

Draft Report on Delhi Tangible Transformation Project (DTTP)



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This study aims at taking review of efficacy and efficiency of various civic services being provided by three Municipal Corporations in Delhi with an objective of recommending quick and implementable solutions, so as to bring in a visible & tangible change in impression about governance in these three local bodies.

Foreword

It is often a cliché to describe any study as team effort. But then if a cliché best describes the state of affairs, then so be it: this study is indeed the result of team efforts and without encouragements & contribution of many others, completing it successfully would have been difficult. I would like to take this opportunity to place on record my deep sense of gratitude to all those who gave me an unstinting support.

Original idea of commissioning such study came from the Central Leadership within Bharatiya Janata Party, which was articulated well by Dr. Vinay Sahastrabuddhe and further institutionalization of the study was done by Sumeet Bhasin, Subodh Kumar & Kunal Kapoor had been coordinating and monitoring the process. Needless to mention, role by all of them, had gone much beyond what is mentioned, they were the main contributors for many conceptualization part of the study. Ravi Gupta & Abhishek Chaudhari & others from Public Policy Research Centre were the most dependable resources for anything and everything, my sincere thanks to all of them. Vijendra Gupta Ji had the key catalytic role, without which the process could not have taken place. Mayors, Leaders of House, Chairpersons of Standing Committee and many other political representatives in all the three Municipal Corporations had been very active in providing their valuable inputs, it is just impossible to mention each one separately. At the back end of the study, it was Dr. Ravikant Joshi, who was guiding my intellectual acrobatics in analysis and report preparation.

It would be apparent from this list that it has truly been a study to which a large number of persons have most willingly contributed. If mention of any well – wisher & contributor is missing, it is purely by mistake and not by intention. The cliché referred above is clearly not the perfunctorily modest deflection of credit for the study to others. I, of course, remain responsible for any errors that stay behind.

As an end note, let me take a liberty of mentioning, that true success of this report or the activity would be way forward, when similar teamwork would be witnessed during implementation of various suggestions in this report.

Dilip Karmarkar

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Chapter I: Introduction

Under the guidance of Central leadership within the Bharatiya Janata party (BJP), BJP Delhi Pradesh decided to take up this Delhi Tangible Transformation Project (DTTP). Public Policy Research Centre (PPRC) of the Lok Kalyan Nyaas (a BJP trust) was engaged for providing policy analysis support to the project.

The idea behind the project is that the three Mayors of the three Municipal Corporations under Delhi NCR and also other Office Bearers within those Municipal Corporations (MCs) need to be helped in every possible way, to ensure that they perform exceedingly well and show tangible results in following key areas:

- Solid Waste Management (SWM)
- Effective solutions to the vehicle parking issue
- Improving the management of public parks and play grounds
- Improving the state of Municipal Markets
- Improving the management of street lights
- Improving the management of crematoria
- Greater IT interventions for enhancing effectiveness of various civic services

The idea here is to find out the existing best practise or the most successful example in the given area, study it and having simultaneously studied the status of respective areas in all the three Delhi Municipal bodies, find out the gap areas. Having identified the gaps and after due deliberations, a road map is expected to be evolved for a structured and time bound implementation.

During the course of the assignment, it was noticed that in addition to above seven areas, education also forms a substantial part of functioning of those three ULBs, and is having a direct connection overall socio – economic developments. As such, education is also being included in the scope of this study.

While Delhi BJP is committed to ensure the implementation of such road map, PPRC has been entrusted for doing the ground research, coordination with subject experts, and documentation of best practices, besides offering every possible academic support.

Please note, that this document is only a document proposing initiation of a process, which is expected to run over a longer period of time. As such, this report is not an end in itself of the assignment taken up by the PPRC, but perhaps, a good starting point.

Chapter II: An Overview of Efficacy and Efficiency of Current Provisions of Civic Services

2.1. Approach & Methodology

A quick exercise was commissioned to take a feedback about efficacy and efficiency of various civic services being provided. This included obtaining qualitative and quantitative feedback from three segments, namely – (a) Political agents, (b) Citizens, and (c) Other stakeholders, such as, various contractors / private operators, who are involved in provision of civic services, on behalf of ULBs. As a backdrop for this study, survey report and analysis of questionnaire commissioned by an independent agency to nearly 8,000 citizens in Delhi during 2010, were also available.

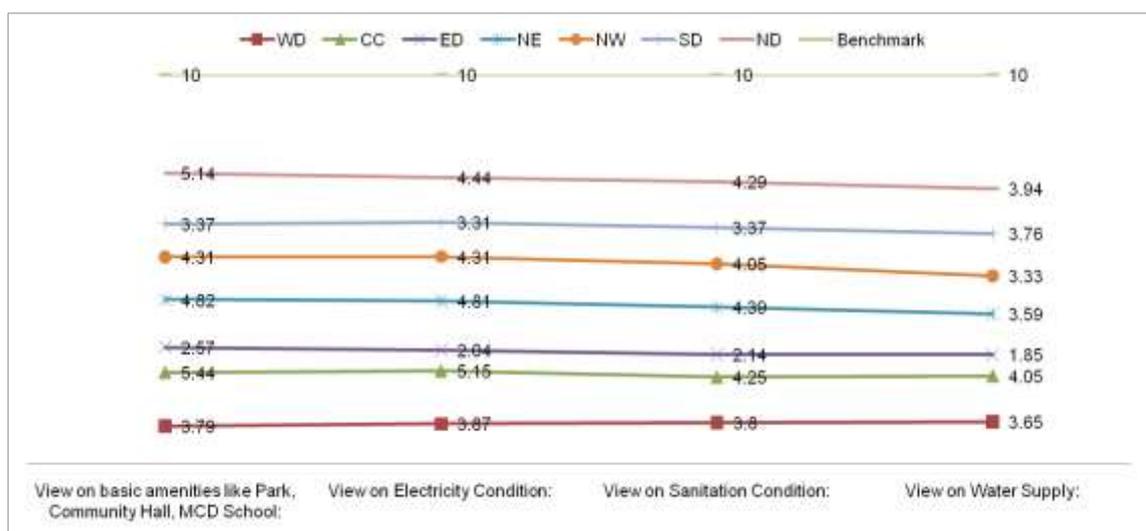
Sample of questionnaire commissioned specifically for this study has been appended at Appendix 1.

Feedbacks received through variety of such primary sources were analyzed in a systematic way. Inferences drawn are in next sections.

2.2. Data Analysis & Inferences

2.2.1. Survey Results from the Study Conducted by an Independent Agency.

Figure 1: Summary of Observations of a Survey Conducted by an Independent



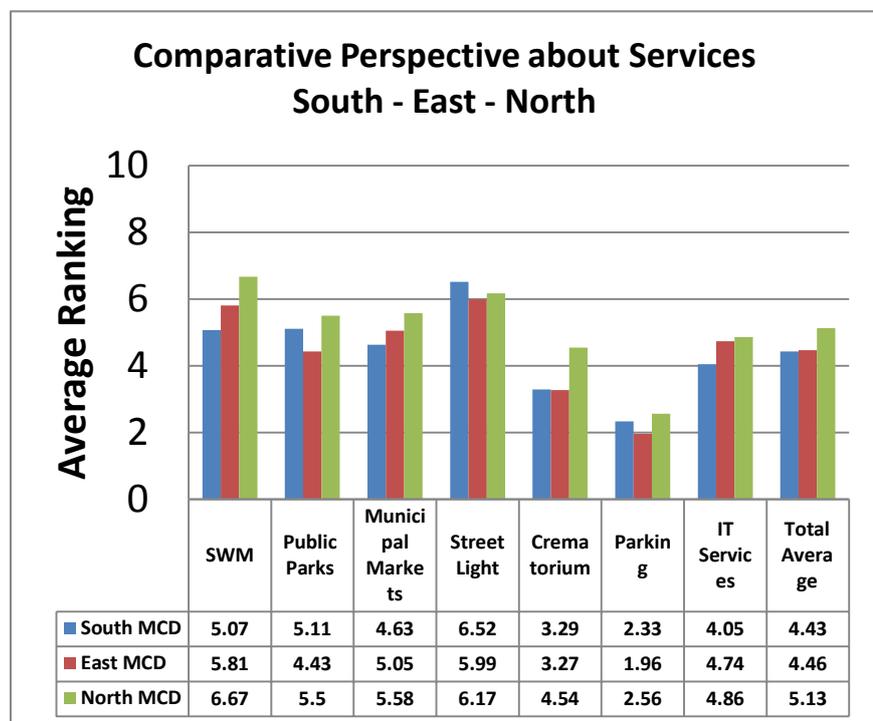
Above diagram indicates that the satisfaction level about different civic services, such as, parks, community halls, and schools etc., which are in the jurisdiction of

MCDs, is ranging from poor to average. On a scale of maximum 10, citizens of East Delhi Parliamentary Constituency had rated those services at 2.57, which is the lowest, and the highest being observed, surprisingly at Chandni Chowk Parliamentary Constituency at 5.44 or at New Delhi Parliamentary Constituency at 5.14. Those figures are indicative enough as curtain raiser, or as a starting point of the study.

2.2.2. Results of Surveys Conducted with Municipal Corporators

a) Overall Perspective about Seven Civic Services

Figure 2: Overall Perspective from Municipal Corporators

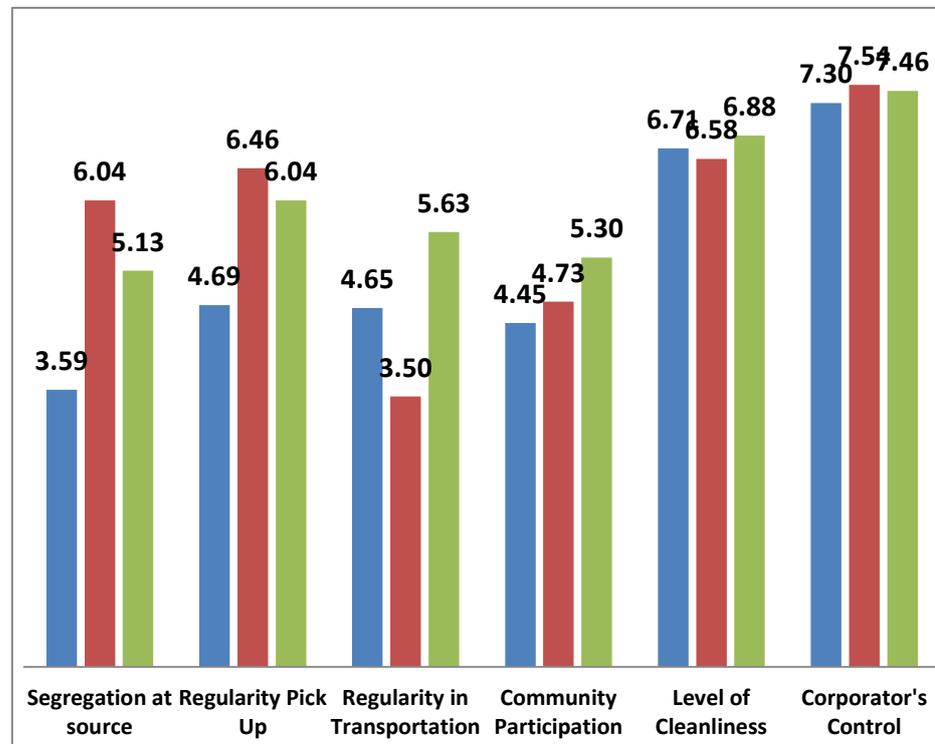


It is interesting to note that even from the perspective of Municipal Councilors, average rating for civic services, which are within the control of the ULBs is around 4.5 – 5.13. From the perspective of Municipal Councilors, parking appears to be the biggest issue, while provision of street lights has the highest level of satisfaction. Hierarchy of **problem areas**, as conceived by Municipal Corporators, in descending order is – (1) Parking, (2) Crematoria, (3) IT Services, (4) Municipal Markets, (5) Public Parks, (6) SWM & (7) Street Lights.

Further detailing in each service, is done in following paragraphs.

b) Where Exactly Is the Problem in SWM?? (Figure 3)

Figure 3: SWM - Where Exactly is the Problem??



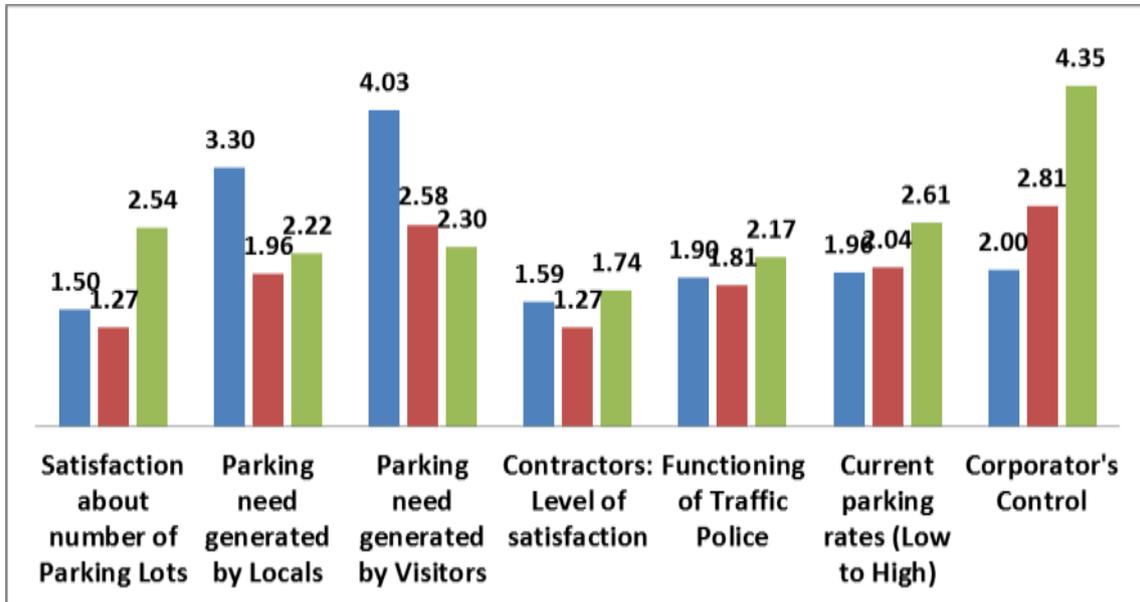
An interesting and paradoxical observation here is that though ranking about three basics of SWM, namely, (a) segregation at source, (b) regularity in pick up, (c) regularity in transportation and the fourth complimentary issue regarding community participation is lower (ranging between 3.5 to 6.5), Municipal Corporators feel that still the overall level of cleanliness is much better (6.7 & above), and further they seem to be satisfied with their control that they are exercising.

