INFRASTRUCTURE & GOVERNMENT

Bombay First

MY BOMBAY – MY DREAM

Education in Mumbai
DRAFT FOR DISCUSSION
PURPOSES ONLY

November 2009

Chairperson's note

By Ashank Desai – Chairperson, Education Sub-Group, Bombay First

At Bombay First, we believe that education is essential to transforming the future of our city and the metropolitan region. We need to equip the young people of the city to take advantage of emerging opportunities in the growing service sector, as well as in the high technology and knowledge-based industries that are likely to be core to the region's economic growth. A skilled, sophisticated workforce, as much as excellent physical infrastructure, is a key attribute of a globally competitive city. Furthermore, a high-quality education system attracts talented students and professionals from other parts of the country as well as globally.

Primary education will provide the foundation for a new generation of scholars, entrepreneurs and civic leaders. For disadvantaged children, primary education is an important step towards economic and social advancement. At present, there is a vast difference in the quality of education accessible to children from different sections of society, a problem that needs to be addressed by strengthening public-private partnerships through innovative programmes such as the school voucher system.

Mumbai is fortunate to have some of the country's most prestigious institutes of higher learning in the sciences, social sciences, technology and arts. Building on these strengths, we must to enhance research capacity and promote linkages between industry and knowledge production, if the MMR region is to succeed in advanced sectors such as biotechnology.

Seeking to promote a comprehensive upgrading of the city's educational system, Bombay First has commissioned this study. The report takes stock of the existing education infrastructure in the city, from primary and pre-primary schooling to post-graduate research. It also suggests concrete, actionable measures to improve the quality, efficiency and accessibility of educational services. Recognizing that neither the government, the private sector nor the voluntary sector can by themselves meet the myriad educational needs of the city, Bombay First, the report, calls for a concerted, integrated effort from the public, private and NGO-sectors to make Mumbai a premier Education City.

Foreword

By Russell Parera – Chief Executive Officer, KPMG India

In little over a decade, Mumbai will be one of the largest cities in the developing world. It has the potential to be a symbol of the megalopolis of the twenty-first century. And, like its counterparts in the developing world, the city's future is marked by great potential and great peril. While there has been considerable improvement in social infrastructure indicators since independence, Mumbai City still remains well behind most developed and international Cities. Also, Mumbai is the leading financial services centre of the country and attracts resources from the rest of the country including substantial number of expatriates. There is shortage of highly-qualified education professionals alongside the shortfalls in hard infrastructure. There is also a widespread mismatch between new education techniques and training of faculty leading to under-utilization of resources and sub-optimal outcomes.

In terms of access to the under-privileged and students from below poverty line families, organizations such as the Municipal Corporation of Greater Mumbai (MCGM) have undertaken the task of providing subsidized education to this segment. Their initiatives have resulted into setting up of basic infrastructure for the same, but the quality of this infrastructure poses a sustainability challenge for the city. Private institutions, although maintain quality, do not aid that section of society that does not have the financial ability.

Clearly, education delivery in Mumbai has a significant scope for capacity development, efficiency improvement through further public private investment in the infrastructure facilities. However, given the very high cost of real estate, and the corresponding high cost of setting up and maintaining education infrastructure, private sector investment in creating schools for public welfare would have to be made more attractive or remunerative to invite higher levels of interest.

This paper covers an analysis of each of the aspects posing a challenge to the different levels of education along with recommendations in order to thwart these challenges. While analyzing Pre-school & K-12, we have recommended certain PPP models for delivery of education such as:
- Operational & management of defunct Municipal schools

- Management Contracts for clusters of schools on annuity scheme
- Management Contracts for a wider School Management Program
- Construction/Refurbishment of schools by private sector with annuity support
- Setting up of a Education Foundation to aggregate corporate funding
- Setting with supporting infrastructure facilities such as libraries, sports facilities around the children's eco-system

For the higher education segment, we have suggested initiatives to be taken up at various levels such as

- Framework oriented initiatives
- University/Institute oriented initiatives
- Student oriented initiatives

We also urge the public sector to initiate pilot projects as examples of promoting these solutions to enable a greater acceptance of these models.

The level of education and well-being of Mumbai city will be in large determined by social, economic and environmental factors i.e. education, poverty, housing, sanitation, access to water and electricity etc. Many aspects of delivery of Bombay First strategy will therefore have an important contribution to improve the level of education in Mumbai city. The approach towards making Mumbai an Education City should be based on a holistic model that incorporates contributions by Bombay First to deliver wider social, economic and environmental priorities.

Acknowledgement

By Ameeta Chatterjee - Director, KPMG

We are delighted to support Bombay First in preparation of this document which provides an overview of the Education system in Mumbai. The team had taken up the task of highlighting the key relevant issues in the education system in Mumbai and suggesting recommendations to overcome them keeping in mind the speed of implementation and scale.

This project has been a collaborative effort and we would like to thank The Bombay First Social Infrastructure Education Sub Committee for their valuable inputs.

Education remains the single largest challenge for maintaining the economic and financial prosperity of the City. The Report highlights how given the magnitude and pace of what needs to be achieved, government initiatives will have to be coupled with large scale private participation focussed on making positive outcomes. We have also suggested Public Private Partnership models that we believe may be applicable for improving the quality of education in the city across the schools and higher education segments.

We appreciate the inputs of Prof. A D Sawant, former Pro Vice Chancellor of the Mumbai University and Dr. Renuka Narang for guiding us through the process. I also place on record my appreciation of the contributions by Mr. F C Kohli, Mr. UPS Madan and Mr. V Palekar.

I would also like to take this opportunity to thank the Bombay First Team viz. Ashank Desai, S. Mazumdar and Vai Pinglay for their support throughout the exercise.

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Section 1: Introduction

Mumbai holds the distinction of being an education hotspot of South-East Asia. The city of Mumbai offers a plethora of opportunities to educate students from throughout the world for a life of professional achievement and service to society.

Mumbai is also referred to as the 'Research Hub of India' owing to its various research institutions in the field of science and humanities. The city is home to several premier research institutions like the Tata Institute of Fundamental Research (TIFR) and the Bhabha Atomic Research Centre (BARC). Among the institutes offering higher education in the field of Technology in Mumbai, to name a few, are the Indian Institute of Technology, Bombay (IIT-B), Veermata Jijabai Technological Institute (VJTI) and the Vivekanand Education Society's (VES) Institute of Technology. The Tata Institute of Social Sciences (TISS) is another institution of international repute in the field of social science education. The University of Mumbai is one of the oldest and premier Universities in India and was established in 1857 consequent upon "Wood's Education Dispatch".

According to the Census 2001, the literacy rate in Mumbai is 75.9% (expected to be higher today) which is higher than the national average of 64.8%. Considering that Mumbai is the financial hub of the country, it could have been expected to have a much higher literacy rate for both males and females. Substantial efforts have gone into creating the infrastructure to achieve educational aspirations of a world class city like Mumbai and also to fulfill the targets set by the Millennium Development Goals (MDG)[1], the Sarva Shiksha Abhiyan and the National Knowledge Commission. These efforts, have not, however, been able to fulfill the educational needs of Mumbai. What is needed is a holistic approach combining financial support, support from NGOs, business and industrial houses, etc. for the provision of required infrastructure and quality education across different segments. A summary of the number of institutions that cover the entire education value chain is summarized below.
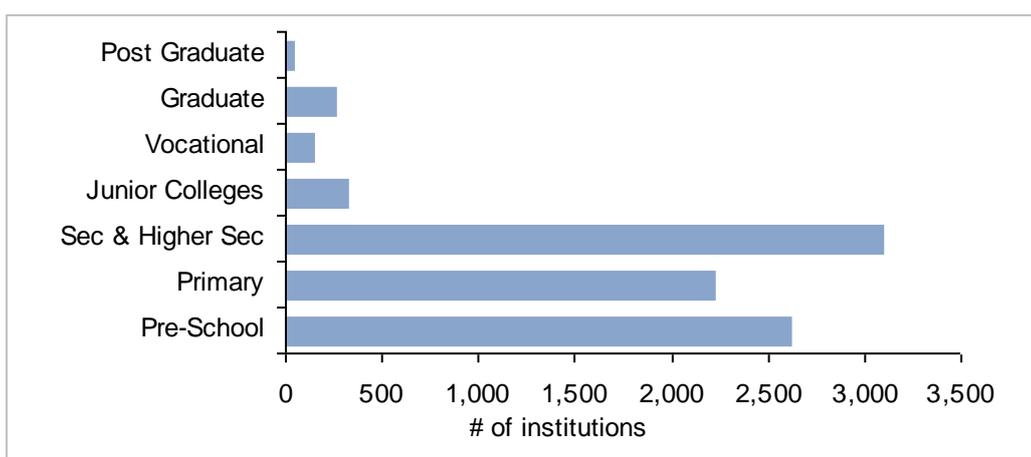
[1] The Millennium Development Goals (MDGs) are eight goals to be achieved by 2015 that respond to the world's main development challenges. The MDGs are drawn from the actions and targets contained in the Millennium Declaration that was adopted by 189 nations and signed by 147 heads of state and governments during the UN Millennium Summit in September 2000.

Given the vast nature of the education sector, the Committee chose to focus on two key segments viz.
- Pre-school & K-12 education
- Higher Education

Each of the section provides an overview of the facilities and the key challenges faced in that sub-sector. It also recommends enabling reforms alongside with potential Public-Private- Partnerships as a means for bringing together a paradigm shift in the delivery of education in the City. The Report concludes with a benchmark analysis based on the summarized the National Centre of Statistics of USA and urges the City to undertake regular review and monitoring of the benchmarks set in the Report to assess the success of any of the programs launched out of this initiative.

