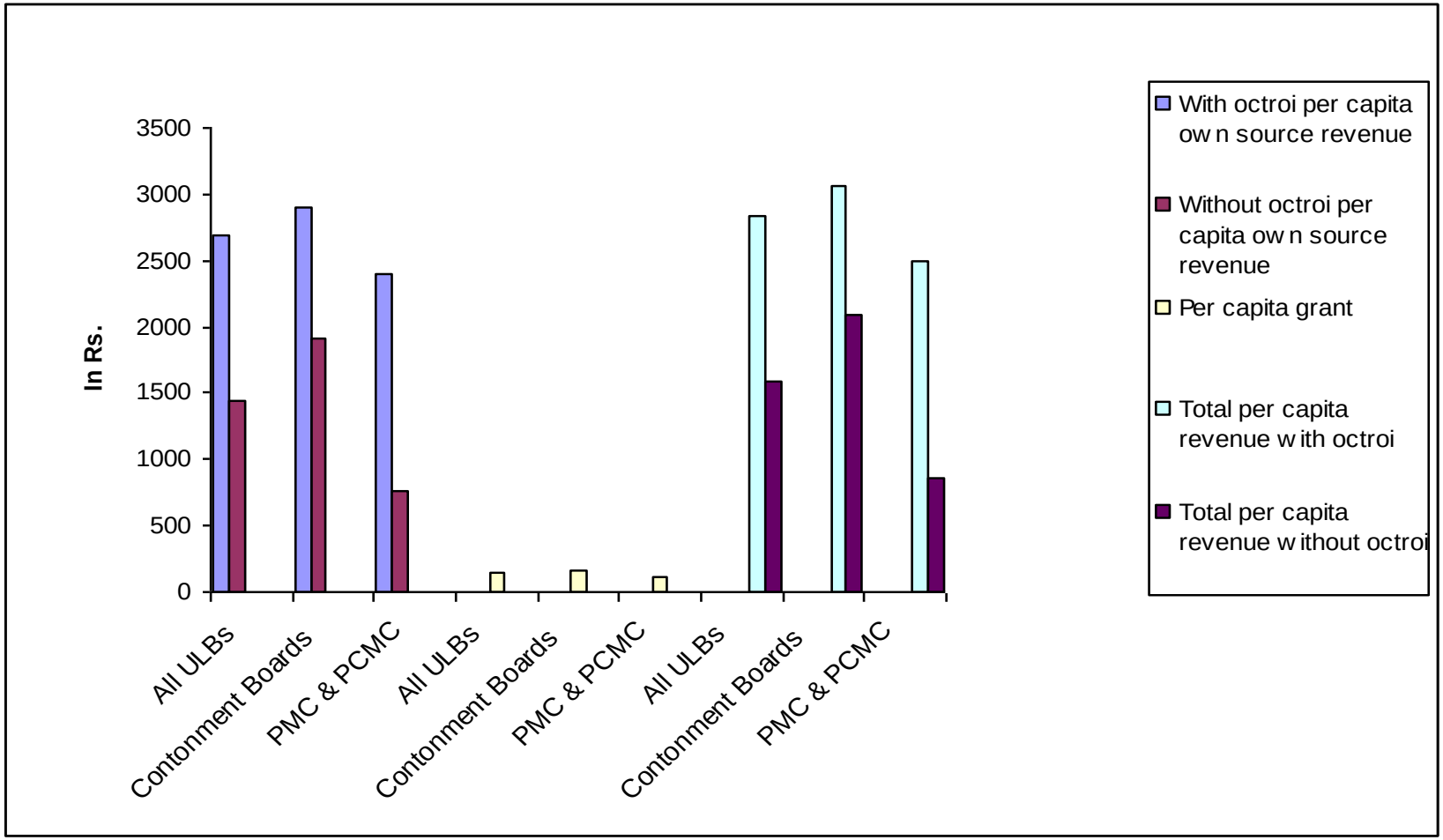


Figure 4.3: Average Proportions of Tax & Non Tax Revenue in Own Source Revenue (2004-05)