Is the real problem in SWM is more towards the “unworried” or “contented” type of attitudes among political leadership?? Is it that the real problems are not reaching them???

c) Perception about Parking (Figure 4)

It is remarkable here to note that even by perception of Municipal Corporators, quality of services being provided by parking contractors is as poor as in the range of 1.27 to 1.74 on a maximum scale of 10. Similar are indicators of all other parameters, which clearly means that public parking is a matter of serious concern.

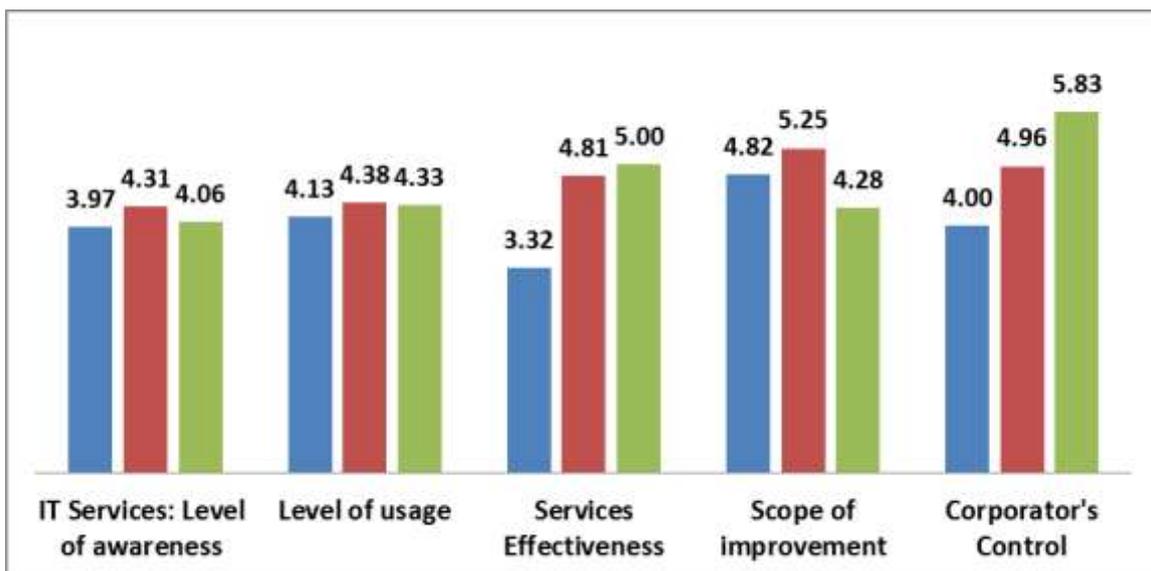
Figure 4: Perception about Public Parking



d) Perception about IT Services (Figure 5)

Numbers emerging, as given by Corporators themselves, about any indicator of IT services, such as basic awareness, usage etc., are not reaching beyond 4, which is a clear indication of wide scope for improvements in this area.

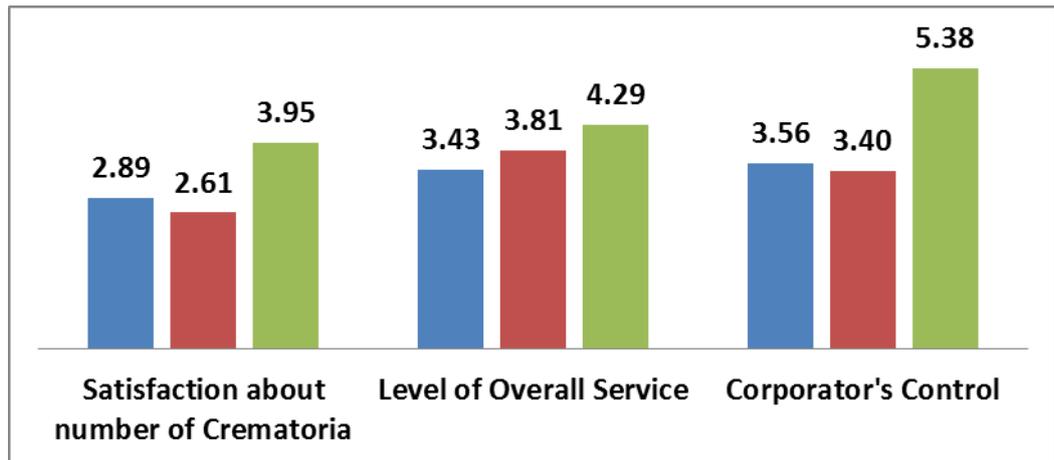
Figure 5: Perception about IT Services



e) Perception about Crematoria (Figure 6)

Indicators here are pointing that number of services available is far less than the demand for this service and also there is good scope for its improvements.

Figure 6: Perception about Crematoria



f) Perception about Public Parks (Figure 7)

In the perception of Municipal Corporators, generally there are no encroachments in public parks, overall accessibility is fair enough and so is the general overall status of parks. They are also of the opinion that they do exercise fairly reasonable level of control about this, and perhaps, as an aggregate, there may not be any room for further improvements.

Repetitive attitude of contentedness among Municipal Corporators seem to be emerging as a problem area.

g) Figure 8)

According to Municipal Corporators, level of unauthorised hawking around Municipal Markets is significantly low, and there is an average state of general status, cleanliness, accessibility etc. As usual, Municipal Corporators seem to be of the opinion that they have reasonable level of control over this state of affairs...!!

h) Perception about Street Light (Figure 9)

Compared to other civic services, street light part seems to be better streamlined and organized.

i) Overall Observations from Survey with Municipal Councilors

As a general observation, there appears to be a good scope for improving the efficacy and efficiency of all civic services, however, there is significantly low level of sensitiveness among Municipal Corporators for such needs.

Figure 7: Pinpointing the Problem Area about Public Parks

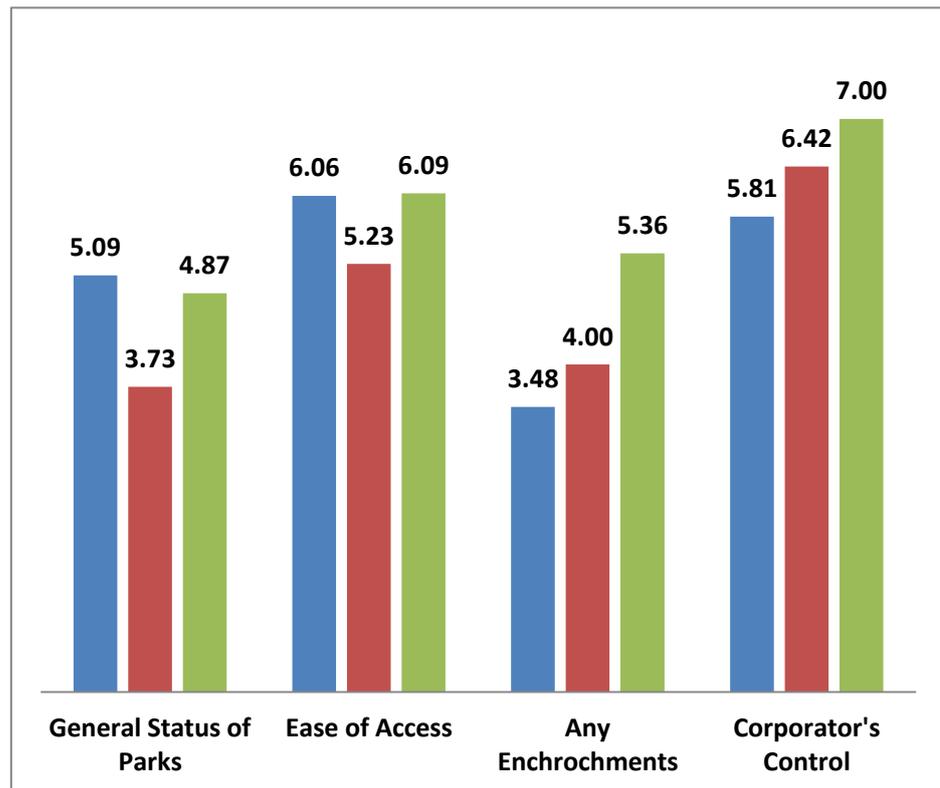


Figure 8: Perception about Municipal markets

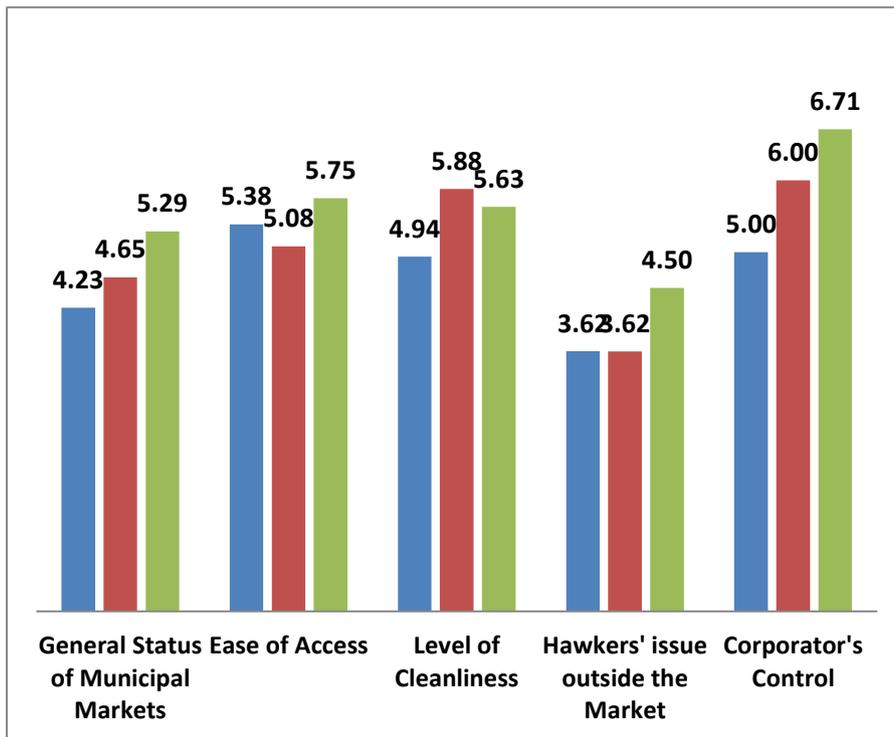
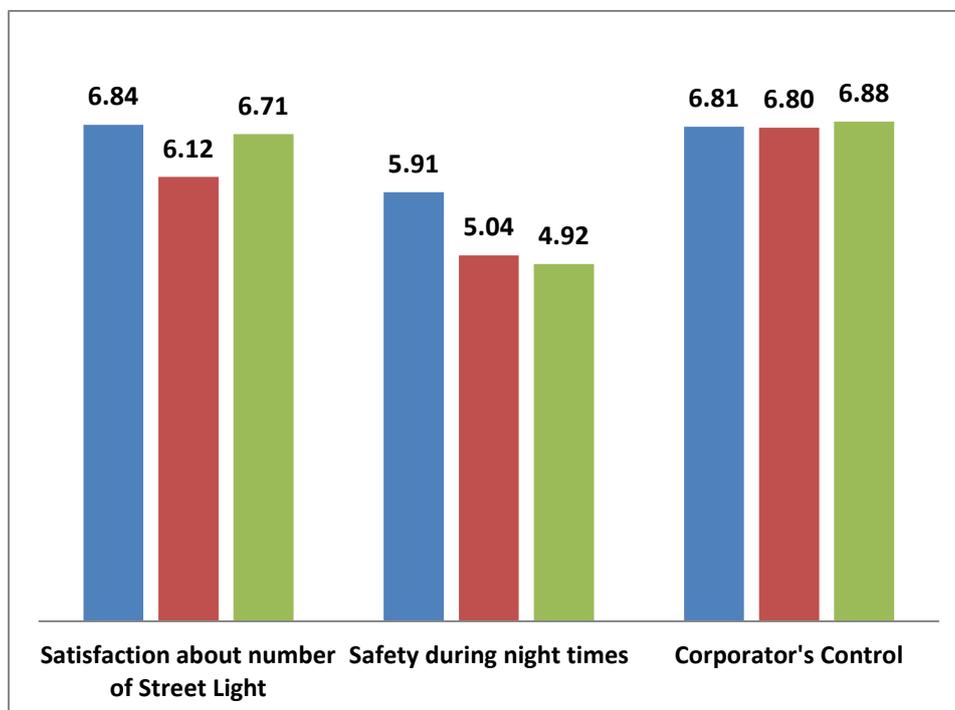


Figure 9: Perception about Street Lights



2.2.3. Results of Surveys Conducted with Citizens

a) Gap in Perspectives between Corporators and Citizens

A systematic random sample of 10% of wards from all three Municipal Corporations was taken, and a slightly modified questionnaire was administered by way of personal interviews with representatives of Citizen's Welfare Associations and Traders Associations from those wards, to collect the representative perspective from citizens about those services. A comparative analysis was conducted about indicators emerging from such survey, with that emerging from survey with Municipal Corporators, described in earlier sections.

There is a glaring gap between perspective of citizens and that by the Corporators. As an average, indicator values for any indicator, emerging from citizen's perspective is around 50% of the value emerging from perspective of Corporators. For example, if overall indicator about efficacy & efficiency in SWM services in South MCD emerging from survey with Municipal Corporators was around 5 on a scale of 10, same value, as emerging from survey with citizens were around 3.

Such gap is indicative of two things – on one hand, it reflects enhanced levels of expectations or growing levels of dissatisfaction about current situation, on the other, the gap itself also means that our Corporators are, perhaps, insensitive to their voters.

Above inferences are represented in a diagrammatic way, separately as per three Municipal Corporations at Figure 10, Figure 11 and

Figure 12 respectively.