Section 2: Pre-school and K-12

The Pre-school (up to five years of age) and K-12 (primary, secondary and higher secondary schooling) infrastructure are critical building blocks of any City for providing a solid and secure educational foundation to its children. The K-12 network in Mumbai City include a combination of primary and secondary schools conducted by the Municipal Corporation of Greater Mumbai (MCGM) and a number of Trust run private school across the City. Both these segments are seen as critical building blocks to ensure the success of the entire education universe as they act as feeders to the higher education segment. Also, the increasing population of Mumbai requires an increase in the number of schools as well.

2.1 Overview of School infrastructure, student enrolment and teacher employment

Following is the recent growth in the number of primary and secondary schools.

Table 1: Schools in Mumbai in 2003-04 and 2007-08

School Level	2003-04			2007-08		
	MCGM	Private	Total	MCGM	Private	Total
Primary	**1,596***	**477**	**2,073**	**1,612**	**631**	**2,243**
Secondary						
SSC	49	1,235	1,284	49	1,299	1,348
ICSE	-	42	42	-	52	52
CBSE	-	18	18	-	21	21
IB	-	1	1	-	8	8
Total Secondary	**49**	**1,296**	**1,345**	**49**	**1,380**	**1,429**
*Note: * MCGM and MCGM aided schools*						
Source: Mumbai Transformation Support Unit Report March 2009						

While there has been a 6.5 percent rise in the number of private secondary schools between 2003-04 and 2007-08, the number of MCGM secondary schools remained constant throughout this period with the number of MCGM primary schools increasing only by a marginal 1 percent.

Table 2: Enrolment in Schools in Mumbai in 2003-04 and 2007-08

School Level	2003-04			2007-08		
	MCGM	Private	Total	MCGM	Private	Total
Primary	**698,189**	**235,167**	**933,356**	**613,006**	**300,504**	**913,510**
Secondary						
SSC	42,261	721,187	763,448	40,346	754,919	795,265
ICSE	-	33,342	33,342	-	40,016	40,016
CBSE	-	14,243	14,243	-	17,635	17,635
IB	-	1,780	1,780	-	NA	NA
Total Secondary	**42,261**	**770,552**	**812,813**	**40,346**	**812,570**	**852,916**
Source: Dept. of Edu., MCGM, Dept. of Sec. School Education, Govt. of Maharashtra						

Increase in schools is expected to lead to a concomitant increase in school enrolment. There has been a 11 percent increase in the number of enrolments in the private schools. However, this is in contrast to a 12 percent decline in the number of children enrolling in MCGM schools.

Table 3: Teachers in Schools in Mumbai during 2003-04 and 2007-08

School Level	2003-04			2007-08		
	MCGM	Private	Total	MCGM	Private	Total
Primary	17,173	4,776	21,946	17,033	6,398	26,167
Secondary						
SSC	1,419	24,218	25,637	1,274	24,893	26,167
ICSE	-	1,133	1,133	-	1,739	1,739
CBSE	-	451	451	-	545	545
IB	-	23	23	-	NA	NA
Total Secondary	**1,419**	**25,825**	**27,244**	**1,274**	**27,177**	**28,451**

Source: Dept. of Edu., MCGM, Dept. of Sec. School Education, Govt. of Maharashtra

It may be noted that while the number of MCGM primary schools has increased by 1 percent, the number of teachers in them decreased by about 1 percent. In case of private primary schools, the number of teachers increased by 34 percent compared to a respective 28 percent increase in the number of enrolments. In the MCGM secondary schools, there was a 10 percent decrease in the number of teachers compared to a 4.5 percent decline in the number of students.

Pre-schools System (3-5 Years Age Group)

Pre-school (nursery), day care or kindergarten, is the education imparted to children in the ages of three to five before commencement of statutory education.

The lack of regulation in India in terms of syllabus and activities, and strong demand for pre-school education has led to proliferation of private operators and pre-school chains in metropolitan areas like Mumbai. Most pre-schools in India have adopted the Montessori and Nursery methods or modified them to suit the Indian context. However, some private pre-schools are also run by experienced professionals in child education who develop their own methods.

There are differing views on the number of pre-schools in Mumbai. Public sources suggest an estimated 125 private pre-schools in Mumbai, which includes fast growing chains like Tree House and Euro Kids with 25 and 19 pre-schools respectively. However, it is likely that there are many more operating at a small scale. These private operators charge about INR 800 to INR 5,000 per month and are hence accessible only to the middle class or affluent segments. The Municipal Corporation of Greater Mumbai (MCGM) run pre-schools, called Balwadis, cater to about 1.4 lakh children through 2,500 centres in Mumbai.

With an estimated 3.5 lakh children in the pre-school age group in Mumbai, there is a huge gap in the supply of pre-school education. While the proliferation of private pre-schools and chains is certainly a

welcome development – as they use well researched teaching methods, they do little to bridge the supply gap as majority of the children are from the lower income segments and need essential pre-schooling skills to ensure retention and appropriate training at school going age. Apart from physical infrastructure there is also a dearth of quality pre-school teachers. Some colleges do offer diplomas in child education and care but many of those, taking these courses, require further training. This problem is magnified by dearth of experienced and qualified teachers in this segment.

Pre School Level – Balwadi Model

The Balwadi model has successfully been developed by Pratham, an NGO, to tackle both infrastructure and teacher-related issues. It operates in slums and identifies individuals who are willing to host a small group of about 10 to 20 children from the neighborhood. These individuals are then trained by Pratham to provide basic pre-school education and are provided with teaching material. The small fee income earned by these individuals from the children makes the Balwadi financially viable and its local presence encourages enrolment. This model has been successfully deployed and scaled in Mumbai. There are about 390 such Balwadis with approximately 6100 enrolments.

Given the supply gap, other measures like integration with primary schools, 'adopt a Balwadi', sponsorship under Corporate Social Responsibility (CSR) initiatives and possibly PPP models will still need to be explored. MCGM efforts pertaining to Balwadis have been discussed later in the chapter.

Table: Teachers in Schools in Mumbai during 2003-04 and 2007-08

	2003-04		2007-08	
	No.	Children	No.	Children
Anganwadi	NA	NA	4,907	478,696
Balwadi	410	14,158	517	15,886
Total	**410**	**14,158**	**5,424**	**494,582**
Source: ICDS website, Dept. of Edu., MCGM				

Early Childhood Care and Education

The Integrated Child Development Services (ICDS) budget is provided by the State Government for the conduct of Anganwadis for early child hood care and education. In 2003-04, the MCGM operated Balwadis with the help of donations from NGOs. However, in 2007-08, the MCGM, for the first time, provided INR 97 lakh for early childhood care and education for the Balwadis conducted by it. Through this budget provision, the MCGM makes available Rs.2,400 per month for each Balwadi.

Budget for Aganwadis and Balwadis for 2003-04 and 2007-08

No.	Scheme	2003-04 INR Lakh	2007-08 INR Lakh
1.	ICDS Anganwadis	INA	239.10
2	MCGM Balwadis	Donations from NGOs	97.00

INA:- Information not available
Sources: www.icds.gov.in, Dept. of Education, MCGM

There has been an effort on part of the MCGM for the provision of early childhood care and education in keeping with the constitutional commitment of Article 45[2]. However, the budget provided would support less than 350 Balwadis while there is a need to conduct a Balwadi with each of the 1612 schools. For a full fledged program of early childhood care and education, In order to support this initiative, the MCGM needs to provide a much larger budget for Balwadis.

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[2] Article 45 of the Constitution requires state to make provisions for 10 years of free and compulsory education for all children until they complete the age of 14 years.

MCGM Balwadis based on EuroKids Model

EuroKids Model

• Have set space requirements to become a franchisee (minimum 1,500 square feet)

• The interested individual / entity should be financially sound (investment between INR 5-10 lakh depending on location). Includes cost of initial equipment, and training.

• Selected franchisees will undergo an extensive training program on the business strategies for owning and operating a successful Pre School. In addition to these franchisees and their staff members will receive initial and continuous training for the EuroKids curriculum and the delivery method.

• They have programmes for children in the age group of 2 years to 5 ½ years

• Student teacher ratio: 1:10

• All curriculum, new initiatives, teaching methods etc. are decided by EuroKids

• The franchisee earns based on its own marketing initiatives

• The franchisees charge INR 800 to INR 3,000 per month as tution fees

MCGM – Adopting this model

Eurokids model attracts individuals to become a franchisee due to its earning potential. The main challenge that MCGM would face in adopting such a model is private players/ individual may not come forward to invest or adopt a municipal school as the earning potential is very minimal compared to the time, effort and investment required. MCGM has the implemented the 'adopt a school model' which is attracting NGOs and to some extent private players to adopt and operate a school. However, the response is not as expected.

Thus it is necessary for MCGM to make it a profitable venture by keeping the cost of education to for students minimum. The question is how does MCGM do it?

MCGM can consider following points to adopt the franchisee model

• Encourage individuals who aim to become entrepreneurs to take up franchisee. The advantage MCGM has is that it already has the infrastructure in place. It can let even individuals use their own space

• MCGM can initially give out franchisees of Balwadis

• MCGM should develop a standard curriculum, teaching equipment required and the initial training to be given to the franchisee owner

• MCGM can provide training to the owner and one or two staff members that the owner appoints

• The individuals who would take up this franchisee would invest in improvement of infrastructure, acquiring the equipment from MCGM and initial training fees (these would be onetime investment for owner)

• MCGM can keep the cost of equipment / study material (like notebooks, pencils, toys etc.) low by procuring them in bulk directly from manufacturers

• MCGM can provide subsidized power, water and other overheads

• The fees to be charged can be decided by the owner but within limits prescribed by MCGM

Alternatively MCGM can create its own branded model based on the lines of Eurokids and give out franchisees. They can have revenue sharing model with the franchisee owners. The revenue that is earned can be used to run the Balwadis for the economically weaker section.