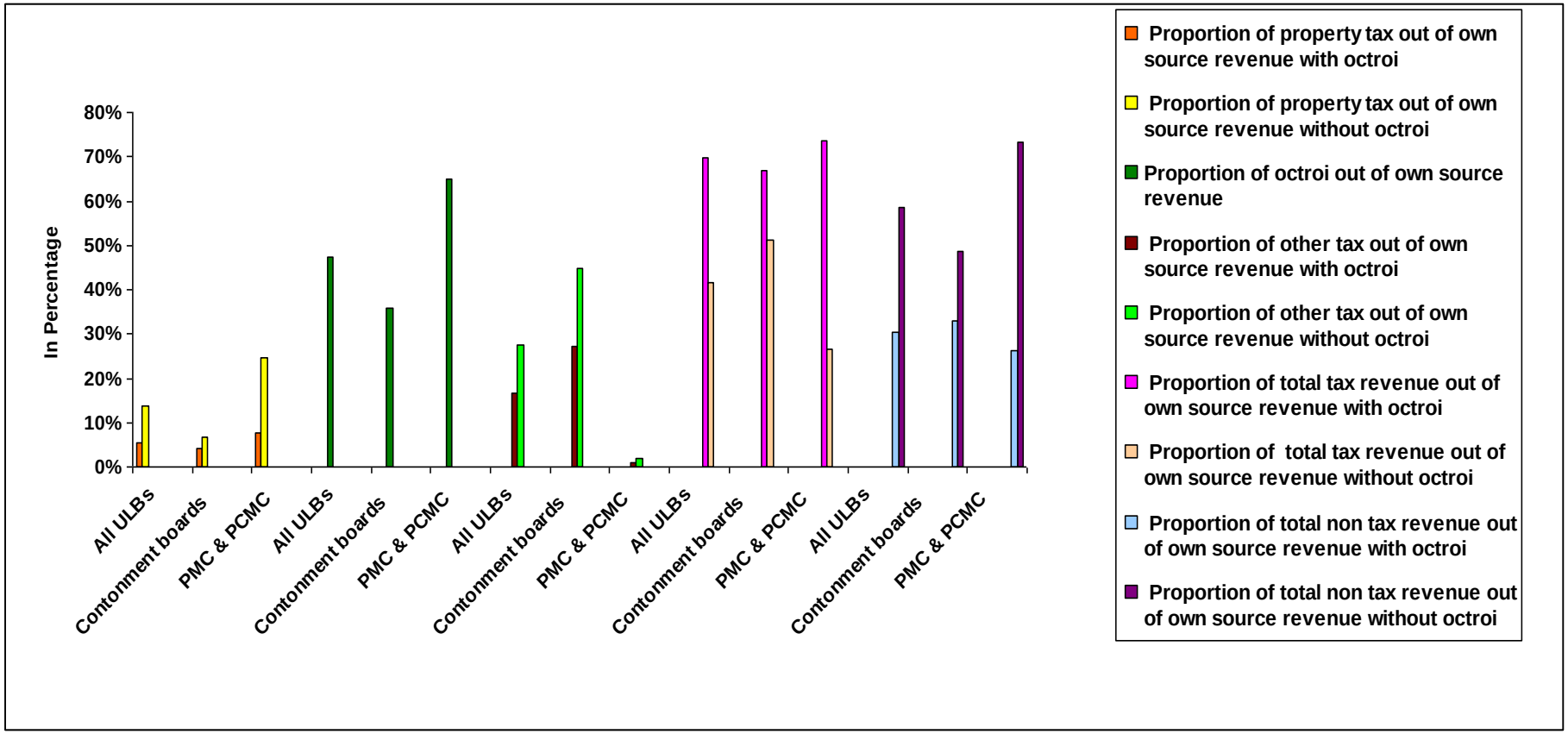