Figure 10: South MCD

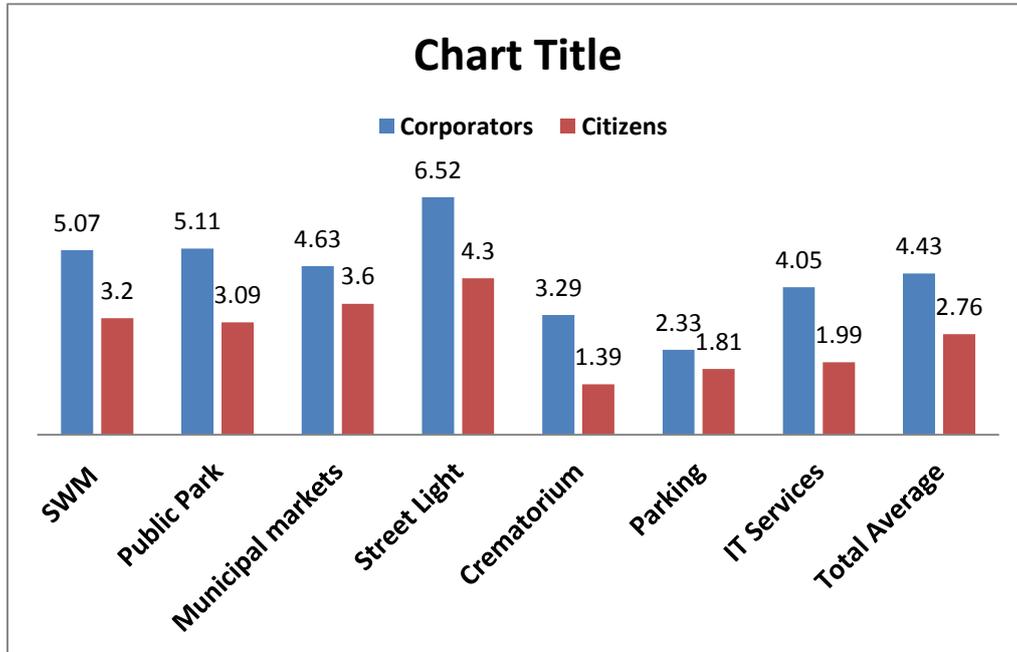


Figure 11: East MCD

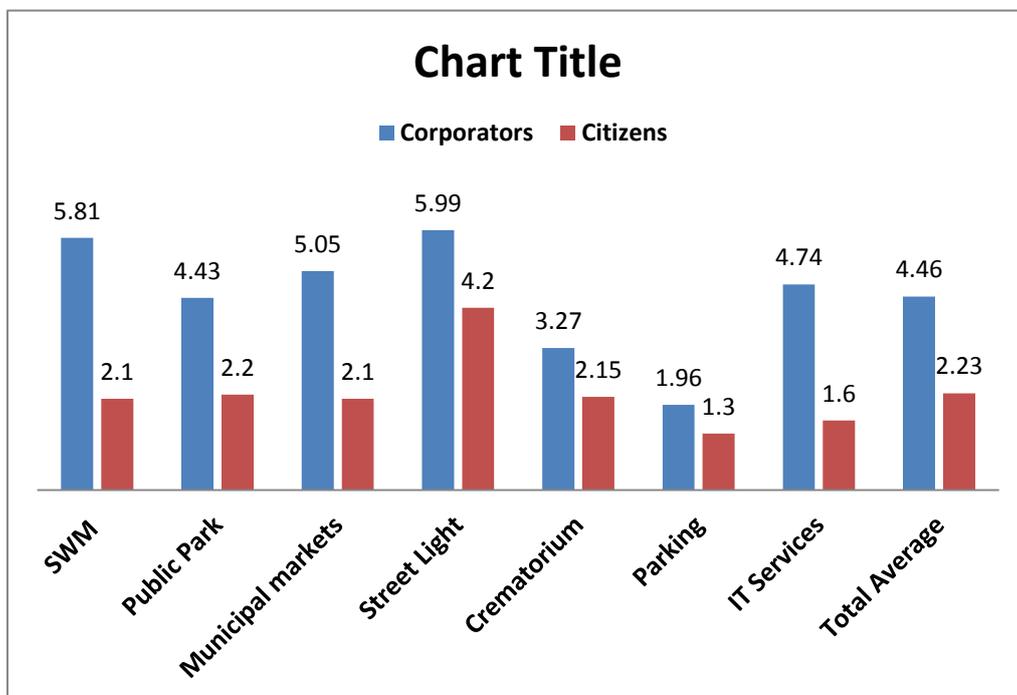
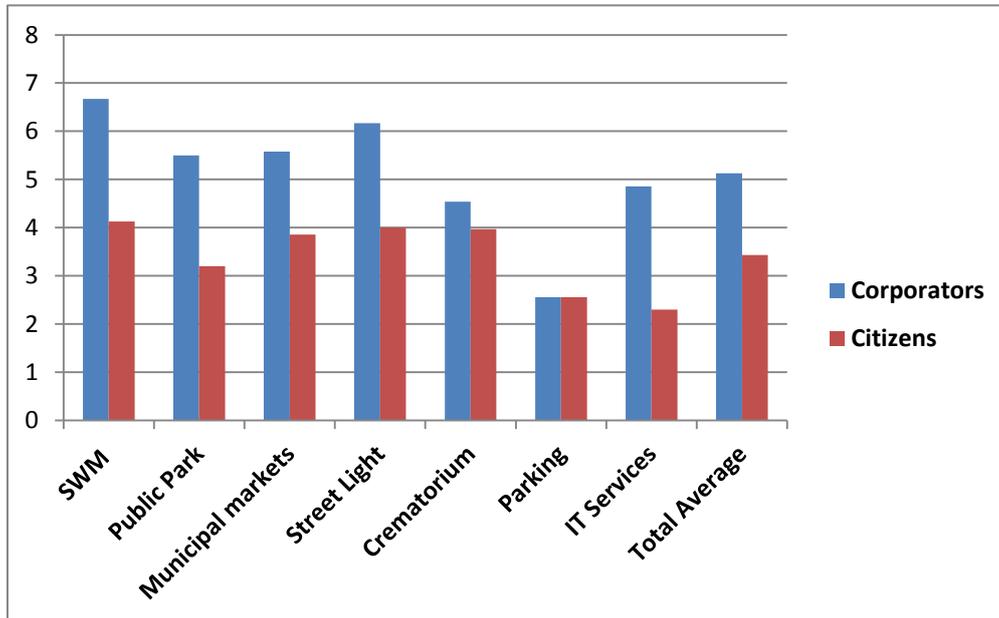


Figure 12: North MCD



b) Ground Reality

Field investigators engaged in conduct of survey mentioned above were also collecting photographs across all regions. There is a large collection of nearly 300 such photographs, which actually speak a lot more than any statistical figures. Few such photographs are given below.



2.2.4. Feedback Received from Private Operators

There are number of private operators working as contractors or otherwise, in provision of civic services, on behalf of Municipal Corporations. Randomly, interviews were conducted with few of them, to assess their views about governance in three Municipal Corporations. This was purely a qualitative survey and for obvious reasons, most of them wish to refrain from being on record about any such discussions. However, as a summarized feedback, it can be recorded here that private operators are of the impression that there is increase in level of corruption at administrative and political rulers, with an increased degree of uncertainty, making it difficult to do business with them. For this section of voters, by now, corruption is an accepted phenomenon; unrest is about uncertainty of gains.

2.2.5. Summary

a) General Observations

- It is quite clear that after the trifurcation of the MCD, there are fund shortage as well as disparity in incomes and expenditure flow
- More than 70-80% of the income usually goes in salaries.
- According to all three MCD, shortage of staff is big problem but in my opinion there unequal distribution of staff allocation is problem.
- Delhi government has taken up major control in its hand and it always becomes the reason of clash due to political tussle.
- Multi departmental process always creates problem, even councilors does not get any cooperation from the departments/officials to get their work done on time.
- New councilors requires depth training/orientations to understand the functioning of the MCD
- East Delhi has minimum resources and income avenues if compare it with south and north MCD
- As per the feedback received from the leaders, councilors, officials, the Sanitation is the top most concerned area followed by parking issues.

b) SWM

- In sanitation, PWD and MCD has big role to play but interdepartmental conflict creates problematic situation.
- Garbage segregation at source is the most challenge area. There is need to adopt a policy at central level to initiate some action and result oriented programs.
- Unauthorized colonies/ J J Cluster are another challenge area where MCD has limited resources and services. MCD cannot spend much amount in these areas to improve the SWM and Sanitation conditions.

- Auto tipper services has been playing major role to improve the SWM conditions and these should be increased as it is successful.
- Sanitary landfill sites – due to non availability of land, already filled land like Bhalswa and okhla, now new areas needed to use as sanitary landfill sites but there is no space remained in NCR. SO now there is time to go and use more advanced technology in this area.
- We need to promote garbage segregation from the source area to save transportation cost as well as only sending the quality garbage to treatment plant to keep them working uninterrupted.
- MCD has been taking initiative to generate energy from waste, also trying effort to recycle the garbage as maximum as possible but all these efforts are not much enough. There is need to initiate some big project by using advance technology.

c) Parking

- Parking is full of in the hand s of Parking Mafia.
- There is nexus between parking mafia and the political leaders
- Irregular parking and illegal parking is major problem of the city
- There is need to adopt of new mega technology to create parking space at major locations
- Parking fee is quite low that should be increased in view of parking increased requirements/facilities
- Parking in residential areas is another complex where no policy has been adopted till date.
- Parking should be given to NGO's / Women's group like agencies to avail better model of services
- Need to identify and demark the parking locations
- Handheld machine should be used to generate parking slips
- Static and dynamic vehicles should be treated separately and charged accordingly

d) IT Services

- In present this system is completely down
- Use of this technology needs more public sensitization
- MCD should give focus on it so that local publics can get work done without visiting any MCD office
- Getting any certificate, redressed of any complaint or any new information, all should be done or happen from the home only but it is surprise that city like Delhi is still far behind in this area.

e) Crematoria

- The situation of crematoria and funeral places is okay
- Maximum crematoria and funeral places are maintained by the local residents/NGO's

f) Parks & Playgrounds

- Heavy density of population does not leave any space for the availability of playground and parks in sufficient numbers.
- Irrigation is major problem to keep the parks green and maintained due to lack of availability of water
- Encroachment inside and outside the park/playgrounds is another problem in which more attention should be given as its matter of political will
- It is also been found that parks and play grounds are even unsafe places for women and children as many times illegal activities are being taken place there by the anti-social elements
- Beautification of the parks needs public cooperation

g) Municipal Markets

- There is need to get more cooperation from the market associations and shopkeepers
- Level of awareness is poor among the market runners and usually do not cooperate to keep the market area clean

h) Street Lights

- Street light situation is not much poor but there is corruption in its mechanism
- There should be use of solar panels or alternative energy to save energy and stop the misuse of electricity
- Monitoring system of street lights system needs more attention and systematic changes

2.2.6. Closing Remarks about Efficacy & Efficiency of Provision of Civic Services

There is clearly lot of scope available for improvement of services. While detailed performance improvement plans specific to each sector can be worked out by experts in each sector, the common starting point has to be an attempt at party level, to change attitude of out sitting Corporators to bring in meaningful changes. An initiative in this direction would be an immediate action point. Secondly, there has to be a complimentary public relationship exercise, to widely influence public opinion about implementation of performance improvement plan.

Chapter III: Best Practices from Other Cities

3.1. Introduction

Documentation of best practices in different sectors, from many cities had been an activity performed for many years by number of organizations, institutions & governments. There is wide literature available on this. Under the recent JnNURM scheme too there was an activity called "Peer Experience and Reflective Learning" (PEARL), which was basically for scientifically documenting the best practices in different cities, which are replicable. There are five published volumes under PEARL so far, covering nearly 100 such recent best practices.

Some best practices, which can be easily replicated or are implementable in the context of three Municipal Corporations under consideration, are being narrated below. However, it should be noted that just providing description of such initiatives is never sufficient to replicate such practices. What is crucial is the political will and administrative skill more than having such information available.

3.2. Solid Waste Management

3.2.1. *Municipal Waste to Wealth*

When you visit the beautiful green grounds covering an area close to 48 acres in Gorai, in the western suburbs of Mumbai, by the side of a creek overlooking Asia's largest pagoda, it is hard to imagine that this picturesque location was until recently home to approximately 2.3 million tonnes of garbage in an open dump with an average height of 26 metres, about as high as a five-storey building. The wide green expanse and the revived mangroves have brought about a marked improvement in the quality of life of the residents in the surrounding neighbourhoods.

Before we tell you the Gorai story of rags to riches, let us first get a sense of the urban waste challenge in India. Urban India produces an average of 1,20,000 metric tonnes of garbage daily. With a population of over 12 million, Mumbai alone generates garbage of 6,500 tonnes per day.

Municipalities in India spend between 10 to 50 per cent of their budget on solid waste management (SWM), but most of this is consumed in the salaries of sanitation workers and transport of waste, while a minuscule proportion is spent on its scientific disposal. The abysmal state of affairs with regard to the collection and transport of waste is all too well known. Less understood are the implications of the neglect of waste treatment and disposal, as the garbage lies untreated and unprocessed in open dumpsites, and its grave consequences for public health and the environment.

Not very long ago, nearly 1200 tonnes of garbage was being dumped daily at the open dumping grounds in Gorai. The site had been used for this purpose since 1972, and had become a huge public health hazard. The foul odour emanating from the dump created a situation where residents in the surrounding neighbourhoods could not open their windows. The toxic leachate (the liquid that drains through the garbage) from the waste had led to the degeneration of mangroves in the creek that runs parallel to the dumpsite. A court directive in March 2007 led to the shutting down of the dumpsite.

Thanks to an innovative public-private partnership led by the Municipal Corporation of Greater Mumbai (MCGM), the scientific closure of the dumpsite at Gorai has transformed this waste, accumulated over several decades, into wealth. Sanitary landfills are large and deep underground pits into which the residual waste is put in between scientifically layered geo-textile material and high density polyethylene sheets to ensure complete and airtight closure. The onsite conversion of methane gas is carried out using flaring systems, and the area is developed so as to provide a green cover over the dumpsite.

MCGM earns carbon credits for the capture and combustion of methane (landfill gas) from Gorai, and the transaction is one of the largest carbon advance transactions in the Clean Development Mechanism (CDM). A tonne of methane is equivalent to 21 tonnes of carbon in its global warming potential. The leachate is collected and transported off-site to Versova where the municipal corporation operates a sewerage treatment plant. Gorai is the first dumpsite closure project in India to be registered at the United Nations Framework Convention on Climate Change (UNFCCC). MCGM has already received a carbon advance of Rs. 25 crore against future delivery of carbon credits from the Asian Development Bank, and the total carbon credit earnings are expected to be about Rs 72 crore (higher than the total capital cost of the project). It is estimated to reduce greenhouse gases by 1.2 million tonnes of carbon dioxide over a 10 year crediting period. MCGM is in discussions with a leading energy company to set up a 2 MW power plant at the site to convert the methane to energy, further enhancing the revenue capability of the project.

At Gorai, the project has been completed in 24 months and commissioned in February, 2010 at a total capital cost of Rs 50 crore. After competitive bidding, IL&FS was selected as the project developer and environmental consultants to MCGM and the contract for construction was awarded to a consortium led by United Phosphorus Limited and M/s Van Der Weil Storages BV for a period of 15 years. The operations and maintenance of the site will be done by the consortium for a period of 15 years at an agreed cost of Rs. 12 crore.

The project required clearances from multiple authorities of the Government of India and the government of Maharashtra, and has been developed in accordance with the Municipal Solid Waste Rules 2000, which make it mandatory for Urban Local Bodies (ULBs) to collect, transport and process/treat garbage and dispose of the residual in sanitary landfills. The rules have typically been ignored by ULBs in India.