Schools System (5-18 Years Age Group)

Schooling in the state of Maharashtra[3] starts at the age of five. The schools in the state are mostly managed either by Municipal Corporation or by Trusts. All the private schools or municipal schools are affiliated either to the Maharashtra State Secondary School Certificate (SSC) Board or the Council for the Indian School Certificate Examination (ICSE) or the Central Board of Secondary Education (CBSE) boards.

School education is provided by around 2,183 primary schools in Mumbai comprising of 1,254 Municipal schools run by MCGM and 920 private schools run by trusts or individuals which in some cases receive financial aid from the government. Schools under MCGM have average enrolment of 379 children per school with the teacher:pupil ratio being about 25 children to 1 teacher.

2.2 Key areas of concern

The school education system is fraught with certain bottlenecks which have resulted into the city getting lack of accessibility to education as well as poor quality education.

Drop out ratio in MCGM schools

Typically, despite the best efforts on the part of the government, it has been observed that MCGM schools are closing down and are witnessing continuous **drop outs in larger numbers** every year. The performance of teachers so far in schools across Mumbai is best captured by the drop-out rates and pass-rates as found in a survey by the Praja Foundation. While there is significant regional variation, the overall performance of students in the 10th standard is still fairly low. The drop out rates are also alarmingly high at over 6% to 9% each year, which suggests that out of every 100 children enrolling in the primary education system, less than 45 make it to the 10th standard[4].

	South	South Central	North Central	North East	North West	North
Drop-out rates	7.5%	7.7%	7.0%	5.7%	5.9%	9.3%
10th Pass rates	67.2%	42.0%	47.7%	19.3%	67.3%	64.9%

Source: Survey by Praja Foundation, April 2009

This has led to emergence of an alternative low quality education private schools which are not affiliated in majority cases failing the objective of providing quality education at affordable prices in the city. On the other hand, there are private schools which are run by professional and dedicated private operators who are more result oriented and the quality of education in these schools compares with the best. However, most of these schools are unaffordable to the economically weaker section of society raising doubts regarding accessibility of education to all.

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[3] Mumbai is the capital of Maharashtra

[4] Assuming 100 children enroll into the 1st standard, at an average drop-out rate of 7.5% each year, only 45 students would be left at the end of the 10th standard

Shortage of teachers for English

There is also a **shortage of teachers** who are trained to teach in English willing to teach in Government run schools as most prefer teaching in private schools which have better salaries and educational aids. This is clearly reflected in the student teacher ratios of the schools run by MCGM.

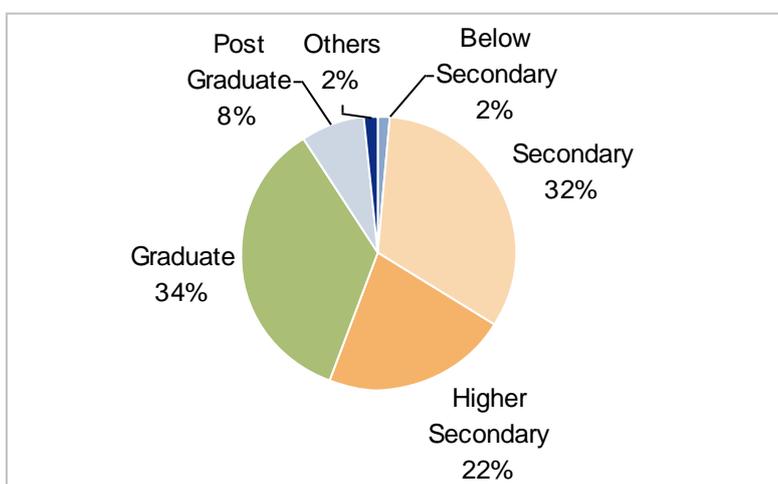**Student – Teacher ratios in MCGM run schools by medium of instruction, 2007**
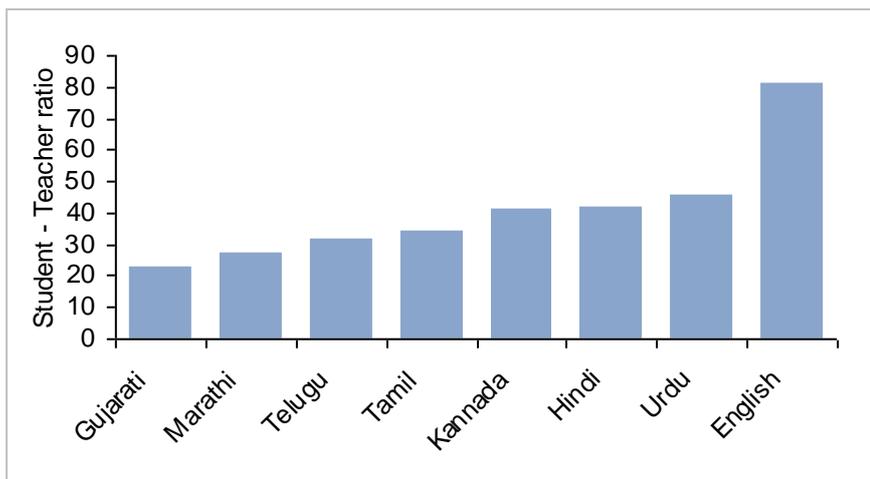
Sources: Municipal Corporation of Greater Mumbai

Inadequate quality of teachers

Additionally, the **quality of teachers** also has a strong impact on the quality of the primary education system. It not only affects the quality of education but also affects student enrolments and drop-out rates. Students who do not pass at the primary or upper primary level are very unlikely to enroll for later stages of education. Thus, given the plummeting enrolment rates at higher levels of education, it is crucial to improve the quality of instruction at these levels of education. A summary of the educational qualification of the teachers in primary schools in Mumbai is given below:

Proportion of teachers in primary schools in Mumbai (including Suburbs), 2007

As can be seen, about 56% of teachers in primary schools in Mumbai have an educational qualification below graduation. This situation may still be alleviated by imparting training to teachers as the complexity of subjects at the primary and upper primary levels is very minimal. Thus, there should also be adequate focus on softer issues like maintaining student motivation and creating a secure learning environment. However, it is observed that only a small proportion of teachers at any level of education receive training.

Poor education delivery and monitoring system

A bigger culprit lies with the **education delivery and monitoring system** for various incentive schemes launched by the government authorities to ensure higher enrolments. As a matter of fact, availability of incentives such as mid-day meals, uniforms, text books is another factor that drives enrolments at least at the primary and upper primary levels. The government has made concerted efforts towards this end, but when contrasted against the enrolments in these schools, these incentives appear quite inadequate. The challenges in this respect are mainly related to delivery of incentives and monitoring of these schemes. Government set ups have proven to be corrupt and inefficient in delivering these incentives and monitoring the effectiveness of these schemes based on objective parameters like increase in enrolments, improved attendance has also been a challenge. A summary of the incentives being provided to Primary and Upper Primary students is given below.

Incentive type	Primary		% of Total	Upper Primary		% of Total
	Boys	Girls		Boys	Girls	
Textbooks	167417	233331	35.3%	133947	174196	44.8%
Uniform	1316	1344	0.2%	1990	2663	0.7%
Attendance	119	150	Negligible	194	151	0.1%
Stationery	5878	6174	1.1%	7612	5830	2.0%

While there is significant coverage that is being provided by way of financial support on textbooks, it is very difficult to establish the success of these incentive schemes either in retention of student or in educational attainments. For the success if these incentives, they need to be combined with a larger program for improving class room education delivery models.

2.3 State support schemes and budgets for Mumbai

Budget for School Education (Department of School Education, Government of Maharashtra)
Legislation can turn into a reality only when it is backed by an appropriate financial commitment. Given below are the budgets for the various levels of school education. The table below gives the budget of the State Government for adult education and school education for the years 2003-04 and 2007-08. Over a span of five years, the allocation for adult education was increased by 49 percent, for elementary education by 46 percent and for secondary education by 40 percent. This greater emphasis on education by the State at the macro level is reflected in greater emphasis at the micro level too as will be seen further in the budget for school education.

Budget for Adult Education and School Education of the Govt. of Maharashtra for 2003-04 and 2007-08 [5]

No.	Level	2003-04 INR Lakh	2007-08 INR Lakh
1.	Adult Education	847	1,266
2	Primary Education	3,80,465	5,54,005
3.	Secondary Education	3,57,550	5,00,571

Source: Civil Budget Estimates 2003-04 and 2007-08, School Education and Sports Dept., Government of Maharashtra

School Education Budget of the MCGM [5]
The MCGM increased its budget for school education from INR 25,803 lakh in 2002-03 to INR 45,708 lakh in 2007-08. It is seen that over a span of six years, there was greater focus by the MCGM on its school education programs as it increased its budget by 78%, that is, since the Sarva Shiksha Abhiyan (SSA)[6] was introduced.