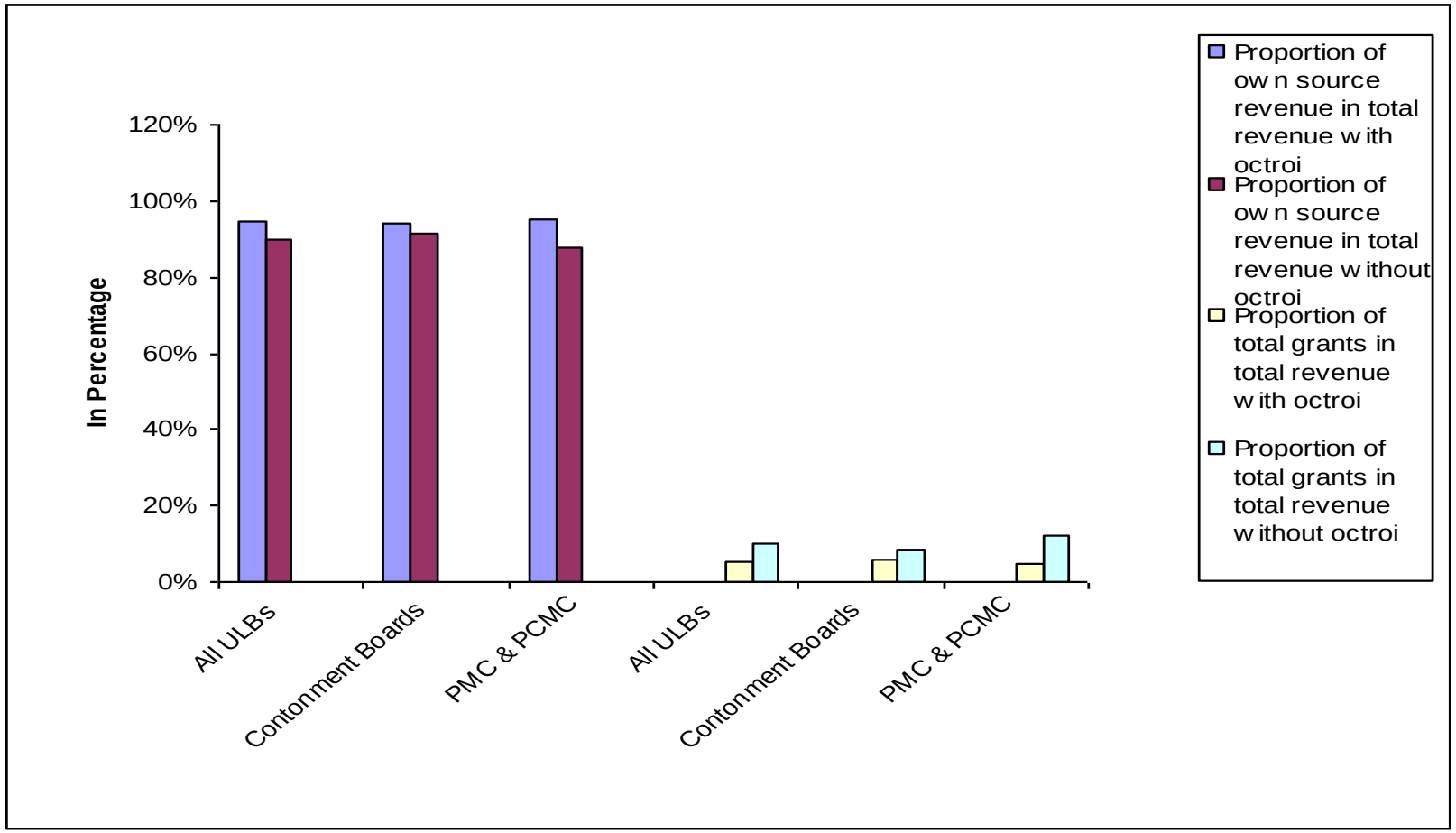