Admittedly, solid waste management in urban India is a much larger challenge than attending to the menace of an over-piled dumpsite, no matter how huge. But while the Gorai scientific closure addresses only the backlog in solid waste management, it sets a great example for what is possible. Gorai is a part of Mumbai's overall Integrated Waste Management Strategy which involves a comprehensive waste disposal plan, developed on a public-private partnership framework as a set of independent but well synchronised projects that covers multiple projects including large landfills at Kanjur (4000 tonnes per day), Deonar (2000 tonnes per day) and Mulund (500 tonnes per day).

Besides carbon credits, the integrated strategy includes projects which generate revenue from sources such as compost, an organic manure prepared by microbial decomposition of organic matter under aerobic conditions; biogas from organic waste which can be used to power electricity generators, construction debris waste which can be used in pavement blocks, etc. While no specific plan was devised for the 150 or so rag-pickers in Gorai, MCGM has built in a social rehabilitation program for the new scientific landfill sites at Kanjur, Deonar and Mulund, with the possibility of using their skills at the material recovery facility.

It was good to hear from R.A. Rajeev, the additional municipal commissioner who oversees the solid waste management for Mumbai, that for the next 25 years, the city does not have to worry about its solid waste management. Mumbai has shown the way. Other cities must follow.

(This is a Case Study of Gorai by Isher Judge Ahluwalia in Indian Express)

3.2.2. *Clean the City, Use the Garbage*

Garbage in open dumpsites on the streets of Indian cities is a common sight and a huge health hazard. The solution has not only to do with "solid waste management" but a lot to do with residents understanding the value of keeping public places clean and its link with health. Hygiene, like charity, begins at home. The Rajkot Municipal Corporation (RMC) has done it. They have launched a dual campaign to raise public awareness of the menace as well as improve the coverage and quality of their service to collect solid waste from the households and manage its scientific disposal through public-private partnership. This along with building "pay and use" toilets in different parts of the city, has made Rajkot a clean city, earning it a place among the 10 cleanest cities in the country. The corporation received Rs 8.7 crore for solid

waste management from the Jawaharlal Nehru National Urban Renewal Mission (JNNURM). Of this, Rs 5 crore was used in the purchase of equipment and vehicles for collection and transportation of solid waste, eg, wheelbarrows, cycle rickshaws, bins, hydraulic dumpers and JCBs (excavators). Until three years ago, only 25 per cent of the households had their garbage collected from their homes by the municipal corporation. Today, close to 90 per cent are covered by hiring 1000 women from Sakhi Mandals (self-help groups) who are paid Rs 10 per household per month for a three-hour service (7 am to 10 am) of door-to-door collection using wheelbarrows with separate compartments for dry and wet waste. Dressed in their uniform with whistles hanging round their necks, the Sakhis looked every bit their part. They are free to sell any recyclable material from the waste to supplement their income, which adds up to about Rs 3,500 per month. The rest of the garbage is delivered by them in covered bins at specified locations in the city. The households are not being charged for the service to help them form the habit of segregating dry and wet waste before collection. The corporation set up two transfer stations in 2007 from where the waste is transported to the disposal site (22 kms away from the city) by two private contractors who were awarded the contract through competitive bids. This ended the practice of dumping at two open sites, each about 10 kms away from the city. The waste is taken from covered bins to the transfer stations using municipal staff and private contractors. No litter on streets/public places and no use of plastic bags were the other themes of the clean city campaign. RMC has gifted 6,000 dustbins to shopkeepers and 4,500 bins have been located on the main roads for spot collection. Mobile vans ply the city throughout the day for residual collection. Since April 2008, there is also a penalty for littering in public places and for using plastic bags, and also for not segregating garbage. This has yielded Rs 50 lakh to the municipal corporation, as of November 2010. Under a “one day one ward campaign”, concerned officers from all departments of the corporation visit the same ward once every 23 days (the city has 23 wards) to review and fix any interdepartmental problem of coordination. The municipal commissioner, Dr Dinesh Brahmhatt personally oversees the cleanliness drive in the city. On certain days of the month, school students are given the authority to determine the “dand” (penalty) for dirtying the city. In the vegetable market at the newly set up hawkers’ zone, the customers were proudly showing off their colourful fabric bags and declaring how they were shunning plastic bags. The floor of the open market certainly looked very clean. The hawkers were taken off the streets and located in a four-walled open plot for a monthly payment of Rs 25 per thela (cart). The hawkers were relieved not to have to pay bribes to operate from the streets and pavements. Attached to the open market is a “pay and use” toilet for public use. Typically, the charge was 50 paise and it has now been raised to Re 1; the toilets are free for women and children. In all, 150 “pay and use” toilets have been constructed, of which nearly 90 are in slums, with special arrangements for children.



The corporation is also building seven “high-end” toilets on a BOT basis, charging in the range of Rs 2 to Rs 5 for each use, and generating revenue through sale of advertisement rights. Processing and disposal of solid waste is being handled through a public-private partnership with Hanjer Biotech Energies Pvt. Ltd. Hanjer was awarded a Build-Operate-Own contract through a negotiated bid in 2003 to set up a waste processing plant, the first of its kind in the country. The corporation gave 30 acres of waste-land on lease at Re 1 per square metre to Hanjer in Nakarawadi village, 22 kms away from the city. It has agreed to deliver 300 metric tonnes of garbage to the plant every day and also committed to supply upto two lakh litres of water per day and electricity for the plant’s operations. Construction started in June 2005 and the plant was commissioned in April 2006. Hanjer makes its money by processing the waste. The segregation at the plant into dry, waste and inert materials is largely automated. Daily, Hanjer produces about 40 tons of organic compost, 70 tonnes of green or slow burning coal and 2.5 tonnes of plastic lumps from the 300 metric tons of waste. The wet waste (20-30 per cent of the total) is used for making organic compost, which is sold in the domestic market as well as exported to Oman and Pakistan. The dry waste (30-40 per cent of the total) is used for making green coal, which is sold to nearby ceramic factories and also to the cement industry. Plastic lumps made from plastic waste are sold for manufacturing irrigation pipes. The recyclable waste (about 3 to 5 per cent of the total) is segregated and also sold. A scientific landfill site adjacent to the waste processing plant is under construction by Hanjer and is being paid for by the RMC through funds from JNNURM. The site is expected to be completed by March 2011. It includes development of bunds, layers of geo-textile and clay, and lechate drains. Only about 10-15 per cent of the total waste in the form of inert material will go into the landfill site. RMC shall pay Hanjer Rs 220 per tonne of inert waste going into the site, subject to a maximum of 20 per cent of the total waste, in line with guidelines under the Municipal Solid Waste Rules 2000. The corporation has paid an advance installment of Rs 30 lakh to Hanjer, which will be adjusted against the filling of the site with the inert material, once the site is functional beginning March, 2011. Indeed the system of waste disposal can be improved. If lease rental could be determined through open competitive bidding, then it should be possible to cover situations even with negative lease rental if the revenue stream does not cover the costs. Rajkot has shown that remaining clean is a win-win situation.

(This is a Case Study of Rajkot by Isher Judge Ahluwalia in Indian Express)

3.3. Parking

3.3.1. Automated Parking System in Bangalore City

a) Previous Status

Brigade Road is a shopper's paradise in Bangalore. Heavy traffic volumes on this road caused frequent traffic jams. It was therefore decided to remove parking on the Road. But the shop owners on Brigade Road felt that such a move would adversely affect their business. On the other hand, it was difficult for the Bruhat Bangalore Mahanagar Palike (BBMP) to manage the manual parking system. All these problems led to a novel initiative, which is today been replicated in other shopping centers of the city. In the earlier system, BBMP auctioned the rights to collect parking fees to private individuals. This was manually handled; hence there was no record of the number of vehicles or the money collected. Further, there was no time limit on parking. The situation of traffic jams on Brigade Road and frequent complaints from customers called for an alternative approach.

b) New Approach

BBMP in association with the Brigade Shops Establishments Association (BSEA) established automated parking as a sustainable measure to resolve the issue. BBMP entered into a Memorandum of Understanding (MoU) with BSEA for the pay-and-park scheme on the Road. Duration of the partnership was for an initial period of two years, renewable further for a period of five years. A standard MoU with the Build-Operate-Transfer (BOT) partner was drawn up along with an amortization schedule for the period.

c) Implementation Strategies

Shopkeepers of Brigade Road formed the association called BSEA when faced with the threat of removal of parking on the Road. BSEA had undertaken surveillance to determine parking patterns in view of the location of offices, cinemas and restaurants and to assess the nature of parking users.

BSEA came forward to import eight parking meters from "Schlumberger Sema" in France and the contract for installation and maintenance was given to "Smart Parking International Pvt. Ltd." from Malaysia in October 2003. The machine functions on solar energy and the instructions are in English. Strategic locations for installing these meters were decided based on number of visitors.

How the parking meter works?

- Park the car in the bay, insert money into the meter depending on the time limit of the shopper and obtain a parking ticket.

- Punch in the license number, data, starting time and ending time.
- Leave the ticket inside the car on the windscreen.
- If the parking time exceeds two hours or if the ticket is not placed in the car, traffic police will tow away the vehicle and a fine of Rs. 500 will be levied. The meters installed were re-configured to accept Indian coins and instructions in English. Initially guards were employed at each parking meter to assist customers. The parking system can be monitored from a control room. The charges levied in the Road for four wheeler parking are as follows:
 - Rs. 5 for half an hour.
 - Rs. 10 for an hour.
 - Rs. 15 for one and a half hour.
 - Rs. 20 for two hours (maximum limit).

d) Project Finance

The overall project cost amounted to Rs. 38 lakhs. The required fund was raised by BSEA through innovative ways of conducting various entertainment shows. There is also a contribution from each member of the Association in the form of an enrolment fee of Rs. 1000 and a yearly membership fee of Rs. 1200.

e) Achievements / Results

There are a total of nearly 85 parking bays, accommodating approximately 1623 cars in a day on rotation. Revenue generated is three times that of the old system. Fifty percent of the revenue generated goes to BBMP as its share (approx. Rs. 1.5 lakhs per month) and the balance is used by the BSEA for maintenance of the parking meters, paying the guards, pavement maintenance, etc.

f) Sustainability

The automated parking system is technically sustainable as the system is mechanized thus preventing corruption. It maintains data on the number of vehicles versus the amount collected and the duration of time for which the vehicle was parked. The initiative is financially sustainable, even though the capital investment is high. The daily collection, which is done based on the parking rates, which has proven to be profitable. For its long – term sustainability, regular maintenance at least once in three months is required. The flexibility of the parking meter machine is that it is solar operated, thus saving electrical energy.

g) Lessons learned

Introduction of technological tools in governance enables ULBs to keep pace with changing times and in providing quick solutions to various civic problems. A similar initiative can also be extended for two-wheeler parking. A key learning that emerges is that PPP mode can be forged if there is a realization that there is much to be gained from such partnership. While proposing parking system, there is a need for adequate survey for traffic inflow and outflow.

h) Replicability

New parking system implemented at the Brigade Road has been a role model for similar initiatives. This project is readily applicable and can be used in any city/town where unmanageable parking has been an issue. The flexibility of the project allows customizing the rates for parking (both for four and two wheelers) depending on the activities and the profile of customers who visit the street.

3.4. IT Services

3.4.1. *Using IT to Deliver Public Services*

Standing in long lines to pay our bills at a government department or agency and being at the receiving end of the apathy of a public servant across the desk is a familiar experience to most city dwellers. But there is good news from some cities on how e-governance or use of IT in city administration is making a difference to the delivery of public services in urban India.

Andhra Pradesh was the first to use e-governance for better administration. Following a pilot launched in 1999 in the twin cities of Hyderabad and Secunderabad, a much larger scale eSeva was launched in August 2001. The centres of eSeva provide over 150 services, for example, online facilities for birth and death certificates, passport application submission, voter card issue, bus pass issue, payment of electricity bills, water bills, motor vehicle tax, house tax, telephone bills, insurance premium and money transfer — all at one location.

There are 312 such centres functioning from 8 am to 8 pm on working days and 9 am to 1 pm on holidays. Every municipal town in the state has at least one eSeva centre. SMS alerts to citizens and fines on departments that cause delays are means through which service delivery standards are being improved further.

The efficiency of e-governance is hugely enhanced by the fact that the back end computerisation is as high as 80 per cent in Hyderabad — the highest of

any city in India. This means that the servers of the different government departments and the private service centres are connected with the portal of the state government. In the absence of such back-end connectivity, the missing links have to be bridged by service process re-engineering, including some manual stepping in.

The service centres work on a public private partnership (PPP) framework. The Andhra government provides building space and furniture, while the private partner, as service provider, is responsible for manpower, front-end IT infrastructure, software, maintenance of hardware and general office expenses.

The service provider charges for services per transaction and the exact charges are discovered through a bidding process when the contract is awarded. At present, charges range from Rs 2 to Rs 5 per transaction for a service from G2C, and from Rs 5 to Rs 8 for a service from B2C. The private partner gets 80 per cent of the service charge in the greater Hyderabad area, and 90 per cent in all the other districts. Assuming that the public partner gets Re 1 per transaction, on average, this amounts to a monthly income of Rs 39 lakh for the government, since 130,000 transactions are recorded every day.

A World Bank study shows a marked improvement in the perception of the quality of service delivered through eSeva: a score of 4.66 (close to very good) compared with 3.39 (slightly better than satisfactory) in the pre-eSeva regime.

Bangalore has a similar programme of e-governance, Bangalore One. A one-stop shop with 65 service centres, Bangalore One is in its sixth year of operations, serving 1.1 million citizens every month. More than 30 centres are open 24x7x365.

Bangalore One is also a PPP between the Department of e-Governance, government of Karnataka and CMS Computers Ltd. Fee to the vendor is structured in a manner which provides him with an incentive to increase the number of transactions. The fee ranges from as little as Rs 2 for booking tickets to Rs 250 for the online filing of income tax returns (which is still less than the Rs 300 charged by the Income Tax department).

A recent evaluation by IIM (Bangalore) of Bangalore One reported a 97.5 per cent reduction in corruption. A significant increase in collections for traffic fines also demonstrated the willingness of citizens to visit and pay at a

customer service centre with better ambience rather than at a court or a police station.

Bangalore has put technology to excellent use in the collection of property taxes by using Geographic Information System (GIS) mapping. As a result, Bangalore's property tax collection shot up from Rs 440 crore in 2007-08 to Rs 780 crore in 2008-09 and further to Rs 1,000 crore in 2009-10.

Ahmedabad and Surat are also forging ahead with e-governance for better service delivery. Ahmedabad Municipal Corporation's city civic centres have won the award for International Best Practices 2004 at Melbourne for e-governance. Launched in September 2002, the number of transactions has increased five times. Coming on the heels of the property tax reform of 2001, a huge improvement in the convenience of paying property taxes at the city civic centres, has resulted in a sharp increase in property tax collection from 38 per cent of the demand in 2002 to 80 per cent of the demand in 2008. Property tax and vehicle tax payments can be made in 10 minutes. Birth and death certificates can be procured in two days. More generally, complaints filed online are directly received by the Commissioner and are automatically directed to the concerned officers. The status is known immediately and attended to within 24 hours in a majority of the cases.