SSA Budget of the MCGM
In its budget for education, the MCGM has made a separate provision for the SSA as is seen in Table below:

MCGM Budget for the Sarva Shiksha Abhiyan for 2005-06, 2006-07 and 2007-08 [5]

Year	Budget INR Lakh	Expenditure INR Lakh	% Utilized
2005-06	3,580	1,432	40%
2006-07	2,651	1,010	38%
2007-08	2,663	1,964	73%

Source: SSA Report of the MCGM

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[5] Figures in INR Lakh for consistency / comparison; convertible to INR Crore in the ratio 100:1

[6] Refer to details on the Sarva Siksha Abhiyan in the case study below

Though the budget amount has decreased, the amount actually utilized has increased from year to year. In the year 2007-08, 73% of the budget for the SSA was utilized, which evidence of activities being carried out as a commitment of the local government to the implementation of the SSA. The MCGM first needs to fully utilize the funds provided for the SSA and secondly at least enhance the budgetary provisions to the amount allocated in 2005-06. SSA has been a very successful program but the government needs to focus on utilizing the entire amount set aside for this program to allow for equitable developments across the City.

While recognizing the quantum of spending is inadequate in terms of objectives to be achieved, it needs to be noted that the government also needs to understand the aspects of efficiency and utilization of the current spending.

Sarva Siksha Abhiyan

The Sarva Shiksha Abhiyan (SSA) is an effort by the Government of India to universalize elementary education through community-ownership of the school system. It is a program with a clear time-frame providing an opportunity for the promotion of social justice through basic education. It visualizes the involvement of the Panchayati Raj Institutions, School Management Committees, Village and Urban Slum level Education Committees, Parent -Teachers' Associations and other grass-root level structures in the management of elementary schools. It is a partnership between the Central, State and Local governments providing an opportunity to the States to develop their own vision of primary education.

The program realizes the importance of Early Childhood Care and Education and looks at the 0-14 age as a continuum. All efforts to support pre-school learning in ICDS centers or pre-school centers in non-ICDS areas will be made to supplement the efforts being made by the Dept. of Women and Child Development.

The **objectives of the Sarva Shiksha Abhiyan** are

> All children to be enrolled in school by 2003
>
> All children to complete five years of primary schooling by 2007
>
> All children to complete eight years of elementary schooling by 2010
>
> Bridge all gender and social category gaps at the primary stage by 2007
>
> Bridge all gender and social category gaps at the upper primary stage by 2010

The thrust is on bridging the gender and social gaps and achieving a total retention in school by 2010. The objectives are expressed nationally though it is expected that various districts and States are likely to achieve universalisation in their own respective contexts and in their own time frame. The year 2010 is the outer limit for such achievements. The emphasis is on mainstreaming out-of-school children through diverse strategies, as far as possible, and on providing eight years of schooling for all children in 6-14 age groups.

Certain **broad strategies** have been visualized for the implementation of the SSA Program. These are: 1) Institutional Reform;
2) Sustainable Financing;
3) Community Ownership;
4) Institutional Capacity Building - The SSA conceives a major capacity building role for national, state and district level institutions like NIEPA / NCERT / NCTE / SCERT / SIEMAT / DIET;
5) Support System of Resource persons and Institutions;
6) Improving Mainstream Educational Administration;
7) Community Based Monitoring with Full Transparency;
8) Habitation as a Unit of Planning;
9) Accountability to Community;
10) Priority to Education of Girls; Focus on Special Groups - The SSA shall focus on children from SC/ST, minority groups, urban deprived children of disadvantaged groups and the children with special needs;

11) Pre-Project Phase - SSA will commence with pre-project phase activities such as household surveys, community-based micro-planning and school mapping, training of community leaders, school level activities, support for setting up information system, office equipment, diagnostic studies, etc;

12) Thrust on Quality - SSA lays a special thrust on improving the curriculum, child centered activities and effective teaching- learning strategies;

13) Role of teachers - SSA recognizes the critical and central role of teachers and advocates a focus on their development needs by setting up of Block Resource Centers / Cluster Resource Centers, etc.;

14) District Elementary Education Plans - There will be a Perspective Plan that will give a framework of activities over a longer time frame to achieve UEE. There will also be an Annual Work Plan and Budget that will list the prioritized activities to be carried out in that year.

Cluster Resource Centres (CRCs)

Under SSA, schools are grouped into clusters with one school as the cluster resource centre for providing training inputs and guidance to school in the cluster. Greater Mumbai has 227 CRCs and it has 12 Urban CRCs (UCRCs) in the six zones of Mumbai.

SSA Budget for the UCRCs for 2005-06, 2006-07 and 2007-08

Year	Budget INR Lakh	Expenditure INR Lakh	% Utilized
2005-06	43.41	43.41	100%
2006-07	7.41	7.41	100%
2007-08	325.32	319.32	98%

Source: SSA Report of the MCGM

Allocations/utilisation for Infrastructure Enhancement, Teachers Training, Alternative Education (deprived categories), Education for disabled and Removal of gender disparity

Enhancement of infrastructure (building repair and maintenance)			
Year	Budget INR Lakh	Expenditure INR Lakh	% Utilized
2005-06	98.70	76.69	77.70%
2006-07	97.10	90.88	93.59%
2007-08	56.70	56.56	99.75%
Teacher Training (In-service)			
Year	Budget INR Lakh	Expenditure INR Lakh	% Utilized
2005-06	198.14	52.61	26.55%
2006-07	225.15	63.58	27.99%
2007-08	253.12	80.64	31.86%
Alternative Education Initiative (Access to educationally deprived categories)			
Year	Budget INR Lakh	Expenditure INR Lakh	% Utilized
2005-06	1004.14	107.83	10.73%
2006-07	464.20	205.14	44.19%
2007-08	317.55	137.41	43.27%

Education for disabled			
Year	**Budget** **INR Lakh**	**Expenditure** **INR Lakh**	**% Utilized**
2005-06	130.38	29.18	22.38%
2006-07	45.83	36.23	79.05%
2007-08	113.21	54.20	47.88%

Removal of gender disparity (Under National Program for the Education of Girls at the Elementary Level (NPEGEL))			
Year	**Budget** **INR Lakh**	**Expenditure** **INR Lakh**	**% Utilized**
2005-06	55.08	4.95	8.99%
2006-07	86.05	18.21	21.16%
2007-08	65.54	60.15	91.78%

Source: SSA Report for 2001 to 2007, Education Dept, MCGM

The allocation of INR 3,500 per school for repairs and maintenance, annual supplementary grant of INR 2,000 for a primary school and INR 4,000 for an upper primary school with no grant for teaching learning materials, appear to be highly inadequate for maintenance of the infrastructure. Further, increased focus on the quality of teachers is required, as only 30% of the budget is spent on teacher training and less than INR 50 per month per teacher on teaching aids. Moreover, allocation/utilisation of the budget for alternative education initiatives and education for disabled (inclusive education) needs to be improved.

2.4 School Level – Current private and voluntary involvement schemes

In the past fifteen years, the MCGM has tried to involve the private sector and the voluntary agencies in the development of schools through a School Adoption Program. Several companies, NGOs, etc. have come forth extending support through the provision of infrastructure, furniture, laboratory, library books, uniform, text books, scholarship, computers etc. and through the organization of summer camp, Balwadis, co-curricular activities, etc. In this regard, the MCGM established the Public-Private Partnership Cell (PPPC) on November 6, 2006. The PPPC will oversee all the initiatives by the private sector agencies working in partnership with the MCGM are facilitated in their efforts.

Mumbai initiated the School Adoption Program (SAP) in 1999 to have direct intervention by private sector players i.e. Reliance and Aptech as mentioned later, thereby incorporating expertise in every aspect of delivering quality education. Additionally, several other corporate houses are providing their support for the improvement of public education in Mumbai. Some of the noted examples providing support and services are - Goodlass Nerolac, Tata Group, HDFC and Wartsila.

Some of the schemes currently in place are summarized below.

The School Adoption Program

Under this program, it is envisioned that an NGO will take complete operational and academic responsibility of the school for a period of 5 to 10 years. This entails a vast spectrum of responsibilities like providing transportation to school children, repair and maintenance of school premises, training of teachers in new methods of teaching, setting up of laboratories, upgrading libraries in schools and efforts towards controlling the drop-out rate. The program also lists the tangible resources that an NGO needs to provide, for instance, computers, mid-day meals, uniforms, school books etc.

A school management committee comprising of the Head Master, a representative of the NGO and a representative of the Parent Teacher Association (PTA) oversees the general administration of the school. They are also authorized to take decisions on issues such as admission, appointment of staff, time-table design, organization of extra curricular activities, house keeping etc.

The MCGM on its part will ensure that the current level of expenditure incurred on the school is maintained and this amount is provided to the school management committee to be spent as deemed fit. Any other resources (financial or otherwise) are to be contributed by the NGO as and when necessary.

As can be seen, this program tries to improve overall governance and performance of the school by transferring management to its main stakeholders, the school management committee. This ensures that the school is more responsive and uses its resources efficiently.

'Nirmaan Mumbai' is one such initiative in which a substantial number of individuals or trusts in Mumbai adopted various schools. The motive behind this initiative is to ensure that Government schools are converted into model ones that are on par with their private counterparts in terms of infrastructure and academic performance.

The School Partnership Program

This program allows for contributions from trusts or corporations for upgrading MCGM run primary schools through joint efforts. As it may not always be possible for NGOs to have sufficient resources to fully adopt a school, the Partnership program allows for parties to participate by contributing critical resources like furniture, books, laboratory equipment, computers, mid-day meals etc.

The School Management committee again consists of the Head Master, representatives from the NGOs and a representative from the Parent Teacher Association (PTA). As stated above, the purpose of this committee is to oversee the general functioning of the school and make decisions on important matters. The MCGM has also developed certain financial criteria to ensure only 'serious' participants get decision making authority. For instance, only partners whose contribution has a monetary value of more than INR 100,000 can be part of the school management committee.