Figure 4.4: Average Proportions of Own Source Revenue & Grants in Total Revenue (2004-05)



CHAPTER 5: ASSESSMENT OF FISCAL HEALTH

Fiscal health of a city reflects its ability to manage its expenditure needs with the available handles to raise finances. Generally we treat the gap between the revenue capacity and the total expenditure need as an indicator of fiscal health of a municipality. For convenience in comparability the per capita measures are preferred.

These measures, referred to as fiscal gaps, give an idea about a municipality's ability to meet the minimum requirements in terms of service delivery if the maximum potential for its revenues are realized. The minimum requirements in terms of service delivery are generally measured by the total expenditure need which is estimated by summing over the existing financial norms for each of the services delivered by the ULB. In a way fiscal gaps indicate whether the maximum revenue potentials are sufficient to finance the minimum expenditures (expressed in terms of norms) required to provide the services in a particular ULB.

In this chapter we would first present our estimates on fiscal gaps and also the revenue expenditure norm gaps (the gap between actual revenues and total expenditure need) for the ULBs of Pune. We would also give some plausible explanations in support of some of our results which seem to be puzzling. The concluding section spells out the data caveats and some limitations of the study.

Estimates of Fiscal Gaps

Pune urban agglomeration is an interesting combination of ULBs consisting of Cantonment boards and municipalities dominated by residential and industrial activities. In what follows we would attempt to analyse the fiscal health of the ULBs in Pune urban agglomeration.

Table 5.1: Fiscal Gaps in Pune ULBs (in Constant 1999-00 prices)

ULB	Per Capita Total Expenditure Norm	Per Capita Fiscal Gap	Gap Between Per Capita Actual Revenue and Per Capita Total Expenditure Norm
Average PMC	782.61	1,158	388
Average PCMC	771.72	1,363	-158
Average PCB	514.68	1,442	1,315
Average KCB	514.68	1,620	2,348
Average DCB	548.09	1,445	739
Average All ULBs	626.35	1,344	926

Source: Municipality Budgets, Authors' Computations

For convenience of comparability and distinctive features of revenue sharing arrangement and revenue raising capacities, we would group the cantonment boards together and analyse them separately.

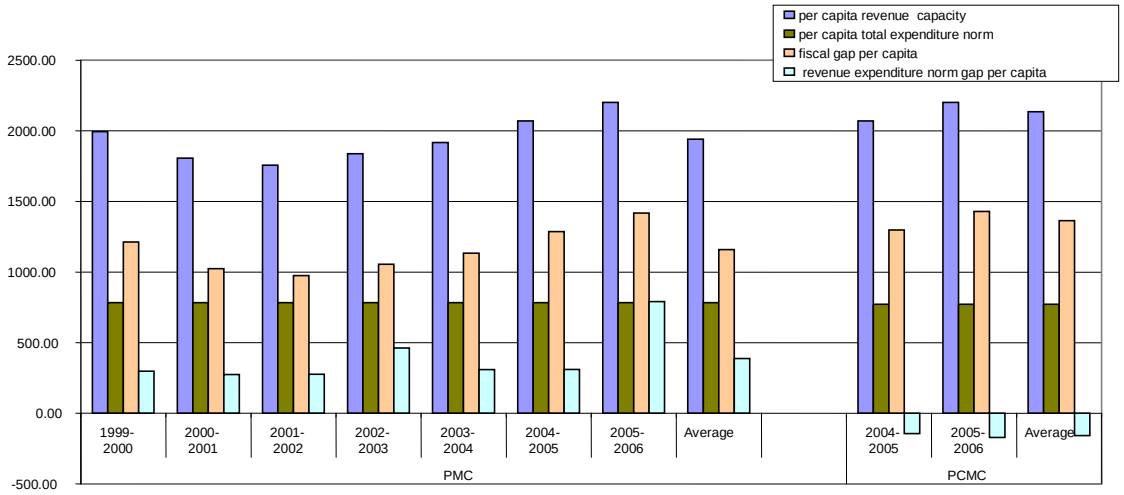
Table 5.1 gives the overall figures of fiscal gaps in per capita terms as average differences between the per capita revenue capacity and total expenditure needs over the years[23].

We find positive fiscal gaps for all the ULBs, the highest being recorded for KCB and the lowest for PMC, with an average of Rs 1,344 per capita for the urban agglomeration as a whole.