Surat, which won the national e-governance award for 2007-08, runs 16 city civic centres. From the date of opening the first civic centre in May 2003 till date, more than 73 lakh transactions have taken place. The procurement of goods and services was brought on to e-tender system in 2007 and about 873 e-tenders have been successfully floated, processed and awarded till date. A special touch screen service is available at 11 locations at public places in English and Gujarati at zero cost to users not familiar with computers. In the short span of over a year, these kiosks have registered over 36,000 hits.

The capital city of Delhi was late in joining the train but did so in February, 2009 with Jeevan, a tripartite partnership of the Delhi Administration, State Bank of India and 3i InfoTech to bring e-governance to the delivery of public services. In just over a year, 369 out of a total of planned 520 customer service centres have come up, offering over 100 services including tax payments, utility bill payments, marriage registration, employment exchange, air and rail tickets, movie tickets and insurance. While 95 centres have been set up by the Delhi government, the remaining 274 have been given on a franchise model by 3i InfoTech. The centres are open from 8 am

to 8 pm on all days including Sundays. The emphasis is on G2C services and the high demand for e-governance is reflected in 15 lakh transactions that have been conducted in the course of a year and a half.

These success stories have led the Government of India to initiate a nationwide e-district project under the National e-governance Plan. The project aims to e-enable the delivery of high volume public services by creating a robust and scalable infrastructure. It is then for the local governments with the help of State Data Centres and State Wide Area Networks to tap into this e-infrastructure and walk the last mile.

(This is a Case Studies of Different Cities by Isher Judge Ahluwalia in Indian Express)

3.4.2. Delivering Services the Kalyan – Dombivli Way

For over a decade now, we have taken pride in the great performance of India's IT sector in the global market for software development and also in the Indian corporate space. But the benefit IT can bring in delivering a variety of public services, what is often called e-governance, has been less in focus in India. The potential from this activity is enormous and it is only just beginning to be realised.

An outstanding example of what IT can do to deliver public services in Indian cities is provided by the e-governance project of the Kalyan-Dombivli Municipal Corporation (KDMC) in Thane district in Maharashtra. The project was conceived in 1999, started implementation in 2002, and is now being replicated across the 231 urban local bodies of Maharashtra. Its lessons are also being incorporated in the mission mode projects of the National e-Governance Action Plan which was launched in 2003.

KDMC covers an area of 67 square kilometres in the twin cities of Kalyan and Dombivli, about 54 km outside Mumbai. Like most municipalities, it provides services such as issuing birth and death certificates, granting permissions for building, licences for trading, water connections, and collecting payments for property tax and water. There are actually over 100 such services! Citizens interact with the municipal authorities through enquiries, registration, submitting forms, paying bills, and placing complaints. Prior to 2002, the state of service delivery at Kalyan and Dombivli was no different from any other city in India. Sometimes the residents did not know whether to go to the municipal office at Kalyan or at Dombivli to get a specific job done.

Today, the services offered by KDMC are listed in a citizen charter. Six citizen facilitation centres (CFCs) have been set up by the corporation to offer services over the counter, and they are connected online with a central server. Simplified, standardised and user-friendly forms are available at the CFCs and can also be downloaded from the web. A nominal fee is charged for some of the services.

My visits to two CFCs at Kalyan were a very pleasant experience. The centres are aesthetically designed, very efficiently served by the employees of the corporation (specially trained for the job), and bustling with activity. The use of computers with twin terminals, one facing the customer and the other facing the service provider, and both showing the result of entries on the keyboard, carries transparency a step forward.

I spoke to a happy father (with an authentic document from the hospital in hand) who was collecting the birth certificate of his daughter born two days ago. It took him 10 minutes to get the birth certificate and since he was registering within 21 days, there was no fee! There was also a very contented man in his early 30s paying property tax, a wad of notes in hand, smiling as he put in his registration number in the computer and seeing the correct tax demand emerge on the terminal. The fee for transfer of property is related to the ratable value of the property. Property tax and water bills can be paid online through an arrangement with some established commercial banks. These are revenue-generating propositions for KDMC.

All departmental software modules are integrated with each other and with accounts. The back-end integration of all the departments of KDMC ensures that an enquiry, submission, and/or complaint are delivered immediately at the concerned officer's desk. Once a date is committed to the citizen, each application is watched at all levels and a colour code is used to signal "approaching time out." The users can monitor the progress of their service application at every stage by going online by putting in their registration number.

The time taken for property assessment has come down from an average of 110 days before computerisation to 21 days, and for getting new water connections from over two months to 15 days. This is pretty much the story across the board as the complaint and redressal management system makes daily reports available online for all to see. E-tendering has been another major gain of the new system.

In looking for a private partner, pre-feasibility reports were invited by KDMC from four IT companies from among those empanelled by the government

of Maharashtra, and ABM Knowledgeware was selected as the total solution provider for design, development and implementation of the project for the first five years, renewable at the end of the term. The solution involved revisiting and IT-enabling every facet of the corporation's working.

An expert committee with persons drawn from institutions such as IIT and TIFR was set up at the outset for guidance during the life cycle of the project. The implementation was overseen by a steering committee of heads of department under the chairmanship of the municipal commissioner. Ramnath Sonawane, head of e-governance for three years from the inception of the project to its commissioning in 2002, is now back as municipal commissioner at KDMC. As he put it, "The biggest challenge in implementation was to change the mindset of the officers. Shree Kant Singh, then municipal commissioner played a crucial leadership role in bringing this about." Sonawane further observed that "every project has to undergo three stages — ridicule, criticism and acceptance — and the trick is to persevere."

The e-governance project at KDMC worked methodically to understand the then prevailing manual business processes of the old system, and reengineered over 400 such processes with a view to aligning the same with the broader process of administrative reform. This reengineering was crucial. Employees had to learn to do things differently because IT enabled them to improve efficiency. Training helped them to make the transition from working in a backroom paper-based corporation to a proactive electronic corporation.

Financial sustainability of the e-governance project is now established. The corporation made an initial total expenditure (investment included) of Rs 5.48 crore. The annual recurring cost, on average, has been Rs 40 lakh only. These costs have been fully recovered through increases in property tax collections and increased revenues from user-charge collections at CFCs. KDMC has also received Rs 2 crore from the state government for its intellectual property.

Among the many accolades, two awards won by KDMC deserve special mention: the Commonwealth Association for Public Administration and Management (CAPAM) Award in 2004 and the National Award for e-governance from the Government of India in 2007.

The government of Maharashtra has decided to roll out the e-Municipality solution across the 231 ULBs in the state. Manu Srivastava, the principal secretary for urban development, has played a significant role in demanding

and ensuring that the roll-out be done in its true spirit. KDMC has been appointed the project management consultant and ABM Knowledgeware has been assigned the task of modifying/adapting the software package to make it work for the state-wide roll-out. If the cities of Maharashtra can do this, why not others?

(This is a Case Study by Isher Judge Ahluwalia in Indian Express)

3.4.3. SMS and Web-Based Complaint Monitoring System at Pimpri – Chinchwad Municipal Corporation

a) Previous Situation

The city of Pimpri Chinchwad is situated towards the northwest of Pune and 160 km from Mumbai, the capital city of Maharashtra. It is predominantly an industrial area, which has developed chiefly during the last four decades. The city has an area of 171 sq. km with an estimated population of over 12.5 lakhs.

With rapid population growth, the city's service levels have been severely strained. This pressure is expected to intensify, since the population of Pimpri Chinchwad is expected to grow at a high rate in the subsequent three decades due to the all round economic development of the Pune region. Accordingly, the population of the city is estimated to reach 15.07 lakhs and 21.50 lakhs by 2011 and 2021 respectively. To service this increased population efficiently, Pimpri Chinchwad Municipal Corporation (PCMC) has taken steps towards implementing various urban reforms and e-governance being one of the prime focus areas.

b) The Reform

PCMC is having special section to accept citizen's complaints at Customer Facilitation Centre (CFC). People have to submit their complaints in written format at the desk and a reference no. will be given for next follow- ups. Citizens can also register a complaint on Municipal Corporations web site www.pcmcindia.gov.in.

In the first process citizen have to come to the municipal Corporations Head office or any of the ward office located at various corner of the city and in second process customer should have some knowledge and availability of Internet connection.

These limitations of access reduce people's interest from the process. So PCMC come up with a latest solution named Short Message Service (SMS) based grievance redressal system. The core advantage of the system is the penetration of Mobile phones. As mentioned the penetration of mobile device is very high than any other communication device. The citizens have to write a SMS about his complaint to Municipal Corporation. The SMS is immediately been added in database. The cut-off time of daily report is 4.00pm. A print- out of all received SMS complaint been taken by CFC department. The report is submitted to Hon'ble Commissioner, a scrutiny of every complaint been done at their end and it will instruct to the operator to launch final complaints to the system.

c) Implementation Strategies

This is a web base application developed in PHP and My-SQL is used as back-end. An administrator login is allowed to launch complaint. The database of application contains mobile no. and email ids of all departments and their respective heads. Administrators have to select department, a name, mobile number and email ID appears automatically from the database. As soon as administrator submits the complaint an SMS as well as email is immediately forwarded to his details with a unique complaint number.

An administrator can launch many complaints in a day. An admin menu can search / print complaints by the unique complaint numbers. Different login IDs are used for different departments to view the unsolved complaints and to know the attended complaints.

A report section of application helps administrator to view solved as well as unsolved complaints. A report of pending complaints is available on single click. Administrator can view time taken to solve particular complaint.

The civic authorities classify the complaints as either simple or complex. Simple complaints would be those which can be solved in a few days, like potholes, choked drainages, and so on. The complex ones are those that require a longer time for redressal. SMSs can be sent to the mobile phone number. Citizens should include their name and address in their text message.

There are various departments and committees for looking after the complaints such as SMS committee. To work the process smoothly

the corporations have formed the committee to keep close watch on the complete procedure. Committee conducts meeting twice in a month and concentrate on pending complaints.

d) Achievements/ Results

PCMC launched the SMS complaint service on a trial basis on 20th March 2009. However, it is very early to assess the performance of the system but till date it is proving to be a successful reform initiative.

e) Replicability

It is good to see that the municipal authorities are taking action that is helpful to citizens, and one hopes that other municipal corporations also adopt such practices.

3.5. Street Lights

3.5.1. PPP for Street Lighting and Energy Conservation at Bagaluru

Bangalore has involved a Private Energy Service Company to introduce advanced technologies for energy management in street lightening system. Street lighting system in towns and cities has a potential to reduce power consumption through the use of advanced technologies for energy management. Energy efficiency policy is just one element of an integrated response to climate change and other environmental threats at regional and global levels.

a) Previous Status

The general problems faced by Municipalities in Karnataka in the street lighting infrastructure were as follows:

- Though energy meters were installed at most of the circuits, monthly energy bills were not made as per the tariff, based on actual meter readings. This led to erroneous, inflated or deflated billing. On the other hand, energy bills for non-metered circuits were based on the connected load of the Elpro Street Lighting circuit and the monthly operating hours. There was no regular/seasonal check up to alter or regulate the time settings to switch on/off lamps leading to extra lighting hours. No control or mechanism to check the power theft from the lines meant for street lighting supply, causing revenue loss to both

municipalities and to the utility. An absence of energy usage data prevents the municipality from planning future energy requirements to achieve efficient energy distribution.

b) The New Approach

Roles and responsibilities of each organization or partners were as follows.

- Urban Local Body (ULB) - Bangalore Development Authority (BDA): BDA gave the necessary sanctions to implement the energy saving project for the street lighting system of the outer ring road, which was maintained by it.
- Energy Service Company (ESCO) and Service Provider: All required finances were raised by the ESCO to fund the project. The company Elpro Energy Dimensions Pvt. Ltd. provided energy saving equipment, installed, commissioned and also provided the proof of concept at the initial stages of the project.
- Financial institutions and other funding agencies: Finance for the project was provided to the executing agency by the financial institutions and international funding agencies.

c) Implementation strategies

The project intended to develop innovative mechanisms to substantiate energy management and improve urban street lighting infrastructure. The following were the key actions undertaken in the BDA-ORR project, which proved very critical for successful implementation of the PPP-based urban energy efficiency project:

- Appropriate role sharing between actors, i.e. the private sector (Elpro Energy) and the government (BDA).
- Elpro Energy installed and commissioned the energy saving equipment at the Outer Ring Road - IRR area.

d) Steps undertaken

- Energy survey and baseline determination
- Energy saving through remote switching on/off
- Dimming control of lights during night-time
- Power conditioning
- Remote energy metering
- Power theft monitoring
- ESCO Contract agreement

- Project implementation

e) Lessons learnt

Ongoing technical support is needed to address emerging barriers, ongoing skill enhancement to train municipal staff on new and modern technologies like the Energy Tracking and Control system and counteract behavioral barriers, which the staff has acquired over the years. Project models should prioritize and address critical barriers in a sustainable manner and customize to local conditions.

f) Achievements/ Results

- Huge energy savings annually
- Excellent central operation and maintenance of street lights
- Centralized monitoring of all street lights
- Less labour costs
- Less capital expenditure on lamps and fittings
- Less contract charges and better monitoring by the contractor
- Improved public image as a cost conscious and efficient public service provider

The project at ORR-IRR for BDA has generated energy savings to the tune of 40-45% monthly and this has satisfied the main objective of the project i.e. energy savings. Finally, the BDA project for improving energy efficiency will reduce the demand for the thermal based grid power and will thus, lead to a reduction in the emission of greenhouse gases.

g) Sustainability

Increasing energy efficiency will assist ULBs and municipalities in expanding infrastructure and improving services for public (especially in the context of energy price increases), and shift activities to more sustainable directions. It generates environmental benefits through reduced emissions of greenhouse gases and local air pollutants.

Improving energy efficiency both by reducing quantities of energy consumed and by changing processes, offers a powerful tool for achieving sustainable development by reducing the need for investment in energy infrastructure and by cutting fuel costs.

h) Replicability

The same project can be replicated in many other towns and cities and thus reduce the energy consumption leading to reduced emission of greenhouse gases. As similar kind of conditions prevail at almost all street lighting systems, the same technology can be adopted to reduce the energy consumption to the extent of at least 30%.

3.5.2. PPP in Street Lighting at Vijaywada

Vijayawada Municipal Corporation (VMC) has implemented an Energy Saving Project for street lighting through an ESCO as a full-fledged operation and maintenance (O&M) contract. The main features of the project besides saving of energy include installation of a central computerized control room through which operation of control boxes can be done remotely and the information of switched off lights, energy readings of different central boxes can be known.

a) Previous Status

The Vijayawada Municipal Corporation (VMC) is incurring an expenditure of nearly crore rupees every month towards energy bills for water supply, street lighting, drainage pumping stations and buildings. As part of its Silver Jubilee Celebrations from June 2006 to May 2007, the VMC has set itself the objective of becoming the country's first energy efficient City. It was proposed to introduce energy saving technologies into street lighting.