This program benefits from an increased number of potential contributors and also improves the governance of schools further by spreading decision making responsibilities. This mode of participation is ideal for corporations, NGOs or trusts who do not have enough staff to fully administer a school and would thus like a more hands off approach.

The School Support Program

This program further widens the base of potential partners to include individuals also. Under this program, individuals, NGOs, organizations can support the education of a single or group of students by providing the necessary resources. These resources typically include monetary contributions, uniforms, books, school materials, meals or teaching aids for the school.

The mode of contribution is typically a donation aimed at fulfilling a particular need of the student like books, transportation or tuition fees. The audits for this school are conducted by MCGM and the school is under the purview of the Local Managing Committee which also includes MGCM officials.

As the last mode of partnership, this fully opens up the efforts towards infrastructure development to a much larger audience. Although unlike the other programs, the governance responsibilities still lie with the MCGM.

As can be seen, there exist massive gaps in the demand and supply at all levels of the schooling infrastructure in Mumbai. The symptoms as seen so far, namely, high drop out rates, low pass rates, poor teacher training and qualifications are indicative of an under-effective system. The programs outlined above are definitely a step in the right direction by MCGM but the results of these initiatives are yet to be seen.

Mumbai initiated the School Adoption Program (SAP) in 1999 to have a direct intervention by private sector players, thereby incorporating expertise in every aspect of delivering quality education.

While these efforts have resulted in improving the state of primary education in Mumbai city, an enhanced public-private partnership program would help to ensure that the MCGM schools would have all the facilities that an ideal school should have needs to be considered. The key issue to note in the above examples is that all the initiatives are based on corporate philanthropy or the voluntary sector. While these efforts are commendable they lack scalability and there are no financial incentives in these models for achieving certain defined results. We recommend that the city consider large scale PPP projects that are 'bankable' in order to make a far reaching impact on its education outcomes.

2.5 Recommendations

The Government is evolving a broad framework to allow for Public-Private-Partnerships (PPP) in the education sector, in order to attract private sector agencies in expanding educational facilities in the country.

Close to 3,500 model schools may be established through the PPP mode, along with 20 Indian Institute of Information Technology (IITs) and 600 polytechnics. These PPP schools will supplement another 2,500 completely-funded Government schools, so as to ensure one model school in each ward[7].

In order to attract private investment, the Government has been reported to be considering a model where a fee support of INR 1,400 per month per student (the present Kendriya Vidyalaya[8] cost to the Government) is to be provided, along with additional rental / interest support of INR 400 per month per student for initial 10 years.

This is a welcome move, for experience states that private-sector institutions score over their public sector counterparts in factors such as accountability, lower absenteeism of both teachers and students etc. In addition, state Governments are often cash-strapped and are unable to invest the requisite amounts on education infrastructure construction and maintenance. Private sector can provide the requisite investments given that the business model provides sustainable returns over a longer term.

With a view to improve the education provision in the City, we have recommended some potential Public Private Partnership Models that may be explored. Internationally, PPP/PFI models have been used to address both physical infrastructure needs and education provision. While evidence does support that school PFI/PPP program do impact educational outcomes favorably, the experience is relatively new and recent. We have identified the following PPP Models for further consideration with a view to addressing the education provision and physical infrastructure issues.

As part of this initiative, we have recommended certain PPP Models for delivery of education based on international models and local experience in other parts of the country. We also do see this in keeping with the wider education sector reforms that are expected to be brought in by central government. While we recommend that the existing schemes for school adoption and partnership program continue to be promoted and monitored. The following PPP models are recommended in addition the existing PPP Models.

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[7] For administrative purposes, Greater Mumbai is divided into 6 zones, each consisting of 3 to 5 wards named alphabetically.

[8] Kendriya Vidyalaya is a system of central government schools under the Human Resources ministry of the Government of India.

Recommendation 1: Operation & management of defunct Municipal schools

As there are a number of MCGM schools located in prime locations but closing down through a large number of drop outs. It is recommended that these schools be given to private sector for refurbishment, operations and maintenance of the school. The private sector will need to guarantee a minimum number of state sponsored/identified students while the remaining seats will be allocated to fee paying private students. Under this scheme, MCGM may either pay an annuity to cover the state sponsored places or provide a voucher based scheme to student. This will also be in line with the new guidelines being proposed at Centre for at least 25% of the seats in any private school to be set aside for state sponsored students.

School vouchers have been utilised internationally to promote school choice and betterment of schooling standards by ushering in free market forces. A voucher simply put is an instrument of title that can be encashed by a *selected student* in a range of *eligible schools*. One of the *eligible schools* will be the municipal school in which the student is currently studying. However, if many students prefer other schools over a period of time, the municipal school will be forced to shut down. The voucher provides an opportunity for the municipal school to better its standards. If it is unable to do so, the Government can consider disinvesting the municipal school as a real estate asset, which will fetch reasonable funds in a city such as Mumbai. It must however be mentioned that this approach is politically sensitive and the various socio-economic fallouts of this need to be studied in detail before taking this forward. Some of the international and domestic experience in voucher schemes has been summarised below.

Case Study 1: Voucher Pilot Projects in India

PAHAL in Uttarakhand: An innovative PPP initiative has been providing school vouchers to children (6-14 years) who are rig-pickers, scavengers, snake-charmers, or orphans. The eligibility criterion is that the child should have never enrolled or has been a drop-out for at least a year and that there is no government school / Education Guarantee Scheme (EGS) centre within a kilometer of the habitation. The scheme was started in 2007 in Dehradun city and based on its success, a year later, was expanded to Nainital and Udham Singh Nagar with a total of 651 children.

Delhi Voucher Project: This privately-funded program started in 2007, and is managed by the Centre for Civil Society (CCS). CCS awarded school vouchers worth up to INR 3,600 per year to 408 students in 68 wards of Delhi. In these 68 wards, more than 50 School Choice Activists reached out to more than 12 lakh parents. All students studying in Class V or below in government schools qualified for the program. Over 1.2 lakh parents applied.

Gyanodaya Yojana, Rajasthan: The Yojana is meant to facilitate opening up of new schools for Classes VI to XII under Public-Private Partnership on a BOO (Build, Operate and Own) basis. In the first phase, a maximum of five such schools will be set up in each district. Fifty percent of the seats in these schools will be sponsored by the state government through school vouchers. The scheme has inbuilt monitoring and evaluation mechanisms and gives preference to girls and under-privileged children.

Shikshak Ka Apna Vidyalaya, Rajasthan: Under this scheme, particular emphasis has been given to the role of trained unemployed teachers. It aims to enhance the access to and quality of primary schools by enabling these teachers to adopt government-run one-teacher primary schools or open new schools in PPP in the rural and backward areas of the state. All children living within an area of 3 kms can access these schools with government-sponsored vouchers. Such students will constitute 50 percent of the school strength, while the remaining students would pay their own fees. Both the Rajasthan schemes have been announced and are awaiting implementation.

Gyanshalas: Gyanshalas are emerging as competition to government schools in Gujarat and Bihar, providing quality education at low cost. In this model, a school is a room in the neighborhood where a teacher tells children a story every day. The children don't go to school and the school almost comes to their doorsteps. The children do three work-sheets everyday, there is no homework, no uniforms and no school bags. There are around 350 Gyanshalas in Ahmedabad, 70 in Patna and 15 in Biharsharif. Soon, such schools are planned to come up in Ranchi, Raipur, Kanpur and Varanasi. The Government spends about INR 9,000 per student in its schools compared to just INR 1,800 spent by the Gyanshalas. The classes are walking distance from the student homes, hence, addressing the problem of access.

Pankaj Jain, an alumnus of IIM-Ahmedabad, started these schools early this decade. He created a curriculum, hired boys and girls who had finished Class XII in the localities he planned to set up his classes and trained them in imparting education.

Massachusetts Institute of Technology studied the model in 2004 and found Gyanshala students performing better than the students in government schools. In Gyanshalas, which work in two shifts, education is comparatively cheaper with teachers being paid INR 2,000-2,500 for working two shifts of three hours each.

Gujarat Government has been funding 70 percent of the total cost. It soon plans to bear the total expense of the project. Similarly, Bihar Government is all set to roll out 15 schools in Biharsharif.

Recommendation 2: Management Contracts for clusters of schools on annuity scheme

Management contracts are seen as a potential model for the Mumbai City to explore with private sector involvement in direct education provision and school management. This will allow the public sector to access private sector knowledge, expertise and management skills. Payments under management contracts can be performance-based, which will provide sufficient incentives to private sector to support in delivery of the education outcome. In addition, this method limits the private sector risks in areas such as building performance and wider school delivery program. Typically, under management contracts, Government should consider existing budgets that may be available towards the payment of services under management contracts. Bundling of schools in clusters for award of management contract assist in creating adequate financial threshold to attract wider experienced private sector companies and enable them to bring in economies of scale.

For the success of this model, clustering of schools geographically for a management contract program will provide the following benefits:

- Bundling will allow private sector to bring in economies of scale;
- Larger contracts mean better private sector appetite;
- Pooling of budgets across schools will allow better negotiating power for the Government;
- More efficient procurement process and cost effective;
- Ability to maximize third party income through use of school facilities for after-school classes and vocational programs;
- Better incentivisation given that the private sector is likely to take more risk when it has the ability to better manage performance in a portfolio

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Case Study 2: GEMS – A case study on school management

Global Education Management Services (GEMS), a private schools operator is involved in operating and managing schools across the world. GEMS operated schools are located in the wider Middle-East, India, Europe, and South Africa. GEMS provide school management support services to schools in Abu Dhabi and the salient features of its model are:

- The management services offered have different structures and degrees of complexity, customised to suit differing needs. Typical management services (most of which are discussed above) include
  - school supervision contacts
  - teacher supply and training contracts
  - facilities management contracts
  - support services (IT, etc) management contracts
- Prior to accepting a contract and quoting a price, GEMS typically carries an 'audit' of the school to ensure that the services sought can actually be successfully delivered.
- GEMS prices its services at a mid-market plus or mid-market category depending upon the level of involvement required.

