

Documentation of Leading Practices in Urban Water –Sanitation, Gujarat

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Documentation of Leading Practices in Urban Water Sanitation, Gujarat 2014

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E-governance initiative for complaint registration by the Morbi municipality

E-Governance is a tool aiding public administration to make use of Information and Communication Technologies (ICT) and enhance the access and delivery of government services to benefit citizens, employees and management of urban local bodies. In a world that is gradually shrinking into a connected global village due to the era of electronics; it aims to help strengthen the government's drive towards increased transparency in their dealings as well as a better management of social and economic resources for development.

This case study documents Morbi Municipality's initiative to install an interactive kiosk for complaint registration which not only helps in effective monitoring of city issues but also subsequent resolution.

1. City Profile

Morbi is a small city located on the banks of the Machhu River about 60 km away from Rajkot in the state of Gujarat. It was once a Princely State ruled by the Jadeja clan of Rajputs until the Indian Independence in 1947. The city was constituted as a municipality in 1949. Today, Morbi is a Class 'A' Municipality with a population of 210,451. It is one of the wealthiest cities in the state, being a hub for wall clocks and ceramic industries, covering approximately 75% of the total ceramic production in India and 10% of the world's ceramic production. Morbi is also famous for its art and architecture along with being widely known for its export of cotton and grain.

The Municipality of Morbi initiated an E-governance model in April 2014 by installing an interactive kiosk in their head office. The kiosk was mainly for registering complaints about civic issues and for the citizen to view details of their public records.

2. Situation before the Initiative

Before setting up the kiosk, all complaints were registered manually. Citizens had to go to the ward office, stand in long queues and spend long hours to go about registering a single complaint. Moreover, these grievances could only be reported during office timings or at specific timings.

Not only did each ward have only one complaint box; there was just one official managing the complaints of 14 wards in the city. The officer in question then remained occupied with answering queries and handling the paperwork, leaving him/her no time to focus on the resolution of the complaints.

Meeting senior officials, availing tax information and other individual details was a highly time-consuming task.

3. Details of the Initiative

An exposure visit to Rajkot Municipal Corporation (RMC) on their e-governance model was organized by Urban Management Centre (UMC) in September 2012. The process of bill payments through a kiosk was a practice followed by RMC, which motivated the Chief Officer to initiate interactive kiosks for complaint redressal in Morbi. The kiosk in question was developed by an IT firm based in Ahmedabad called Mercury Infoway and its total cost was estimated to be Rs. 1.35 lakh. The one currently installed in the municipality head office is for a pilot study.

Morbi is the first municipality in the state to install an interactive kiosk for its citizen to register their complaints. An interactive kiosk is a computer – like device that provides people with self-service access to any information and services from the municipality.

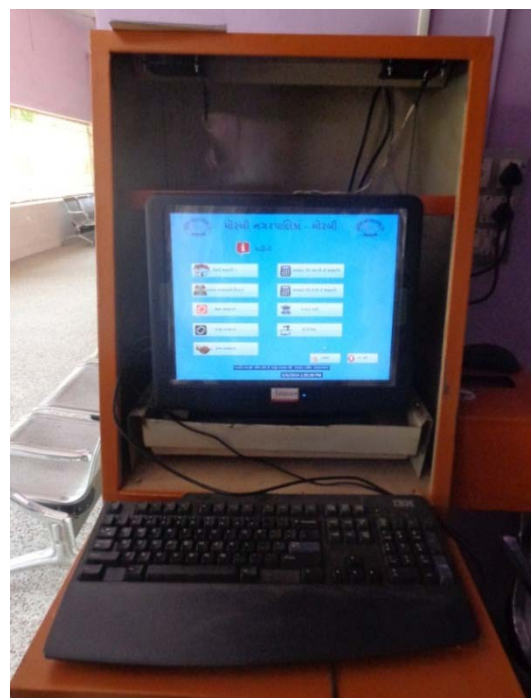
The kiosk provides the following services to its citizens:

- a. Complaint registration
- b. Scheduling an appointment with municipality officials
- c. Access to individual public records
- d. Information regarding available services and other initiatives by the municipality

The kiosk has a multi-language selection option available which allows the citizens to operate it in either English or Gujarati. It can be accessed 24x7 hence the citizens no longer have to visit the municipality or conform to their specific office timings. It is estimated to reduce up to 45% walk-ins by the locals which could then result in improved productivity of the municipality staff. The software is user-friendly and customized to capture maximum accurate information.

3.1 Complaint registration

The kiosk allows citizens to register their complaints in just a few clicks. It gives them the facility to do so along with adding their mobile numbers. Once the complaint is registered, the complainant immediately receives a notifying SMS of the same. Similarly, an SMS is received on complaint resolution. The system also generates a summary sheet for the officials, which gives them the information about the total number of complaints registered.