As a precursor to installing energy saving technology across the City, a small area was selected and the technology piloted. Results from the two-month long experiment showed 35% saving in power consumption. The VMC engineers visited Bangalore and studied the technology implemented in the Outer Ring Road Energy Saving Project, initiated by the Bangalore Development Authority through an Energy Saving Company (ESCO). After studying the utility and convenience of these systems, the VMC also decided to implement Energy Saving Project for street lighting through an ESCO. Open bids were called for implementation of Energy Saving Project for Municipal Street Lighting, as a full-fledged Operation and Maintenance (O&M) contract through an ESCO.

b) ESCO Project

An ESCO is a business company that develops, installs and finances Projects designed to improve energy efficiency and reduce the maintenance costs for facilities for a period of time. ESCO generally acts as a Project Development Company for a wide range of tasks and assumes the technical and performance risk associated with the Project.

The main features of the project besides saving of energy include installation of a central computerized control room through which operation of control boxes can be done remotely and the information of switched off lights, energy readings of different central boxes can be known.

c) Implementation strategies

- Tenders

VMC floated open bids for implementation of energy saving project for Municipal Street Lighting, by inviting ESCO operators, with a contract period of 5 years in January, 2006. Two firms qualified the bidding process. Finally, M/s.Real Energy emerged as the successful bidder, as the firm has quoted for 41.5% saving of energy and out of it, the firm offered to take 92.7% as their share towards cost of installations and maintenance of street lights and to transfer 7.3% to VMC. The VMC is presently spending nearly Rs. 60 lakhs annually towards maintenance of street lighting.

- Risk Allocation Matrix

The entire street lighting system, with labor, maintenance requirements, consumables etc. were bundled into one package and proposed to be outsourced, so that the inter-related risks are with the operator and not shared between different agencies. Under this model the contractor is also committed to making his investment upfront, in installing power saving devices in all the lights and also networking them, thereby back loading his profits. This would ensure that the operator has stake in the long-term success of the Project and would discourage all fly-by-night operators, out to make a quick profit. Being a pioneering experiment, and given the huge potential of this market, the operator would have a great stake in the success of the project. The financial savings of VMC are very substantial for it to have a

huge stake in the success of the Project. The rights and obligations of both the parties were clearly specified and clear performance parameters linked to incentives and penalties were specified in the contract.

The use of technology, by way of networking all the junction boxes, helps in easy monitoring of all the outputs. The easily measurable nature of the outputs - the power consumption etc. - helps in reducing ambiguity in specifying performance standards.

- Bid finalization process

An Empowered Committee was constituted for selection of the ESCO and in identifying the appropriate technology for VMC and in scrutinizing the same. Before giving approval, a team of Cooperators from all parties in the Council, headed by the Mayor visited Nasik Municipal Corporation in May 2006 to study the performance of Energy Saving Project. After studying the performance of Energy Saving Project in Nasik Municipal Corporation, the Council in its Resolution No.61, dt.29.5.06, approved the energy saving project for Municipal street lighting including maintenance in city areas and also approved the bid of M/s. Real Energy.

d) Salient features of the project

- Total number of lights = 26,968 Number of Control Boxes = 427
- Total present load of street lighting = 2660 KW
- Average working hours/day = 11 hours
- Annual energy consumption = 106.80 lakh units.
- Annual expenditure on CC charges = 106.80 x Rs. 3.85 = Rs.411.18 lakhs
- CC charges to the ESCO = Rs.158.18 lakhs
- Annual share amount to VMC = 7.3% of Rs.170.64 lakhs = Rs.12.46 lakhs.
- Contract period = 5 years
- Net annual savings of VMC = Rs.12.46 lakhs + Rs.53.04 lakhs (Savings share + Maintenance Expenditure) = Rs 65.50 lakhs
- Total savings in 5 years = Rs.327.5 lakhs

e) Achievements/ Results

Once the project is implemented the VMC will get Rs. 12 lakhs per annum as its share in savings during the contract period and also

save Rs. 53 lakhs in maintenance per annum. Therefore every year, the VMC would get a saving of Rs.65 lakhs per annum. In addition, after the contract period, VMC will be left with the energy saving equipment worth Rs. 3 crores. Further after the contract period, the VMC will get annual savings of Rs.170 lakhs in current charges for street lightning.

3.6. Primary Education

3.6.1. *Virtual Classrooms in Mumbai ("Karun Dakhavale"....)*

As a continuation of its various CSR activity Valuable Group set up 24 Virtual Training Centers in Municipal schools run by Municipal Corporation of Greater Mumbai which were spread across entire Mumbai city right from Colaba in south Mumbai to Borivali in the western suburbs to Mulund in eastern suburbs and Mankhurd on the harbour side.

The centers were set up in the secondary schools and were used by MCGM to impart education to students appearing for the X board exams in last quarter of 2010-11. All subjects of X standard were taught by teachers ranging from Math's, Science, Social Science, History, Geography etc. Valuable Group had constructed a special studio equipped with cameras, audio video equipments and necessary infrastructure from where lectures were delivered by teachers in various mediums of instruction like Marathi, English, Hindi and Urdu starting from 9 am in the morning until 4 pm in the afternoon. A single session was of 1 hour duration with the lecture being about 40 to 45 minutes and the rest devoted to the interactive session with the students. Satellite bandwidth for connecting the studio with the 24 schools was arranged by Valuable Group. The MCGM teachers giving lectures were trained on the aspects of how to deliver lectures while facing the camera. They were also made aware about the way in which interactive sessions should be conducted. The entire exercise was carried out in a professional manner with experienced technicians present in the studio at the time of lectures and a coordinator who helped the teacher in the interactive sessions. The coordinator also made the teachers familiar with the modern teaching aids like smart board, laptop etc. Technicians also imparted training in basic skills to operate the equipment installed in each school to local teachers who were shortlisted by MCGM.

The VTC project was a resounding success and enabled MCGM to utilize the skills of their top teachers and reach across to the 24 schools simultaneously in an interactive manner which was found to be innovative and interesting. The teacher at the studio was able to monitor whether students in the

schools were paying attention to the lectures. The hand raise options helped the teachers to engage with the students directly in the interactive session in real time. Students in 24 schools were able to get access to best teachers MCGM had to offer on individual subjects who were earlier restricted to their own schools. Students were also able to interact with teacher in studio in an engaging manner through the unique interface designed by us for the MCGM VTC project. On the whole it was a win-win situation for both the students, teachers on one hand and MCGM on other hand.

Information gleaned from various sources showed a marked improvement in these 24 schools. The 10th standard pass percentage increased by 15 % and one of the schools namely Colaba Municipal Secondary School achieved the rare distinction of having a 100% result. The topper among MCGM schools Dattatreya Gopal Honiyalkar from Barve Nagar Municipal Secondary School (94.91%) credited his success to the revision done by the teachers during this pilot period. In fact the first six toppers among MCGM schools were from these 24 schools.

Virtual education not only facilitates student training in an interactive manner but also enables teacher training at two levels. Teachers taking lectures in studio chart out & understand the lesson plan to be taught in the virtual session. They are better prepared to handle the student queries which are raised during the interactive session which is seen by all the remote classrooms that are connected to a particular session. Local teachers in the remote classrooms also view how expert teachers are teaching a particular lesson plan from the studio. This enables them to improve their own teaching skills.

Enthused by the success of this pilot project MCGM floated open tender for operating 80 schools from two studios on design, build & operate basis. Valuable Edutainment Pvt. Ltd. participated in this open tender and won the contract for running this project for 5 years. Currently lectures are being conducted by teachers from two central studios on a daily basis for the 80 MCGM schools since 26th July 2011. The 10th standard pass percentage in MCGM schools also increased to 64.27% for the academic year 2011-12. The MCGM topper with 92.18% Yogita Sandbhor from Vikhroli Secondary School favoured the virtual education medium which helped her attain this success.

Taking a step ahead MCGM now plans to connect additional 400 schools to two new studios which will enable the primary schools to be brought in the ambit of virtual education revolution.

The V sat technology being used by MCGM for virtual education is also being used by Indian Institute of Management (IIM) & XLRI for conducting their distance learning programme. Maruti Suzuki India Ltd also conducts its training programme for employees & dealers through its 30 training centers located all over India which are connected to their head office in Gurgaon. Various coaching classes like Bansal Classes Kota etc have started using this technology to reach wider distributed audience all across the country.

3.7. Crematoria, Parks & Playgrounds and Municipal Markets

For being brief in this report, documentation of best practices in these three areas is not included. In terms of tangible impact too, these three services may have a lower priority.

Chapter IV: Possible Road Map

4.1. Solid Waste Management

4.1.1. Introduction

Current problem of garbage clearance is due to the too much of centralised approach. In simple terms, today, the household waste gets gathered at the building level, building level garbage at colony level, from colony to lane from lane to dumping ground and so on. This involves accumulation of waste and its generalised transportation. Key of recommendations about this would be a four point agenda, as follows –

- Decentralised approach
- Involvement of community
- 80:20 Principles

These are being described in following paragraphs.

4.1.2. Compulsion about Segregation at Source

Much of the waste generated is organic and should be composted. Mandating segregation of waste at source is clearly possible under the current legal regime. Once waste is segregated at source, almost all the organic refuse can be immediately composted and the recyclable material can become resource within the neighbourhood. Only electronic and bio-medical wastes need to be specially treated as per applicable norms. Such an approach will contribute massive savings in fuel and trucking costs, bring down cost of human resources required to manage waste, prevent the need for landfilling and protect public health and environment. What's more, it will provide valuable manure that can be used in gardening. Importantly, this approach will restore dignity to waste handlers, who are currently dealing most unhygienically with mixed waste, day in and day out.

Typically, there is always reaction to such an approach, often negative. Lethargy of the public to adopt segregation of waste at source, pampered as they have been by collection of waste from door-to-door (due to low labour costs) can be immediately changed by a combination of public education and strong regulation. Information, environmental education and communication material is already available for such a process to be brought into force with immediate effect.

4.1.3. Incentives for Composting at Source

While it is the mandatory duty of the ULB to handle municipal solid waste, households and businesses who handle their waste by composting at source can be

incentivised. This will encourage more and more communities to ensure that they will not burden the ULB's waste management system. The incentive approach may be in lieu of the current system of collecting SWM cess.

4.1.4. *Mandatory Composting by Bulk Generators*

All bulk generators must be forced to compost at source without exception and as per standards. This would be a 80:20 approach, that 80% of waste is normally generated by 20% of the generators, and hence, if this group can be targeted, it would amount to targeting to 80% of the SWM problem. Examples of such bulk producers of daily waste are typically hotels, malls, marriage halls, market places, hospitals, building construction sites, schools, colleges, universities and other educational institutions, large establishments, such as courts, various government offices etc. Such entities can easily segregate waste at source as they have the necessary systems and personnel demanded in place. Only such bulk generators who cannot compost at source, due to space constraints and massive capacity overload, must hand over the segregated waste for composting elsewhere and will be specifically charged for the additional service the city renders them. This must only be exceptional and not the norm. Any violation by bulk generators of such a mandate must be severely punished, including opting for penalisation per the MSW Rules, Water and Air Act and the Environment Protection Act. Necessary modifications for faster and on the spot penalisation, along with proper system of delegation and decentralization of such penal powers among existing SWM officers and staff can be methodically worked out.

4.1.5. *Transportation of Segregated Waste Alone*

The current practice of collecting waste from across the city and dumping it in landfills (both approved and illegal) has to be comprehensively dismantled. This system breeds corruption, offers little or no benefit to public health and environment and is an expensive affair given the high costs of fuel involved. Such a practice is carbon intensive, climate unfriendly and perpetuates a culture of waste generation. A systematic and progressive waste stream management practice will emphasise the need for creating minimal waste; the segregation of waste at source; treatment and recycling of waste at source (as much as is possible); collection of waste in its segregated forms to allow for composting and recycling; transporting of segregated wastes to processing and treatment centres, and landfilling of only the inert material that has absolutely no value for society.

4.1.6. *Formalising Rag Pickers*

The informal sector rag pickers, generally unorganised in formal ways though with a tight community organisation structures, are important stakeholders about SWM. There is an urgent need of formalising their contribution and getting them into main

streams as vibrant members of a developmental society, with access to all formal socio – economic – financial benefits, such as access to formal credit systems. Such an initiative can pay huge political returns too.

It is critical for the labour and occupational rights of rag pickers to be strictly protected to ensure waste management processes work systematically, effectively and efficiently. The most consistent problem in waste management in Delhi has been the extraordinary exploitation of rag pickers, and their necessary and frequent protests to protect their Rights. Not only are rag pickers get paid regularly, they are also forced to work in highly hazardous conditions, without any occupational safeguards and health benefits. Protecting their worker rights and health will encourage them provide their best for the city with dignity and pride. This can simply be achieved with a simple initial step, such as, providing them identity cards and distributing rag picking areas / colonies. The initiative can further developed into a systematic action plan of mainstreaming this segment of society.

4.1.7. Regulations about Extended Producer Responsibility

There is little or no attention paid today for the burden of waste generated by manufacturers of products and packaging material. Extended Producer Responsibilities must be mandated as a fundamental component of overall waste management efforts. Not only should non-recyclable material use, especially in consumer products and packaging, be actively discouraged by innovative use of existing municipal laws, but the process must move towards insisting on manufacturers utilising material with emphasis on recycling value after use. Buy back and take back arrangements must be integrated into the overall waste management system.

4.1.8. Service Level Benchmarks (SWM)

Service level benchmarking promotes progressive management of solid waste and provides an efficient yardstick for comparison of practices, budgeting, regulation and penalisation. This practice must be integrated into all solid waste management processes. All three Municipal Corporations must immediately institute Public Education and Waste Information Systems, in active collaboration with not for profit initiatives that have evolved this systems to a very high level of practicality, and ensure that every household, public institution, shopping centre, market, factory, hospital, mass media, etc. become partners in this process of making Delhi a city that makes value out of waste, and a model for the world to emulate. We do not need overseas experts, as all these competencies are well provided locally. Pride in associating with local communities, voluntary initiatives, etc. will take us a long way away from the current mess. There is also no need for foreign trips to learn about

waste management practices – they have not produced any benefits to the public in the past and are most unlikely to do so in the future.