Recommendation 3: Management Contracts for a wider School Management Program

MCGM may also consider wider management contracts based on dealing with specific issues such as teacher supply, training contracts, ICT training. MGCM may consider developing a framework agreement covering the entire menu of services that may be outsourced from private players along with a short list of pre-qualified suppliers that the schools may appoint on limited competitive process. This method when employed at a cluster level can be quite successful in providing a step change in education delivery.

Management Contract for	Key features and issues
- Teacher Supply and Training contracts - Mentoring Program - School Management Contract - ICT training centres - Vocational Training (introduction from Class VIII)	- Addresses quality of teaching and education provision issues - Relatively simple to procure and deliver - Allows for procurement manageable contracts size - Limited by the wider issue in relation to supply and quality of teachers and support staff - Requires extensive stakeholder management with teachers and other unions - Affordability is a key consideration; CSR budgets of corporates can be explored

The Management contract can also consider a wider School Management Program or a teacher training program. Under the School Management Program, the private sector provides support to the management of the school for day-to-day operations and financial management. This program involves the outsourcing of certain roles such as the head teacher/headmistress/supervisory role, the finance /accounting role of the school to private entities for a fee. In relation to a teacher training contract, the contract focuses on improving the quality of teachers and classroom education to deal with issues such as teacher apathy and absenteeism. The private sector can be engaged in any one or more of the following services:

- Supply of teachers on ad hoc basis

- Provide an identified number of teachers that maybe used across subjects in a cluster of schools

- Training for teachers in certain areas such as education delivery, classroom presentation, curriculum support, student management

For managing the overall supply of teachers in the country, which is seen as a severe constraint by private sector players, the Government may consider a wider education program focussed on developing good quality teacher training colleges. Even privately run schools find recruitment and retention of teachers the single largest operating challenge and are considering setting up feeder teacher training schools and accreditation programs.

Recommendation 4: Construction/Refurbishment of schools by private sector with annuity support

This model is recommended for upgrading and uplifting the current educational estate which improves the environment at school for both students and teachers and vastly assists in attraction and retention of students at school. This model entails the private sector undertaking capital expenditure on account of construction and part mitigating the commercial risk in the project by an assured annuity that extends during the tenure of the concession.

This model is helpful in addressing both the building environment and the teaching quality where there is overall improvement in the school environment for children. This is also seen suitable for inner cities and urban schools because of the potential to use the facilities for generating revenues through imparting education related services in after school hours. Under this model, the private sector will be responsible for both maintaining the schools to certain basic minimum building standard and meeting education provision standards. While the private sector partner will be required to make available the buildings to a certain standard during the school hours, it will also be entitled to use the building facilities for generating additional revenue after school hours. The private sector will be permitted to use the facilities for education related business opportunities only. This will enable minimum disruption in school activities and also complement the building of school infrastructure which will benefit the schools.

In this instance, the government will make annual payment to private sector as annuity payments to support the financial viability of the project. These arrangements can be considered for a period of 15 – 25 years depending on the financial viability of the project.

It must be noted that use of school building infrastructure for providing private (for profit) education courses must be limited to courses such as professional training courses, after school clubs, sports training, vocational training, adult education and language courses. One idea that should be given due consideration is utilising the school as a well equipped tuition centre in after school hours for both school students and other students.

Case Study 3: Kent County Council / BSF – A case study

Strategic partnership, a long-term partnering agreement, between Kent County Council and Private Sector Consortium for capital investment in the County Council's secondary schools estate to create 21st century infrastructure and facilities to achieve educational transformation. Ownership and responsibility for all aspects of local education rests with the County Council.

Services delivered

- Secondary schools estate strategy and strategic investment plans
- Provide ICT Strategy, Implementation and Managed services
- Deliver new and remodeled or refurbished schools through combination of private finance (PFI) and traditional procurement (Government funding) with guaranteed improvement in costs of delivery over years
- Premises lifecycle (capital repair) contract
- Facilities management (hard and soft) contract
- Integrate and manage the various supply chain contractors to provide a single point of contact for the county council
- Promote wider community involvement in schools and also generate 3rd party income without compromising the educational agenda

Contract terms

- Kent County Council's BSF budget of £1.6bn is spread over three Local Education Partnerships (LEPs)
- The first LEP with contract value of about £550m is under procurement. The first LEP will be responsible for delivering 33 new build and remodeled schools along with ICT services over six years period.
- The first LEP would deliver the schools in three phases to ensure effective monitoring of the delivery.
- The first phase involves procuring 3 new schools with private finance (PFI), where the private sector would be responsible for premises capital repair and facilities management services over 25 years contract. The annual costs to the County Council are about £9m
- In addition, the remodeling of another 9 schools is procured in the first phase with a cost of about £135m
- The ICT facilities for these schools are procured with an additional capital cost of c. £16m along with a 5 year ICT managed services contract at an annual cost of about £1.5m

Tendering process

- EoI submitted by 6 large consortiums; 3 long-listed for receiving detailed bids including designs, partnering, finance, legal and ICT solutions; 2 shortlisted for further submissions and interviews and one consortium appointed as the preferred bidder.
- 2-year resource intensive process

Recommendation 5: Setting up of a Education Foundation to aggregate corporate funding

Keeping in line with the numerous CSR initiatives that have been initiated by Corporate houses in the education sector, we recommend that an Education Foundation is be set up for channeling the entire corporate sector CSR funding into objectives that complement and support government initiatives rather then in a limited and smaller universe.

A Foundation could be set up by the local authorities and private sector, which is managed privately in terms of prioritizing the spending from the Fund across different initiatives of the government. The foundation can be set up to focus on assisting weaker sections of the society, slum children and less privileged classes[9] in supporting them to retain in schools. The Foundation will provide a sustainable model to support the government initiatives and programs at a wider City level. Some of initiatives that the Fund can promote include:

- Providing financial assistance to meritorious students or supporting a mentoring program for meritorious students over the higher secondary school years

- Providing schools one-off financial assistance on developing supporting infrastructure such as science laboratories, playgrounds, gym facilities, hostel facilities

- Developing and implementing ICT driven infrastructure across the school network

- Supporting competitions, inter-school activities in sports, science, talent search competition

- Developing a volunteer network to assist in teacher training, mentoring or school management skills to harness the skills from the citizens of Mumbai City

- Specific teacher training program in languages, presentation techniques and teaching aids

Recommendation 6: Setting up supporting infrastructure facilities such as libraries, sports facilities around the children's eco-system

With a view to provide holistic education environment for the students, MCGM should consider entering into PPP management contracts with private sector to build, manage and maintain supporting infrastructure facilities such as libraries, sports facilities, hostel for higher secondary students. This will provide students much needed access to recreational facilities for all round development. These initiatives are also seen as reducing the overall incidence of teenage problems and prevalence of crime amongst youngsters.

Conclusion

The SSA and National Knowledge Commission (NKC) strongly recommend community participation in school education. The MCGM has tried to increase community participation with establishment of the Public Private Cell (PPC) and training of community representatives. However, efforts are required to

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[9] Schools targeting families with income less than Rs. 5000 per month

be made to streamline the functioning of the PPC so that more NGOs can be involved in assisting in school education and in the conduct of Balwadis.

Moreover, apart from initiatives based on corporate philanthropy or voluntary sector, structure programs based on public private partnership with built-in scope of scalability and financial incentives for achieving educational attainment levels and results are required. The city of Mumbai will have to consider large scale PPP projects that are viable for investors in order to make a far reaching impact on its education outcomes.

Section 3: Higher Education System

Mumbai has two A grade universities, a couple of A grade deemed universities, prestigious business and technology institutions, medical colleges as well as a host of high quality primary and secondary schools.

3.1 Overview Higher education in Mumbai

Mumbai has some highly renowned colleges and universities of higher education, especially in areas like engineering, commerce, medicine and law. There are 12 universities in Mumbai and about 270 colleges offering graduate and post graduate degrees in various areas like Engineering, Architecture, Law, and Medicine. Colleges offering professional degrees require approval from the concerned regulatory bodies like AICTE (Engineering and Management) or the Bar Council of India (Law). The intake and seat allocation of some institutions is also regulated.

Technical Education

In the academic year 2008-9 there were 23 engineering colleges, 35 polytechnics and 12 colleges of architecture which together had an intake capacity of 8112 seats.

	Mumbai		Mumbai Suburban	
Degree courses	# of institutes	Seats	# of institutes	Seats
Engineering	12	3665	11	3570
Architecture	2	127	5	300
Diploma courses				
Engineering	36	5285	22	3565
Architecture	NA	NA	1	60
PG Courses				
MCA	NA	NA	10	600
ME	NA	NA	8	656

Note: *1. Seats for Diploma courses include both AICTE recognized and unrecognized degrees in registered institutes*
           2. NA – Not Available
Sources: *Directorate of Higher Education, Maharashtra*

The Indian Institute of Technology (IIT, Bombay), Veermata Jijabai Technology Institute (VJTI), and KJ Somaiya College of Engineering are some of the renowned institutes of technical education in Mumbai.

Medical Education

Mumbai has 6 medical colleges with an intake capacity of 710 for the academic year of 2008. Specifically, there are 4 medical colleges of allopathic medicine, one college of ayurvedic medicine and one college for homeopathic medicine. In addition, there are two colleges of nursing and colleges for physiotherapy and occupational therapy.