The variation in the fiscal gaps can be either explained by the variation in the expenditure needs or the revenue capacities[24]. The difference in expenditure needs arises due to differences in responsibilities of the municipalities in terms of service delivery, cost disabilities or inefficiencies. But the variation in the figures recorded in our analysis as total expenditure norm is due to differences in services to be provided by the municipalities[25]. The difference in revenue capacities arise due to the difference in revenue raising sources and administrative efficiency. However in our analysis the difference arises due to difference in the base which is considered for raising revenues.

We have also calculated the difference between the actual per capita revenues and the total expenditure norm. It is interesting to note that only PCMC has a deficit of Rs 158 per capita on an average whereas all the other ULBs are having surpluses, the average across ULBs amounting to a surplus of Rs. 926 per capita. This means that apart from PCMC all the ULBs in Pune are having excess of revenues, even in actual terms, over their expenditure needs. Figures 5.1 and 5.2 give the year wise details of the Pune municipalities.

Figure 5.1: Per Capita Fiscal Gaps and Related Variables (PMC and PCMC)



[23] The data available for the years for all the ULBs are not the same however. Figures 5.1 and 5.2 give the details of the years for data on each ULB.

[24] For details of revenue capacity and expenditure needs refer to chapter 4 and chapter 3 respectively.

[25] Due to non-availability of data expenditure needs cannot be derived following standard methodology of econometric estimation of expenditure functions.

Figure 5.1 considers the behavior of fiscal gaps and revenue expenditure norm gaps for PMC and PCMC. It is clear that the way we have defined fiscal gap, it would follow the same trend as the revenue capacities. We find that for PMC there is a fall in per capita fiscal gaps (as also the per capita GCP) from 99-00 to 01-02 and then increases steadily till 05-06. However the revenue expenditure norm gaps, apart from two sudden upshots in 02-03 (from Rs 297 to Rs 461) and 05-06 (Rs 309 to Rs 791), shows a stable value between Rs 276 to Rs 309. This can be explained by the fluctuations in the actual revenues of the municipality.

For PCMC we have data for two years, 04-05 and 05-06. The fiscal gap shows an upward trend. For both the years the revenue expenditure norm gaps are however negative. Comparing the results for the two ULBS for the common years (04-05 and 05-06) we find that the fiscal gap is almost the same for both the years for the two ULBs averaging around a surplus of Rs. 1360 per capita. The revenue expenditure gaps are however positive for PMC and negative for PCMC.

Figure 5.2:Per Capita Fiscal Gaps and Related Variables (Cantonment Boards)