4.1.9. Decentralization of Enforcement & Penal Powers

Statutory norms exist so that they can be complied with. Penal provisions in law exist to streamline the system by punishing violators. Strict adherence to such Rule of Law procedures will ensure that much of the governance failures currently attending waste management in Delhi can be avoided and a thing of the past. What has been observed is non – effectiveness of those provisions as the enforcement and penal powers are not delegated / devolved to till last SWM worker. “Clean Marshal” drive in Mumbai can be illustrative for this purpose. Replicating of Mumbai model is being strongly recommended. This approach will also build transparency and accountability in the system and prevent cartelisation, corruption and exploitation of workers and impacted communities.

4.2. Parking

4.2.1. Strict Implementation of Present Contractual Conditions

If one looks at the current contracts / agreements with parking contractors, there is almost everything, which is needed for effective parking. It is only a question of its implementation in true spirit. For example, even the current agreements provide for – (a) mandatory issue of receipts by hand held devices, (b) marking of parking spaces, (c) uniforms, (d) stipulations about sub – contracting, (e) separate entry and exit marking – and so on. There are very clear penal provisions too, for violation of any such clause. On this background, what is simply recommended is that each Municipal Corporator be made responsible for implementation of all those provisions in true spirit, for the parking lots within his / her ward.

4.2.2. Preparation of Parking Master Plan

As a long term major, it is recommended that the parking master plan for the city be prepared by hiring experts. Generally, theme is that about half a Kilometer be considerable as the tolerable walking distance, and hence, there should be small parking lots of appropriate capacity, within one Kilometer diameter. A Parking master plan can only suggest possible points where such facilities can be created with a long term perspective in mind.

4.2.3. Preparation of a Parking Policy

There is an urgent need for evolving a parking policy. Area of road occupied by a parked vehicle is approximately equivalent to that by a small hut, and there is no need of providing valuable public land piece at free, to those who are rich enough to buy a car. National Urban Transport Policy also highlights the principles for drafting a

parking policy, the exercise is recommended to be undertaken with immediate effect.

4.2.4. New Contracts only to Women SHGs

For overcoming a recurring negative perspective that the parking lots are in hands of mafias, which have strong and meaningful connections with Municipal Corporators and Traffic Police, it would be worth considering allotment of certain percentage of parking lots to Women Self Help groups.

4.3. IT Services

The worst condition of IT services in all three Municipal Corporations deserve an immediate attention and suitable corrective measures. This itself being a large area, only principles of providing IT services in a typical Municipal Corporation are being listed below.

4.3.1. Goals & Objectives

One of the main Goals of e-Governance needs to be to make administration Citizen Centric and offer transparent & Accountable services. Other main Goal is to improve efficiency & effectiveness of the administration by providing access to information to the right people at the click of the button.

It's a fact that more and more citizen want to interact with the public administration via electronic media and thus political and administrative leaders should consider it as the responsibility of the administration to take e-Governance another step forward, encouraging a change of culture and management model for dealing with local citizens.

Key objectives of the e-Governance project can be listed as follows:

- Improve the quality of Citizen Service Delivery System and offer these services with optimal effectiveness and transparency.
- Allow data sharing across different departments, thus bringing about the efficiency in administration functioning.
- Facilitate the decision making process of top management by furnishing the right information at right time.
- Help different departments to improve their revenue collection efficiency.
- Harness the use of technology to create sense of achievement amongst employees and citizens

All three Municipal Corporations in Delhi need to achieve following objectives and outcomes specified in the NMMP guidelines:



Stakeholders and Objectives	Key Measures	Illustrative Targets
Citizens (Quality of Service)	<ul style="list-style-type: none"> Minimizing the number of customer visits Reducing the time required to request the service Reducing the time required to deliver a service Reducing the fees and charges associated with a service Reducing the time spent by the customer to follow-up and track progress of requested service 	<ul style="list-style-type: none"> Six monthly independent citizen survey / feedback for a period of five years from the time of go-live with 95% satisfaction level with respect to meeting the specified service levels 95% resolution of grievances received through the Grievance Redressal Model within the defined service level
Municipalities (Process efficiency and effectiveness)	<ul style="list-style-type: none"> Enhancing existing revenues Setting up new revenue streams Reducing cost of processing transactions Delivering intangible benefits (Boosting image of Municipal Corporations as a service oriented organization) 	<ul style="list-style-type: none"> Growth in own revenues by atleast 25% on year to year basis for first three years Banning of manual records Accrual based accounting system
Service providers / suppliers (Monitoring & Evaluation of Quality of Service)	<ul style="list-style-type: none"> Service Level Agreements (Internal & External) 	<ul style="list-style-type: none"> Deployment of a system for meeting the requirements contained in the Right to Information Act
Programme Office (Progress tracking)	<ul style="list-style-type: none"> %age of customers of each type using e-Governance services %age of municipal services transformed into e-Governance %age of municipal service information published over e-Governance %age of transactions of each service executed electronically 	<ul style="list-style-type: none"> Over 75% citizens using alternate channels for accessing services of - --- Over 75% citizens facing services delivered using ICT

All three Municipal Corporations also needs to undertake to try and achieve following service levels specified in the NMMP guidelines:

Key Objectives	Key Goals
Financial Sustainability	<ul style="list-style-type: none"> Revenue enhancement to achieve growth in revenues by atleast 25% on a year to year basis for first three years Use of PPP to make the project cost effective

Key Objectives	Key Goals
Enhanced Transparency and Accountability	<ul style="list-style-type: none"> ▪ Effective citizen redressal system with atleast 80% resolution of grievances within the defined service levels ▪ Deployment of system for meeting the requirements contained in the Right to Information Act ▪ Banning of manual records
Process Reform	<ul style="list-style-type: none"> ▪ Online financial and management information system through implementation of Accrual based double entry accounting system ▪ Implementation of standards and guidelines suggested in the design document through necessary policy decisions by the General Body
Clearly Defines Citizen Service Levels	<ul style="list-style-type: none"> ▪ Web Portal for each Municipal Corporation, linked to all other modules and updated dynamically ▪ Availability of forms, citizen charters, etc. ▪ Online submission of forms with immediate acknowledgement ▪ Online Birth and Death Registration (individuals / hospitals) in less than 15 minutes ▪ Online Calculation and payment of property tax in less than 15 minutes ▪ Online Payment of utility bills (water bills) in less than 15 minutes ▪ Building approvals in time bound manner (Residential in less than 7 days; Commercial and others in less than 15 days) ▪ Issue of Licenses in less than 5 days; renewal in less than 30 minutes ▪ Finalization of Accounts through accrual based double entry accounting system in less than 3 months ▪ Transparency in Development projects (information to public within 1 day of project approval, physical and financial progress with 5 days, request for public comments for 7 days after project completion) ▪ E-Procurement ▪ Transparent and Accountable Grievance handling (Immediate Acknowledgement through service points or online, online monitoring)

4.3.2. Benefits to be Targeted

The JNNURM guidelines have laid down the outcomes that are desired as part of the National Mission Mode Project for e-Governance in Municipalities. The service levels are desired to ensure efficiency, transparency and reliability of such services at affordable costs to realize the basic needs of the common man. The impact of successfully achieving this vision would be a more satisfied citizen/ business/ government.

4.3.3. Benefits to Citizens / Community

The benefit of the e-Governance solution will be delivered to citizens in the form of Quick response time, multiple access points/ locations, Web enabled services, minimum personal visits, Quality of service (QOS), paperless transactions,

transparency, multiple mode of payment & reduction in service charges. These benefits are further elaborated as follows:

- Timely services: E-Governance solution will benefit the citizens with state of the art information updates relating to the progress of the services requested. The same can be achieved by means of SMS, Email, Web etc.
- The backend processing of the Corporation needs to be supported by Workflow and Document Management System and ICT solution will then reduce the service delivery time to the Citizens.
- Correct information: As the information is available in digitized format in the ICT solution, this will help the citizen to get the accurate and up to date information available publicly or by request.
- The departments of ----- needs to be interlinked by ICT solution which will enable citizen to get true picture of the status / state of the information.
- Availability to provide feedback: The e-Governance solution needs to be equipped with the Citizen Grievance Redressal module which will help citizen not only register the complaints but also to provide the feedback mechanism.

4.3.4. Benefits to Government

- Operating guidelines: The departmental processes as well as intra department processes need to be standardized. This will help effective and efficient way of working within the Corporation and benefit the different levels of employees to work in collaborative manner.
- Appropriate Technology: With the help of e-Governance solution & the ICT the data, information can be made available at single location & same information be made available to all users resulting in seamless information flow. The file movement from one desk to another desk can be taken care with the help of Document Management system & Workflow Management system.
- Other technologies to be used for effective performance of the corporation are Mail & Messaging solution, Web portal, SMS solution. The e-Governance solution to be designed to support latest equipments like PDA's, Mobile phones, GPS, Laptop.
- Efficient process: E-Governance solution can transform the working of the departmental processes provided efficient BPRs are undertaken, which will reduce the cycle time, eliminate unwanted processes & enhance the productivity.
- Effective supervision: E-Governance solution will have MIS Reporting mechanism for effective monitoring of projects, initiatives taken by corporation. MIS reporting will have detailed analysis of Cost, Time & Resources for the various projects. Milestone tracking mechanism is also incorporated in e-Governance solution.
- The e-Governance will help department champions to focus more on strategy making, revenue generation and creating new lines of services for Citizens.

4.3.5. *Benefits to Business*

- Clear cut and quality service delivery mechanism: For the benefit of the Vendors and suppliers the e-Governance solution will be offering them the online publication of the tender information, acceptance of the bids, notifications/ guidelines, submission of tender, display of the selected vendors in transparent manner.
- Payment arrangements: Online tendering mechanism will provide the facility of online payment through payment gateways and net banking system. Also the suppliers can raise their bills online and get the payment credited in their account directly without any hassle or going through difficult processes.

4.3.6. *Benefits to NGO / Other Agencies*

Correct, updated and reliable information: The e-Governance solution will have the Web portal which can help NGO's and other agencies to get the information about the initiatives/ projects of the corporation. The Portal should have information like RTI, Citizen Charter, Budget, etc. The other information related to water lines, Roads, Drainage, electoral wards, population statistics, tress, Gardens, slums to be made available through GIS and Web Portal.

4.3.7. *General Body / Standing Committee / Decision making Authorities*

Key performance indicator based Decision support system: The e-Governance solution also needs to have seamless integration between GIS and the ICT system. This will help generating informative MIS reports for effective decision making and future planning. The MIS reports to be detailed enough to go the minute levels of departmental data which will cover every aspect of each of the department.

Summary of benefits of the project to various stake-holders given below:

Stakeholders	Benefits
Citizens	<ul style="list-style-type: none"> • Quick response time for a service • Multiple access points/ locations • Web enabled services • Minimum personal visits • Simple Procedures • Quality of service (QOS) • Paperless transactions • Multiple mode of payment • Reduction in service charges
Corporation	<ul style="list-style-type: none"> • Correct and updated information delivery to the citizens • Standardized way of working within department and across departments • Encourage paperless working environment • Simple Procedures • Reduction in number of desk for work processing • Transparency in working

Stakeholders	Benefits
Policy maker	<ul style="list-style-type: none"> • Focus on revenue collection improvement • Strategy design and implementation • Reducing the cost of delivery of the services • Devising new source of revenue generation
NGO / PPP	<ul style="list-style-type: none"> • Updated information about the various projects • Detail statistics about the cost utilization on projects • Help in initiating new projects

4.3.8. Various Software Modules / Systems to be implemented

a) Software Modules to automate Departmental Functioning / Offer Departmental Services

- Grievance information system
- Birth & Death Module
- Property Tax Module
- Building Permission Module
- Licenses Module
- Solid waste Management Module
- Human Resource Management System
- Accounts Module
- e-Procurement
- Project Systems Module
- Welfare scheme module
- Hospital management System
- Land and Estate management System
- Material Management System
- Legal Module
- Municipal Secretary Module
- Audit Department Module

b) Support Systems

- Web portal Module
- City Civic Centre Module
- DMS & Workflow Mngt Module
- GIS (Geographical Information System)

c) Geographical Information System

Introduction: Geographic information system (GIS) is being considered a boon for urban managers and can be used to bring in much needed effectiveness in city planning and its management. Ultimate aim while planning GIS should be creation of decision support system. Distinct objectives identified for GIS implementation at ULBs are:

- Better monitoring of the recovery of Property, Water & other taxes
- Effective Monitoring of Complaint Management System

- Up-to-date & user friendly maintenance of ULB assets
- Effective tool to Monitor unauthorized constructions
- Efficient maintenance of Public utilities like Roads, Street Light, Water Supply Network, Sewerage Network, etc.

It is recommended that GIS be tightly integrated with the MIS System to bring in much needed effectiveness in city planning and it's management.

4.3.9. Summary of Business Process Re-engineering to be proposed

Department / Module	BPRs Proposed
Citizen Facilitation Module	<ul style="list-style-type: none"> ▪ Standard Formats for Application ▪ Standard Formats for Outputs ▪ FIFO for application scrutiny ▪ Removal of table / administrative movements which don't add value to the scrutiny ▪ Generation of automatic Rejection Note in case of incomplete application or negative scrutiny by the department
Property Tax	<ul style="list-style-type: none"> ▪ Alerts to be generated after Building Permission / Completion Certificate. Use of Building data from Building Permission database.
Accounts	<ul style="list-style-type: none"> ▪ Budget Provision verification for Project Approval or Payment to be handled by System. File need not go to Accounts Dept. for budget verification. ▪ System will check the budget provision for account head and prompt if there are not enough funds. System will not allow Payment Sanction if budget provision not available. ▪ Budget re-appropriation to be handled through the system ▪ Standardized format for Payment Receipt ▪ Implementation of Accrual Based Double Entry System ▪ System will have statutory compliance with respect to Deductions & Returns
Food License	<ul style="list-style-type: none"> ▪ Linkage of Licenses with Property Tax record. Citizen need not separately submit NOC from Property Tax Dept.
Web Portal	<ul style="list-style-type: none"> ▪ Online Services (which are data based, and don't require departmental scrutiny) can be delivered directly through web portal.
Building Permission	<ul style="list-style-type: none"> ▪ NOC's from different departments not to be taken if the required data is available in database
Grievance Redressal System	<ul style="list-style-type: none"> ▪ Marking of the complaint to the action taking personnel (i.e. Junior Engineer / Sanitary Inspector, etc.) ▪ Automatic Escalation of Complaints
Hospital Mngt System	<ul style="list-style-type: none"> ▪ Display of Patient Information through Web Portal ▪ Maintenance of Patient history
Municipal Secretary	<ul style="list-style-type: none"> ▪ Publishing of resolution through Web Portal

Department / Module	BPRs Proposed
Module	
Human Resource Mngt	<ul style="list-style-type: none"> ▪ Centralized Payroll generation
Others	<ul style="list-style-type: none"> ▪ Common Work-flow Management System for departmental file movement ▪ SMS alert to citizen upon complaint Redressal or Service Completion ▪ Use of Scanned signature of the sanctioning authority to generate Lols, Work Orders, etc. ▪ Linking of Dues of Property Tax / Water / License for service delivery ▪ Use of Data across different departments

4.4. Crematoria

In case of crematoria, issue is about efficacy / coverage than efficiencies. Services at present crematoria seem to be satisfactory, also there are steps about modernization, such as electric, diesel or CNG based facilities. However, number of crematoria is not sufficient, and in a long term plan, additions of new crematoria should be on agenda. Also, crematoria facilities for religions other than Hindu / Sikh should be addressed.