Degree courses	Mumbai		Mumbai Suburban	
	# of institutes	Seats	# of institutes	Seats
Medical	4	600	-	-
Pharmacy	2	90	6	360
Diploma courses				
Pharmacy	2	120	2	100

Note: *1. Seats for Diploma courses include both AICTE recognized and unrecognized degrees in registered institutes*

Sources: *Medical Council of India, Directorate of Higher Education, Maharashtra*

Other areas of education

Mumbai also has some highly renowned colleges offering degrees in other courses like Law, Hotel Management and Catering Technology (HMCT) etc. For Law, Mumbai has 13 colleges with an intake capacity of 3080 seats while 4 registered colleges offer diploma courses in HMCT with an intake capacity of 220. Also graduate and post graduate courses in Arts, Commerce and Science are offered by 72, 74 and 124 colleges affiliated to the Mumbai University respectively. Cumulatively, the graduate courses in these streams account for an estimated 65000 seats.

Post Graduate courses

Post graduate courses (MBA, MCA, ME) were being offered by about 55 colleges with an estimated 4682 seats of which 25 colleges offered Management courses. Of this, post graduate colleges in Law account for 620 seats while the intake of the 31 colleges offering MBA courses is 2580. In addition, there are 226 seats for Post Graduate degrees in other subjects.

The quantum of students seeking higher education each year in Mumbai provides a good context to judge its supply. Over 240,000 students appeared for higher secondary examinations in 2009 of which approximately 200,000 were successful. Given an estimated 100,000 under graduate seats, only one in two students have access to higher education in Mumbai. The situation gets bleaker as one considers post graduate courses. The options sought by the remainder of the students are usually vocational courses, admission in foreign colleges or admission in colleges outside Mumbai or Maharashtra.

There has been significant interest from the private sector in setting up new colleges, with the Mumbai University receiving 231 proposals for setting up new colleges in the last two years. The process of approval by the state has however been slow with only 14 colleges given clearance to start operations last year. Apart from capacity addition, quality of graduates is also a concern. It is estimated that 63 percent of Science graduates remain unemployed and as stated earlier, only 25 percent of Indian graduates are considered employable by the industry. There is thus a need to involve industry bodies to overhaul curriculum.
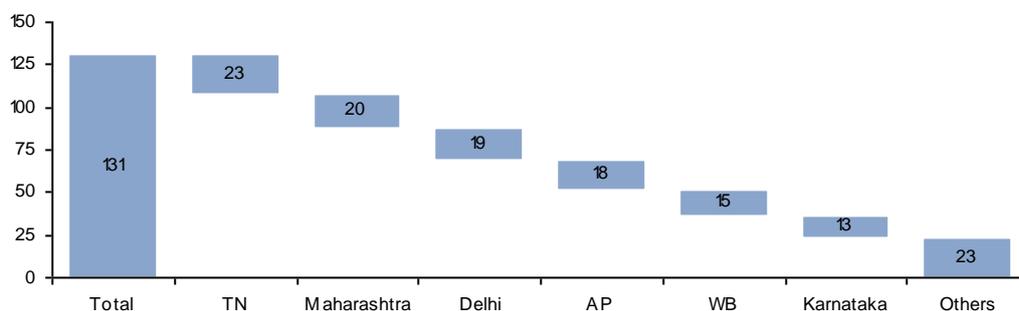
FDI in Higher Education

About 150,000 students go abroad each year, with over 50% of these to the US, looking for better avenues in Higher Education resulting in an outgo of approximately USD 4 Bn. Student motivations for going abroad usually include access to better infrastructure, research facilities and a highly qualified and experienced faculty. The Government has thus started taking steps to allow foreign universities/institutions into India to improve the quality of Higher Education and cater to student needs. FDI in the Higher Education has been allowed since 2000 without any sectoral cap. However, entry of foreign education providers into India has been a matter of intense debate.

The Indian cabinet recently cleared the Foreign Educational Institutions (Regulation of Entry and Operations, Maintenance of Quality and Prevention of Commercialization) Bill which intends to make procedures simple and time bound to encourage entry of world class universities to set up campuses and enter into partnerships with Indian universities. Some of the key terms in the bill are:

- De novo institutions are not eligible and franchise mode of collaboration is not allowed

- Foreign institutions looking to set up campuses in India will come under the purview of AICTE which will prescribe the fee to be charged and intake for each course after a due hearing

- Foreign institutions will be given complete freedom with regard to selection of faculty and their salary packages

- All universities would get the status of Deemed Universities thereby bringing them under the ambit of the UGC

- Allows for profit making, to make this an attractive investment for foreign institutions, but capital cannot be taken out of India

- Indian institutions that already exist or are recognized by the AICTE will be eligible to enter into collaboration/partnership/twinning arrangements with foreign universities/institutions that are already in existence and duly approved by the AICTE

There are about 76 institutions which currently have AICTE approved collaborative programs with foreign institutions and many institutions like the IIMs are also looking to tie up with US-based and European B-schools for research.

Note: *Number of institutions having foreign collaborations in different states*
Sources: *AICTE, Foreign Collaboration in Higher Education Industry, Cygnus Research July 08*

There is clearly significant interest among students and the Indian institutions to work closely with foreign institutions and academia. The Yashpal Committee Report on Renovation and Rejuvenation of Higher Education released in 2009 also identifies this as an important aspect but advocates close supervision to avoid dilution of quality and undue profiteering.

3.2. Recommendation

While the National Skill Development Mission has set aside a significant outlay for supporting increase in capacity for higher education, there is a crying need for additional capacity in this sector. We recommend the following University oriented initiatives alongside with student oriented initiatives to support the capacity and quality issue that exist in the sector.

Land remains a scarce resource in Mumbai City for developing newer university campuses but there is a significant work needed for improving the efficiency and quality of the existing colleges. However, through the UGC and other Central government bodies, the City needs to push for reforms on the following lines:

Framework oriented initiatives

- **Independent regulatory authority** - An apex independent regulatory authority can be established that achieves the objectives of regulation without political interference. An autonomous Standing Committee to be established under the proposed Independent Regulatory Authority. Its main role would be to exercise due diligence at the point it approves a license to grant degrees/diplomas. The members of such an authority have to be chosen through an international committee consisting of the best educationists, education administrators, management specialists drawn from Industry and change management specialists.

- **Governance** - In order to encourage greater flexibility and autonomy, there is a need to progressively do away with the system of affiliation of engineering institutions/colleges to universities. The autonomy should not be limited to the management, but should be encouraged all the way to individual teacher level.

- **Transparency** - To attain greater transparency and accountability, it should be made compulsory for all engineering institutions to display information about their buildings, labs, faculty, intake of students, performance of students, recognition status and placements, on their websites.

- **Accreditation and ranking** - The Standing Committee shall determine the criteria and the processes of accreditation in consultation with experts from academia and industry. It can then license multiple agencies which could undertake accreditation. It is also essential to introduce ranking of institutions based on overall performance as well as sector specific performance based not only on technical proficiency but also on gender equality, international presence and other non-academic parameters.

University/Institute oriented initiatives

- **Setting up of campus or infrastructure in Mumbai as a joint initiative** – The City can look to harness the corporate sector to set up a large education campus focused on a wider area of faculties with land being provided on concessional rate. The city can also look at attracting the expatriate Indian pool of academician and researcher to support development of this Institute. This will allow the Indian talent pool access to international faculty and cutting edge technology thereby improving the standard of technical education of Indian graduates

- **Executive education alongside University/College training** – With increasing globalization, it has become necessary for Indian managers to stay abreast of best practices in businesses. Collaboration in executive education will allow sharing of management practices and a healthy cross-cultural exchange of ideas. This will also allow for improvement in current curriculum at Colleges to make it more relevant to the employability area.

- **Dual degree programs** – As complex technologies emerge, requiring a good understanding of various subjects, it becomes important to specialize in multiple areas. However, infrastructure constraints may not allow for such programs in all Institutes and in such cases providing students access to such facilities could vastly improve the level of technical education.

- **Online programs** – Some of the steps in this direction include Massachusetts Institute of Technology's (MIT) efforts towards sharing its course ware online for students globally. Colleges and students are free to use this course ware provided due credit is given to the source. Mumbai Colleges should be encouraged to support a partnership program with leading international universities to support this exchange of ideas and technology for mutual benefit.

- **Faculty exchange** – This initiative can serve the dual purpose of alleviating the problems related to lack of quality faculty and provide quality teaching inputs in areas where India is yet to develop a strong foothold. This will also assist in overall maximizing the teacher resource available within the high education set up.

- **Joint research and projects** – This initiative could develop a good channel for exchange of ideas, development of intellectual property and technological innovation to alleviate Indian problems. India's strong advances in areas like Biotechnology and IT make it an attractive research partner.

Student oriented initiatives

- **Student exchange programs** – Though already in place in some universities, they are yet to become a regular part of the curriculum. As professionals today are expected to be proficient across geographies, these programs can help develop a culturally sensitive workforce.

- **Short term internships** – This is a highly effective approach for training the Indian workforce. It also provides global companies a glimpse of the quality of the Indian talent pool which they may later tap into. This will go a long way in improving the employability agenda faced by the higher educational institutes.

While it remains a Central Government driven sector, city needs to attract and assist in partnering of Higher Education Institutes for getting a greater share of success. City authorities must continue to push for larger reforms at the Centre level to assist in developing vibrant and robust Higher Education facilities.