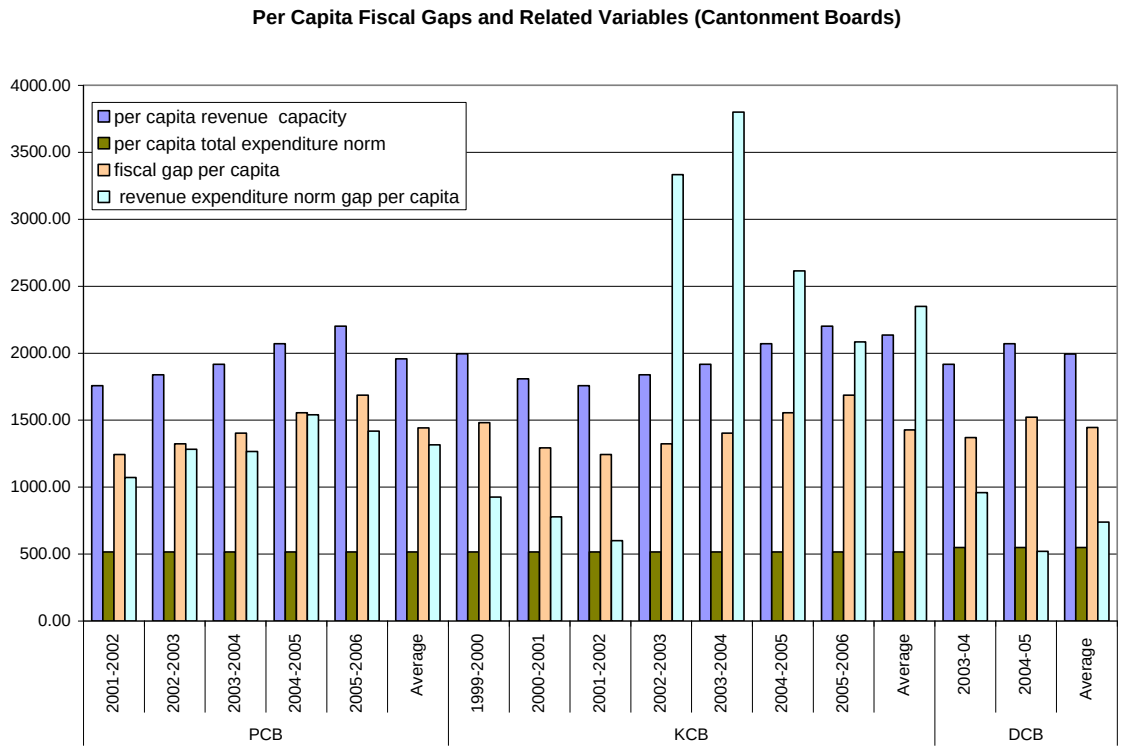


Figure 5.2 analyses the fiscal gaps for the cantonment boards of Pune. For PCB we find an increasing trend in the fiscal gaps, though the revenue expenditure norm gaps show moderate

fluctuations. For DCB the fiscal gaps show increasing trend while the revenue expenditure gaps show a decline. The case of KCB is interesting because the revenue GCP ratios in KCB from 02-03 onwards are higher than that applied for calculating revenue capacities which is why the revenue expenditure norm gaps are higher than the fiscal gaps in these years. Prior to 02-03 the ULB shows a falling trend in both the fiscal gaps and the revenue expenditure norm gaps and the fiscal gaps are higher than the revenue expenditure norm gaps.

One distinctive feature worth noting for the Cantonment Boards is that the difference between the fiscal gap and the revenue expenditure norm gap is much less than those compared to PMC and PCMC. This is because the actual revenue GCP ratios are higher for cantonment boards and are thus closer to the ideal rate applied for revenue capacity calculations[26]. Also the total expenditure needs expressed in terms of total expenditure norms are lesser[27]. The revenue expenditure norm gaps are thus positive for all the cantonment boards for all the years. Comparing the revenue expenditure norm gaps for the two years for which data are available for all the Cantonment Boards we find that DCB has the lowest surplus followed by PCB and KCB. We would like to analyse in more detail the expenditure heads of the ULBs to find an answer to these differences.

Data Caveats and Limitations

Assessing the fiscal health of a municipality from the fiscal gap measures calculated by us can lead to problems. The positive fiscal gaps cannot be always treated as an indicator of sound fiscal health. Even the positive revenue expenditure norm gaps can be misleading at times if we take them as indicative of good expenditure management of a ULB.

We find that in many of the ULBs in Pune both the fiscal gaps and revenue expenditure norm gaps are positive. This means that the municipalities have resources in excess of their expenditure needs, not only when compared with their revenue capacities but also their actual revenues. A comparison of the total expenditure on these services and the total expenditure norms (defined as expenditure gap in chapter 3) by municipalities reveals a different story. It is interesting to note (Table 3.10, Chapter 3) that apart from PCB and DCB, all the ULBs record negative expenditure gaps, the average expenditure gap for Pune UA as a whole being negative. This indicates that most of the ULBs under spend on account of the services provided by them.

[26] Refer to the discussion in Chapter 4 on revenues.

[27] Refer to the discussion on expenditure responsibilities of cantonment boards in Chapter 3.

This might sound puzzling because it looks like despite having resources most of the ULBs under spend on account of services provided by them[28].