Interactive kiosk installed for pilot study, Morbi Municipality head office

3.2 Scheduling an appointment with municipality officials

Any citizen at a given point of time can schedule an appointment to meet a senior municipality official like the Chief Officer, Chairman, Secretary or Office Superintendent at a date and time convenient to them. Both the citizen as well as the concerned official receives an SMS informing them of the date and time as soon as the appointment gets scheduled. This helps municipality staff to take immediate action.

3.3 Access to individual public records

The concerned citizen can avail information on birth/death records, tax formalities, shop license, municipality assets, voter list, BPL list, status of rented shops etc. The system given an option to generate a printed statement of the information the user wishes to obtain.

The municipality is planning to install 3 more kiosks at Kesarbaug garden, new bus station and the Collector's office; so that majority of the population can access it.

3.4 Information regarding available services and other initiatives by the municipality

Apart from these services, Morbi Municipality is planning to provide services on birth-death registration, marriage registration, property tax, professional tax, shop and establishment license, stock record, RTI, election list, information on solid waste management, legal and court matters, tendering system, inward-outward register, accounting system, etc.

4. Potential impact value

The kiosk has been recently installed so it is early to determine the reach of its impact however it hold a lot of potential to become a successful initiative. The system helps citizens to access information, register complaint and schedule appointment at their convenient time. It helps the municipality to not only save money and time but also human resources and paper. Thus, it is easily replicable in any other city.



Chief Officer demonstrating use of kiosk

IT Based Complaint redressal system – a study of Vadodara Municipal Corporation (VMC)

Establishing a user-friendly and effective complaints recording system becomes essential for redressing complaints efficiently and for the governing body to gain confidence of citizens. Also using various upcoming technology based tools bring in added efficiency, transparency to the table. With increased avenues of accessing the local government, cities will be able to reach out to the last citizen and hear their concerns.

This case study documents Vadodara Municipal Corporation's information technology based complaint redressal system for efficient redressal of complaints

1. City Profile

Vadodara is the third largest city in the state of Gujarat with a population of 41,65,626 and an area of 149 sq.km (Census 2011). It is often called the cultural capital of Gujarat. The city is managed and governed by the Vadodara Municipal Corporation (VMC). Vadodara Municipality was elevated to the status of a Municipal Corporation in the year of 1966. The city runs through the golden corridor, from Ahmedabad to Vapi, and is one of India's foremost industrial centers with dominant groups of chemicals and pharmaceuticals, cotton textiles and machine tools. The city is sandwiched between two major growth magnets i.e. Ahmedabad and Surat.

VMC set up an IT based complaint redressal system in the year 2012 for tracking, monitoring and efficient redressal of civic complaints to municipal services.

2. Situation before the Initiative

Prior to adoption of the model, people had to go to the ward offices personally to register complaints; it was a problem, especially for the senior citizens. The complaints were registered by semi-skilled staff and hence there was no seriousness regarding the redressal of complaints due to lack of direct accountability. The complaints could only be registered during office hours or at specific timings for particular services. For instance, complaints related to streetlights were accepted only between 12:00-8:00 pm. There was no common complaint number. For each of the specific service, there were different numbers and locations where complaints had to be registered. Additionally, there was no collation of complaints and hence the data from complaints could not be used by the VMC to make any long-term improvements.

3. Details of the Initiative

Why?

In par with VMC's vision of achieving the best civic standards in the country, a system of complaint redressal has been developed to enhance citizen friendliness, easy accessibility and provide a one stop solution for delivery of municipal services. The system has been developed by the EDP (Electronic Data Processing) department of the Corporation itself.

How?

The first step was estimating the number of complaints that will be received per day. Using the assumption of 1 complaint per household, complaints traffic was estimated to be around 6,00,000 complaints per day. To cater to the demand, 10 concurrent lines were set up by VMC. A toll free number was taken from BSNL (18002330265) in which the last 4 digits are the STD code of Vadodara and initial digits are the standard BSNL's toll free number; making it easier to remember.

For the purpose of tracking complaints, a call center has been set up. This call center has been established by a Vadodara based company under the PPP model. Its function is to register complaints made via phone call and forward it to the concerned department. The staff and other call center operatives hired by the agency are trained to effectively carry out the procedures involved from start to finish. Complaints registered through the website are also managed by the call center. A city charter has been set up and information regarding the same is available extensively on the website. A hierarchical chain of officers has also been formulated to address the escalation of complaints.

What?

In this system, the users have an option of registering complaints to municipal services using either the toll free number or the website.