4.5. Parks & Playgrounds

About parks & playground, there is lot of scope for involvement of private sector. This can also be a source of revenues for the Municipal Corporations. As of now, many parks are being given to private operators by MoU routes. This is done on a complete ad-hoc and case to case basis. Instead of this, a policy can be evolved about auctioning public parks and playground for annual operations and maintenance to private entities, along with advertising rights. Bhurelal Committee and Supreme Court have laid down some restrictions about advertising, however, crux of those restrictions or guidelines are stipulations about ugly display of advertising material. There could be ways of giving advertising rights, within norms laid down by these two entities. For example, if there is a small board at the entry point of a public garden, mentioning that the garden is being maintained by an operator, there will not be any issue.

The policy to give out parks to CWAs will also need a review. Often, CWAs loose its onus to maintenance of parks, with change it their office bearers. This can be restricted with suitable provisions in contracts.

4.6. Municipal markets

As of now, capital expenditure for public markets is done by other agencies, such as, Delhi Development Authority (DDA) and the markets are handed over to Municipal Corporations for Operations & Maintenance. Generally, condition of basic civic amenities being provided in

those markets, such as public toilets (particularly toilets for women) is extremely bad. Models of better maintenance of those markets by involvement of associations of shop owners can be worked out.

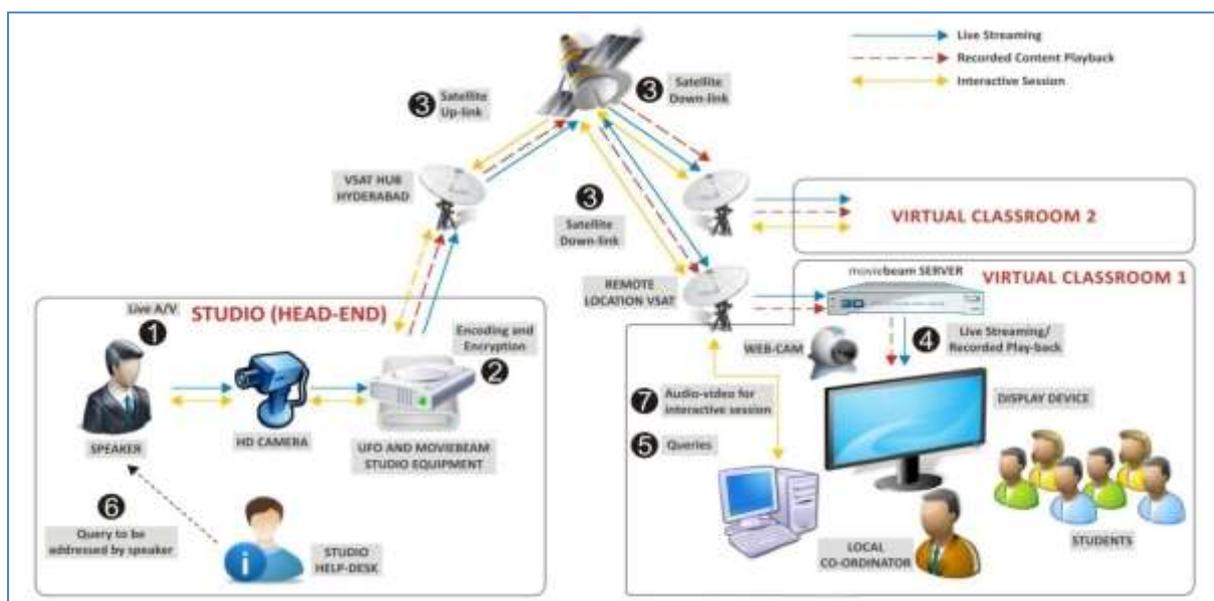
On the other hand, pilot projects of developing state of the art theme markets on PPP basis can also be explored. For example, complete air conditioned meat market on PPP basis on a small land parcel can be experimented, so can be the development of theme markets exclusive for fruits & vegetables, electronic items. In fact, smaller illustrations of Palika Bazar can be thought of.

4.7. Street Lights

Generally, efficacy of provision of street lights is fairly good, what is required is efficiency. Models at Bangaluru & Vljaywada referred in earlier sections can be considered for replication. LED Street lights for saving on electricity charges is urgently required. Possibility of switching over to permanent solar panel installations at the cost of private operators, by allowing display of small advertising boards for a fixed duration should be explored.

4.8. Primary Education

Replication of virtual classroom using VSAT, being implemented successfully in Mumbai is being recommended.



It should be noted that such initiative can reach masses. There is no much of the capital cost involved. If service provider in Mumbai gets selected for this on a pilot basis, there are possibilities to start up the initiative immediately, by using their existing control room set up in Mumbai too. Immediate implementation can provide good tangible results.

Chapter V: Proposal for Handholding Support During Implementation of Performance Improvement Plan

5.1 Introduction

In every sector, there are few key performance indicators that are understood by most stakeholders in that sector. Similarly, in the urban sector too there have been a number of performance indicators related to urban management and service delivery that have been defined, measured and reported.

It is proposed that for key sectors, Ward Level Service Level Benchmarks be prepared by each Corporator. Baseline values of those indicators can be arrived at, and realistic targets for its improvement can be set up. It is also recommended that the exercise can be done in a consultative mode and backed by a systematic PR support. In a most transparent way, promised to improve performance on a measurable scale be given, and at a pre decided frequency, achievements on those targets can also be made public.

Only for the purpose of illustration, possible service level indicators for different sectors are given below. Indication is given only for two months; however, it can be similarly worked out for months to follow.

5.2 Performance Indicators for SWM

Sr. No.	Performance Indicator	Baseline Value (April 2013)	Values for May 2013		Values for June 2013	
			Target	Achieved	Target	Achieved
1.	% of households under door to door collection	15%	25%		35%	
2.	Extent of segregation at source	20%	30%		40%	
3.	Number of bins per square kilometer of ward area	50	75		100	
4.	Percentage of road length being swept at least once in a day	40%	50%		60%	
5.	Number of challans in a month	50	100		150	

It should be noted that there can be several such **SMART** (Simple, Measurable, Achievable, Realistic & Transparent) performance indicators. Above are just illustrations. What is important is to develop such dash board, specific to each ward, and try to achieve performance in measurable terms and make it public.

5.3 Performance Indicators for Parking

Sr. No.	Performance Indicator	Baseline Value (April 2013)	Values for May 2013		Values for June 2013	
			Target	Achieved	Target	Achieved
1.	% of parking lots operating with hand held devices	10%	50%		100%	
2.	% of parking lots with demarcation of parking spaces	0%	25%		50%	
3.	% of parking lots with uniformed attendants	0%	25%		50%	
4.	Fines imposed on parking contracts for violation of contractual conditions	Rs. 1.00 lakh	Rs. 1.50 lakh		Rs. 2.00 Lakh	
5.	Number of public parking places per square kilometer of ward area	700 cars	1000 cars		1200 cars	

5.4 Performance Indicators for IT Services

Sr. No.	Performance Indicator	Baseline Value (April 2013)	Values for May 2013		Values for June 2013	
			Target	Achieved	Target	Achieved
1.	% of number of death & birth certificates given only through electronic mode, without any interface with municipal functionaries	10%	50%		100%	
2.	% of number of complaints received through SMS mode	10%	30%		50%	
3.	% of complaints received through web portal	10%	30%		50%	

5.5 Performance Indicators for Crematoria

Sr. No.	Performance Indicator	Baseline Value (April 2013)	Values for May 2013		Values for June 2013	
			Target	Achieved	Target	Achieved
1.	To develop such indicators in consultations with Corporators					

5.6 Performance Indicators for Parks & Playgrounds

Sr. No.	Performance Indicator	Baseline Value (April 2013)	Values for May 2013		Values for June 2013	
			Target	Achieved	Target	Achieved
1.	To develop such indicators in consultations with Corporators					

5.7 Performance Indicators for Municipal Markets

Sr. No.	Performance Indicator	Baseline Value (April 2013)	Values for May 2013		Values for June 2013	
			Target	Achieved	Target	Achieved
1.	To develop such indicators in consultations with Corporators					

5.8 Performance Indicators for Street Lights

Sr. No.	Performance Indicator	Baseline Value (April 2013)	Values for May 2013		Values for June 2013	
			Target	Achieved	Target	Achieved
1.	Number of street lights per kilometer of road length	5	8		10	
2.	% of street lights in ward changed to LED systems	0%	25%		50%	
3.	% of street lights changed to solar panel base systems with private sector involvement	0%	10%		20%	

5.9 Performance Indicators for Primary Education

Sr. No.	Performance Indicator	Baseline Value (April 2013)	Values for May 2013		Values for June 2013	
			Target	Achieved	Target	Achieved
1.	% of schools covered in a ward through virtual classroom system	0%	20%		40%	
2.	To develop such indicators in consultations with Corporators					

5.10 Recommendations & Way Forward

It can be seen that developing such indicators, specific to each ward, setting ward level targets for each indicator and subsequently measuring achievements on pre decided targets, and making it public through a proper PR exercise, would be a Herculean exercise. If the concept is acceptable, PPRC can develop a detailed plan of action about this.

There can be two sets of indicators, one set would be uniform across all wards, and the second set can be ward specific. However, second set also can be only out of an exhaustive list, from which the Corporators can choose, as per their local conditions.

From the first set of common indicators for all wards, zone level and Municipal Corporation level indicators can be automatically arrived at, which, can be taken to masses at large, by an effective PR exercise, as achievements of the ruling government in three Municipal Corporations. In fact, setting up a system of answering to public about achievements in a fixed frequency (say once a month, or once in three months) can help in continuous image building process.

Appendix 1: Questionnaire for Corporators

Section I: Basic Information

Sr. No.	Item	Details
1.	Name	
2.	Address	
3.	Ward Number	
4.	Mobile Numbers	
5.	Email addresses	
6.	Term in Municipal Corporation (1 st , 2 nd , 3 rd and so on)	
7.	Total Number of Voters in Constituency	
8.	Votes obtained	
9.	Education Level (only mention is sufficient)	
10.	Current responsibility in Corporation	

Section II: Information about efficacy & efficiency of civic services being provided in your particular ward

General Instructions of Filling in Section II

1. Each question is to be answered, with specific reference of your particular ward in mind, on a scale of 0 – 10. Answer to the question should be representing – (a) General perception of the voters in your constituency; and (b) Your personal impression / assessment.
2. Ranking would be as follows.
 - a. **0 – 2:** Level of service is totally dissatisfactory or completely absent.....
 - b. **3 or 4:** There is no absence of level of service, however, there are number of complaints about it.
 - c. **5 or 6:** Reasonable fair or average level service being provided, however, there remains a good scope of its further improvement.
 - d. **7 or 8:** Considerably high quality of service being provided, which if weakens, can become a threat.
 - e. **9 or 10:** The service is excellent, and perhaps, model in my ward can be followed by other wards and Corporations.

Sr. No.	Items	Ranking
1. Solid Waste Management		
a.	In your assessment, what is the level of segregation at source, of the waste generated??	
b.	In collection, is the waste from the bins being regularly picked up by the transportation vehicles??	
c.	What about street sweeping?? Does it happen regularly??	
d.	Is waste getting transported at required frequencies?? Does it happen in a covered way??	
e.	What is the level of community participation about solid waste in your ward??	
f.	In general, what is level of cleanliness in your ward??	
g.	What is the level of local control you have, about this function??	



Sr. No.	Items	Ranking
h.	Any suggestions about what can be done further to improve the existing scenario??	
2. Public Parks & Playgrounds		
a.	How is the general status of parks & playgrounds in your ward??	
b.	Do they have an easy access for the public??	
c.	Are there any encroachments, illegal occupancy happening for a longer period??	
d.	What is the level of local control you have, about this function??	
e.	Any suggestions about what can be done further to improve the existing scenario??	
3. Municipal Markets		
a.	How is the general status of municipal markets in your ward??	
b.	Do they have an easy access for the public??	
c.	How is the level of cleanliness being managed in those markets??	
d.	What is the level of informal sector hawkers outside the municipal markets or otherwise??	
e.	What is the level of local control you have, about this function??	
f.	Any suggestions about what can be done further to improve the existing scenario??	
4. Street Lights		
a.	Are the number of street lights and their effect sufficient for the ward??	
b.	In your assessment, is your area safe during night times, with respect to crime or accidents??	
c.	What is the level of local control you have, about this function??	



Sr. No.	Items	Ranking
d.	Any suggestions about what can be done further to improve the existing scenario??	
5. Crematoria		
a.	Is the number of facilities about this sufficient in your area??	
b.	What is the level of overall services being provided in crematoria??	
c.	What is the level of local control you have, about this function??	
d.	Any suggestions about what can be done further to improve the existing scenario??	
6. Parking		
a.	Are municipal parking lots in your ward sufficient??	
b.	What is the level of parking requirement in your ward being generated by local residents??	
c.	What is the level of parking requirement in your ward being generated by visitors??	
d.	What is the level of satisfaction about services being provided by parking contractors??	
e.	To what level, traffic police is functional to control parking problems in your area??	
f.	In your assessment how are the current parking rates?? (Too low, reasonable, high etc, on the scale of 0 – 10.)	
g.	What is the level of local control you have, about this function??	
h.	Any suggestions about what can be done further to improve the existing scenario??	
7. IT Services		



Sr. No.	Items	Ranking
a.	What is the level of awareness among citizens in your ward about various civic services being provided by the Municipal Corporation through e – governance??	
b.	What is the level of usage of those services by those, who are aware??	
c.	For purely local issues, such as complaints about garbage or street lights or booking of a community hall, are those services effective??	
d.	In your assessment, what is the level of scope for further improvements in IT services??	
e.	What is the level of local control you have, about this function??	
f.	Any suggestions about what can be done further to improve the existing scenario??	

Section III: Your quick understanding of your own ward.

Sr. No.	Question	Answer
1.	How many SWM bins are functional??	
2.	How many are the lamp posts??	
3.	Number of municipal markets??	
4.	Number of crematoria??	
5.	Number of parks??	
6.	Number of playgrounds??	
7.	Number of parking lots??	
8.	Number of sanitary inspectors??	
9.	Number of hospitals??	
10.	Number of schools??	
11.	Number of malls??	
12.	Key identity of your ward??	
13.	Key problem areas??	
14.	Key achievements so far after you got elected??	
15.	Major plans that you have about improving your ward in near future??	