Section 4: Mumbai 2020

Mumbai as an Education Hub

Mumbai, being the financial capital of the country, attract several students from across the country and abroad, who are hopeful of being placed in large domestic and multi-national organizations after completing their education. Hence, the city possesses the potential to emerge as an education hub, should Government policies aid private enterprise in the establishment of world-class institutions.

In this context, it may be pointed out that renowned institutes such as the Tata Institute of Social Sciences (TISS), Indian Institute of Technology (IIT-Mumbai), JBIMS, SP Jain etc have already been present in the city, along with other well known engineering and medical colleges. The MCGM / State Governments can look to build on the reputation that such institutions have already achieved.

Goals for 2020

• Ensuring 100 percent literacy in Mumbai city

   – Universal Primary Education (UPE) is a Millennium Development Goal which specifies that UPE is said to be reached when the Net enrolment rate reaches 95 percent [10]

• Efficient implementation of compulsory primary education

   – On average, 95% of boys and 95% of girls of the relevant age are enrolled in primary education in North America and Western Europe [10]

• Ensuring access to quality education-evolving norms such as 2 primary schools per 1000 students, 1 secondary school per 1000 students, etc

• Achieve gender equality in primary education

   – Gender parity is achieved when the Gender Parity Index of the gross enrolment ratio is between 0.97 and 1.03 [10]

• Increase the school life expectancy of children in Mumbai in a bid to reduce drop-out rates

   – Globally, the average number of years a child will spend in school has increased from 15.7 in 1999 to 15.9 in 2007 [10]

• Aim to increase the numbers of foreign students studying in Mumbai significantly by 2020. This will help local students as well, preparing them for careers in a global world, cross-cultural sensitization etc

• Ensuring use of IT in education: atleast one computer for every 10 students at the primary & secondary level

• Ensuring almost 100 percent access to education in English

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[10] UNESCO Institute for Statistics

• Establishment of specialised schools (such as the High School of Mathematics and Science, the School of the Arts, Singapore Sports School etc in Singapore) to cater to the needs of students with specific inclinations and strengths

• Ensuring social participation, contribution, and support, including development of adult literacy centres, voluntary teaching by interested people etc.

Getting there: Establishing a world-class education system in Mumbai by 2020

• Develop newer teaching methodologies based on latest psychological and social development theories

• Install at least one computer per classroom in municipal / government schools

• Providing education means and libraries equipped with the proper educational tools and material suitable to this age-group, such as cartoons, videos, recording tapes of stories for children, etc

• Introducing computers to help children learn faster, even at the kindergarten level. Dubai, for example, aims to introduce the latest information technology at all levels including a computer for every 10 students at kindergarten.

• Create a center for the development of curricula and the preparation of educational tools

• Setting standards for the design, building, and maintenance of educational institutions

• Encourage inclusion of co-curricular activities like sports, music, art etc. to help in overall personality development students

• Introducing new modifications in the curriculum according to the recent global trends, such as environmental education, scientific awareness, health and nutrition etc

• Establish a team of experts that would regularly study the new methods of teaching across the globe and develop similar methods in Mumbai. Involve private education institutes in designing school / college curriculum

• Establish teams that would continuously monitor the implementation and progress of various teaching method and programmes

• Establish a robust student exchange programme and collaboration with institutes abroad

• More autonomy to educational institutes to experiment with new teaching methods

• Encourage higher academic interaction between students and teachers to develop a healthy and learning environment

• Encourage teachers from elite schools / colleges to deliver at least one lecture per week / month in some of the municipal / government schools. Government can provide some incentives to the teachers who take up such activities

• Institutes can collaborate with renowned foreign institutes to conduct lectures that are beamed via satellite so that students can get expert education

• Make use of open course-ware (such as MIT etc)

• Municipal / Government schools that face a shortage of skilled teachers can implement IT based teaching where live lectures can be beamed via satellite from a common center and thus provide expert teachers to every school

• Help students to virtually interact with students in foreign countries to share knowledge

Summary

We have known that Mumbai does carry the responsibility of being an education hub for students across the country and with its existing infrastructure supports this cause of education. However, the city can eliminate the key challenges to the efficiency of its education provision through certain recommendations suggested in the report. These recommendations promote higher private sector participation which would bring in a substantial level of accountability in the education system of the city. Since the city has institutions across the education value chain, it has also been highlighted that it is important to establish links across these institutions for provision of a consistent path of education.

Appendix: Summary of Statistics

Summary of statistics

Student enrolment in schools by category and medium of instruction in Mumbai only

Category	English	Marathi	Hindi	Urdu	Gujarati
Primary only	266155	149828	39496	48612	39112
Primary and Upper	37022	110906	98571	77153	29711
Upper Primary only	20031	2288	2302	888	3344
Primary and Secondary/Higher Secondary	863	0	0	0	0
Upper Primary and Secondary	5897	2706	650	1877	3504

Sources: District Elementary Education Report Card, Mumbai District, 2007

Student enrolment in schools by category and medium of instruction in Mumbai suburbs only

Category	English	Marathi	Hindi	Urdu	Gujarati
Primary only	2000	0	275	0	0
Primary and Upper	3998	884	624	466	82
Upper Primary only	57768	26190	10858	3006	8663
Primary and Secondary/Higher Secondary	484	162	0	658	0
Upper Primary and Secondary	162669	138303	32937	32789	17324

Sources: District Elementary Education Report Card, Mumbai Suburbs, 2007

Key data on schools in Mumbai and Suburbs

Category	Total schools		Rural Schools		Enrolments		Rural enrolment		Teachers	
	Govt	Private	Govt	Private	Govt	Private	Govt	Private	Govt	Private
Primary	269	901	0	1	61258	443653	0	637	1594	8972
P & U.P	893	70	1	1	346944	17505	155	233	10661	682
P, U.P, S / H.S	44	331	0	0	17701	119799	0	0	815	6145
U.P only	1	9	0	0	147	2636	0	0	5	103
U.P & S / H.S	97	916	1	2	36297	377398	133	1670	2333	19467
No response	47	21	0	0	780	1390	0	0	123	156

Note: P – Primary, U.P – Upper Primary, S – Secondary, H.S – Higher Secondary

Sources: Municipal Corporation of Greater Mumbai

Facilities in Mumbai and its Suburban schools

Performance indicators	Mumbai					Mumbai Suburban				
	P	P+UP	P+S/HS	UP	UP+S	P	P+UP	P+S/HS	UP	UP+S
% Single classroom schools	2.3	0.4	0.0	0.0	0.0	16.7	6.3	1.9	0.0	0.5
% Single teacher schools	2.7	1.6	0.0	0.0	0.0	0.0	3.1	0.3	0.0	0.1
% schools with SCR[11] > 60	32.3	35.9	17.3	0.0	40.0	16.7	3.1	5.3	0.0	6.2
% schools with pre-primary sections	34.9	7.6	40.4	100.0	42.9	50.0	53.1	30.3	11.1	13.9
% schools with common toilets	78.5	66.8	80.8	0.0	71.4	83.3	87.5	86.4	66.7	78.9
% schools with girls toilets	84.0	82.5	94.2	100.0	88.6	100.0	96.9	93.8	88.9	90.1
% schools with drinking water	99.7	99.1	100.0	100.0	100.0	100.0	100.0	99.1	100.0	99.2
% schools with blackboard	99.9	99.0	100.0	100.0	100.0	100.0	96.9	99.1	100.0	99.2
% enrolment in Govt. schools	12.1	96.7	23.1	0.0	15.3	23.9	3.9	10.4	7.7	8.6
% Enrolment in single-teacher schools	0.3	0.3	0.0	0.0	0.0	0.0	1.8	0.1	0.0	0.0
% No female teacher schools	1.6	3.1	1.9	0.0	0.0	16.7	12.5	12.7	22.2	9.8

Building Design condition and performance *

Category	Maharashtra State	National
Number of schools	86429	1196663
% of residential schools	3.1	2.3
% of non-pucca schools	18.2	29.4
% of schools in need of major repair	-	27.0
% of schools with toilets	-	-
% of schools without separate toilets for girls	21.8	35.9
% of schools without electricity	11.9	29.4
% of schools without drinking water supply	5.1	9.9
% of schools without blackboard	59.5	57.7
% of schools without computers	41.7	65.1
% of schools without playgrounds	23.0	37.0

* Data for Mumbai not available

Service performance figures for Maharashtra state and India *

Category	Maharashtra state	National
Enrolment (primary + Upper Primary)	6169541	36231042
Students per classroom	33	36
% schools without full-time headteacher	-	-
% of repeaters in primary and upper-primary	43.9	46.5
Student : Teacher Ratio (median)	31	31
% teachers attending (average)	-	-
% of schools that are within 5 kms. of the Block Head Quarter	-	22.5

Source: India Census, ASER – Pratham Report, NIEPAEEI, Where do we stand? - 2006-07

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[11] Student Classroom Ratio

University enrolments (2000-01)

	Graduation	PG	M. Phil	PhD	Diploma	Total
S.N.D.T Women's University	6443	1286	92	78	573	8472
C.I.F Education	0	84	0	64	0	148
University of Mumbai	1239	4840	54	689	2272	9094
I. I. Population Studies	0	25	0	68	1	94
Tata Institute of Social Sciences	0	298	11	41	56	406
I.G.I.D Studies	0	0	0	47	0	47
I.I.T Bombay	1650	1133	18	761	0	3562
Total	9332	7666	175	1748	2902	21823

Enrolments in affiliated colleges (2000-01)

	Graduation	PG	M. Phil	PhD	Diploma	Total
University of Mumbai	276704	8382	0	249	943	286728
S.N.D.T Women's University	16717	341	0	0	0	17058
Total	293421	8723	0	249	943	303336

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