Information of the toll free number has been disseminated through website and newspapers.

Toll free number: A user needs to call and get the complaint registered. For every complaint, the software generates a unique complaint code. It is intimated to the caller by the agent so that the user can know the status of the complaint in future. The complaint is then forwarded to the concerned department by the agent.

A screenshot of a web browser displaying a complaint registration form. The form is titled "સર્વિસ સસ્ટમ" (Service System) and has a "Home" button. The main heading is "Register Complaint". Below this, there is a list of complaint categories in Gujarati and English: (પાણી પુરવઠો) Water Supply, (સ્ટ્રીટ લાઇટ) Street Light, (વરસાદી ગટર પોજેક્ટ) Storm Water Drainage Project, (રોડ પ્રોજેક્ટ) Road Project, (રસ્તા અને ફૂટપાથ) Road and Footpath, (જાહેર સીંચાણ) Public Toilet, (જાહેર આરોગ્ય) Public Health, (કોર્પોરેશન વેરો) Property Tax, (પાર્ક અને ગાર્ડન) Parks And Garden, (હોસ્પિટલ અને ટવાખાના) Hospital and Dispensary, (ગુજરાત ગ્રામ્ય શહેરી હાઉસિંગ સ્કીમ) Gujarat Rural Urban Housing Scheme, (કચરો અને સ્વચ્છતા) Garbage And Cleanliness, (ઈ વેસ્ટ) E Waste, (ગટર પ્રોજેક્ટ) Drainage Project, (ગટર અને વરસાદી ગટર) Drainage And Storm Drain, (મરેલા જાનવર) Dead Animals, (જન્મ અને મરણ) Birth And Death, (પાણી પુરવઠો) Water Supply. The form fields include: Full Name, Landline Number, Mobile, Email, Address, Property Census #, Area, Election Ward, Complaint Category (selected as Water Supply), Complaint Type (selected as પસંદ કરો - Select-), Describe Complaint (with a character limit of 250), and an Upload Image section with a "Choose File" button and an "Upload" button. The user's IP address is shown as 117.218.159.11.

Complaint registration form at the VMC website

Website: A user can register complaint online from the municipal corporation website (<http://register.dial24hrs.in/RegisterComplaint.aspx>). The complaint registration form prompts the sector and type of complaint. It also allows the user to briefly describe the complaint and upload a picture, if needed. The

webpage prompts the location area of the complaint as well. On successful registration, a unique complaint code is generated.

Currently, the paper based complaints registration runs parallel to the web-based registration, however, the total number of complaints received by the Municipal Corporation do not get totaled.

Ward office: A user can also walk-in to a ward office and get the complaint registered verbally or by submitting an application. However, such complaints do not get included in the system and no unique complaint code gets generated.

Facility to track the status of complaint is available online, using the complaint number generated at the time of registration. The complaint number is unique for each complaint. The status of complaint can be one of the four:

- In progress:** It is the default status after registration of any complaint.
- Closed:** Complaints that have already been redressed shows closed status
- No scope:** Complaints that cannot be redressed by the ULB shows no scope status. For example: complaint related to railway tracks, RTO do not fall under the purview of a municipal corporation and hence cannot be taken care of.
- Transfer:** Complaints that gets registered under a sector not responsible for its redressal gets transferred to the relevant sector.

The system also generates a summary sheet for the officials, as shown in the image below, which gives the following information:

- Total complaints registered (online, call center)
- Status of complaints (open, closed, no scope, not forwarded)
- Ward wise and zone wise classification of complaint status
- Sector wise Classification of complaint status of all registered complaints

Summary sheet of registered complaints from 12.6.13 to 5.6.14

Username :man9727 Employee Name :MANISH BHATT Zone/Ward :1 Post :WebAdmin Date :05/06/2014

Complaint Reports

From Date :12/06/2013To Date :05/06/2014

Create ExcelSubmitCancel

Vadodra Mahanagar Seva Sadan

Print Date : 05/06/2014Printed By : MANISH BHATT

Call Center Call Attend	36911
Online Complaint Register	2535
Total Complaints	39446

Open Complaints	2430
Closed Complaints	33133
No Scope Complaints	3577
Not Forwarded Complaints	300
Total Complaints	39140

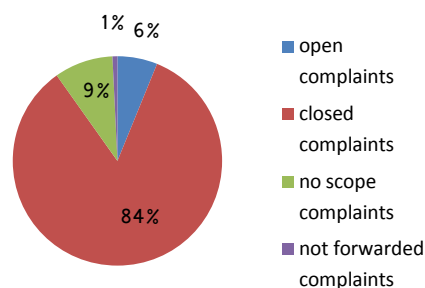
Zone Name	Completed	NoScope	InProgress	NotForwarded	Total Complaint
East	16601	1567	501	59	18728
South	7977	1179	873	65	10097
North	4453	442	588	77	5561
West	4102	389	468	99	5060
Total :	33133	3577	2430	300	39446