Also, detailed analysis of the expenditure heads can throw some light on this. The expenditures for services taken into account for our analysis constitutes on an average only 25% of the total expenditure if all the ULBs are considered. For PMC the other expenditures share is around 58% averaged over the years, while for all the other ULBs it is much higher; PCMC around 83%, PCB around 75%, DCB around 68% and KCB, the maximum, which is more than 90%.These other expenditure has a varied range. Tables 5.2 gives a detailed account of the available heads of other expenditures for PMC and Table 5.3 gives the same for PCB and KCB for the most recent year 05-06[29]. The percentage column gives the percentage of total expenditure spent on each head.

Table 5.2: Details of Other Expenditures, 2005-06, PMC

Heads	Percentages
General Administration	6.72%
Primary & Secondary Education	13.97%
Public Health	1.67%
Hospital, Dispensaries and Maternity Centers	2.68%
Machinery	3.36%
Pension	6.12%
Expenditure for the Settlement	2.30%
Grants for Bonus	2.16%
Land Acquisition Board	4.32%
Backward Class Development	3.01%
Depreciation of Machines	1.92%
Subsidy for PMT	2.47%
Others[30]	4.10%
Total Other Expenditure	**55%**

Source: Municipality Budgets, Authors' Computations

[28] The gap of PCMC can be justified on the ground of their overdependence on Octroi as the component of revenue and the difference is calculated on the basis of total revenue without octroi.

[29] Details on this head is not available for all the municipalities.

[30] Slum rehabilitation, medical treatment & nutritional food for children, medical aid programme for workers, building and land, building regulation, town planning & city development, fire brigrade, removal for encroachment, park, zoo and fisheries, sports and activity, cultural centre, vegetable market, meat, fish market & slaughter house, ward development, grants for public institution, dearness allowance, allowance for PMC employee, allowance for city planning board, slum area development board, improvement of children and women, conservation of forest, grants for development of Pune District, matching grants from Finance Commission, ESCROW board, allowance for youth development scheme.

It is clear that for these categories in table 5.2 norms[31] cannot be defined, neither for individual heads nor in terms of aggregates. Table 5.3 shows the detailed heads of the two cantonments boards. It seems that the shares of other expenditures which are excluded in the study are even higher. This makes our task difficult. We are not in a position to judge whether the surplus figures recorded are adequate to finance these other expenditures or not. Also, it is beyond the scope of our study to say anything about the expenditure gaps for the services on account of which the other expenditures are incurred.

Table 5.3: Details of Other Expenditures, 2005-06, PCB and KCB

Heads	Percentages	
	KCB	PCB
General administration	4%	3%
Public works (Construction and Maintenance)	17.21%	10.29%
Public convenience (fire, dak bungalows, rest houses and sarais, market & slaughter, pounds, agriculture, public garden, tree trending, forests etc. and reward for destruction of wild animals)	10.65%	12.57%
Hospital and Dispensaries	17.90%	10.91%
Other Medical Services (family planning, vaccination, registration of births and deaths in the cantonment area, epidemics etc.)	14.35%	4.45%
Public Institution (primary & secondary education, library and pension contributions)	18.11%	15.55%
Other contributions to Charitable & Medical Institutions	4.07%	0.00%
Pension gratuity & annuities	7.94%	11.34%
Miscellaneous	1.21%	4.61%
Total Other Expenditure	**96%**	**74%**

Source: Municipality Budgets, Authors' Computations

Conclusions on the basis of positive fiscal gaps on overall fiscal health of the municipalities would be misleading. It is possibly better to infer on the basis of the expenditure gaps, negative values of the gaps indicating inadequate spending on service delivery. Availability of data on the qualitative and quantitative aspects of services would have made our analysis more complete. Relating the inadequacy in spending to the service delivery quality and their physical levels would have given an insightful analysis which we could not attempt because data required for such an analysis are not available at the city level.

[31] Norms in terms of salaries or number of teachers (doctors) and O&M expenditures on schools (hospitals) are available but due to non availability of data at the municipality level on these variables we cannot use them. Also a norm on education (health) sector has a problem as the financial norms cannot be expressed in per capita terms. So incorporating those norms in our methodology would not have been possible.

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