Ward Number	Completed	NoScope	InProgress	NotForwarded	Total Complaint
1	945	111	37	9	1102
2	6174	232	188	22	6616
3	3956	466	413	20	4855
4	2777	453	294	26	3550
5	942	115	115	14	1187
6	1367	108	143	22	1641
7	1665	199	398	50	2312
8	1846	128	75	13	2062
9	9482	1224	276	28	11010
10	1535	132	95	30	1793
11	1200	149	230	47	1626
12	1244	260	166	19	1692
Total :	33133	3577	2430	300	39446

Category Name	Completed	NoScope	InProgress	NotForwarded	Total Complaint
Drainage And Storm Drain	12548	1525	868	10	14951
Street Light	8462	342	212	22	9039
Garbage And Cleanliness	5248	80	147	37	5512
Water Supply	3679	619	152	55	4505
Road and Footpath	1456	802	247	83	2590
Public Health	558	7	531	33	1130

4. Results

The system has been successful to maintain a record of complaints and ensure its timely redressal. In the time span of almost a year, 39,446 complaints were registered¹. Out of which, 93 % complaints were responded to and 84% complaints were redressed. Also it has helped to create a database which would help the ULB to improve upon its service delivery.



Status of complaints registered till June 2014

5. Other services

Not only complaints registration, but also online payment service for property tax and information related to property tax and professional tax via SMS are provided by the Corporation.

6. Areas requiring further improvements

- In VMC, there are frequent intra zonal transfers of officials from one department to another; this creates an issue for the call center staff to direct the complaints to the concerned official. If such transfers take place, there needs to be a system for intimating the changes to the call center.
- Officials are not able to update the status of a complaint while on field. Responsibilities of many VMC staff members require them to be on the field for a majority of their time. To enable real-time updating of the status, the VMC is also developing a mobile application.
- Complaints registered personally at the ward level do not get integrated with the system; they are eliminated for any further analysis. VMC needs to make arrangements for inclusion of complaints registered via the conventional method.

7. Sustainability of the model

IT penetration helps in improving the efficiency and efficacy of the service delivery mechanisms. It does so by assimilating data and its analysis. Decision makers need to begin making use of such analysis to improve service delivery.

However, it needs to be made sure that all complaints (even those registered at the ward office) are integrated into the system.

8. Transferability of the model

While VMC's system has been designed in house by the IT department, the private sector is also cooperative these days. Other Gujarat cities including, Ahmedabad, Rajkot and Jamnagar have already adapted the model. Thus, it can be easily transferred to other cities as well.

¹ source: summary sheet of registered complaints from 12.6.13 to 5.6.14

Comprehensive Complaint Redressal System (CCRS) in Ahmedabad

A complaint system consists of a set of procedures set up and followed in organizations to address complaints and resolve disputes. The CCRS is a web based enterprise solution that allows Ahmedabad Municipal Corporation to enhance citizen satisfaction through comprehensive service management and efficient service delivery. CCRS automates entire complaint process right from registration to closure. It also enforces service level policies to ensure the complaint gets attended within desired timeline or gets escalated to higher authorities for their attention and intervention. A transparent system like this effectively bridges the gap between the citizens and the municipal body. With a vision to develop an effective and sustained complaint redressal system to achieve best civic standards in the country, AMC has launched a comprehensive complaint redressal system which is documented in this study.

1. City Profile

With a population of 6.2 million, Ahmedabad is the largest city in Gujarat and the fifth largest metropolis in India. Located on the eastern banks of the Sabarmati River, Ahmedabad has always been an important city in the Gujarat-Maharashtra region. The city has emerged as an important economic and industrial sector, being a house to prestigious institutions like Ahmedabad Textile Industry's Research Association (ATIRA), Indian Space Research Organization (ISRO), Indian Institute of Management (IIM), Physical Research Laboratory (PRL), etc., making it an important center for higher education, science and technology. Ahmedabad has also been flourishing and advancing its importance in trade and commerce. The city is administered by the Ahmedabad Municipal Corporation (AMC), constituted in 1950.

AMC has launched a web-based Comprehensive Complaint Redressal System (CCRS) in 2014 for integrated service management and efficient service delivery.

2. Situation before the Initiative

The AMC has undertaken a number of reforms and initiatives ranging from issuing the first municipal bond in the country to initiating public private participation, but however, it was not known for either efficient or citizen-friendly administration. In fact, dealing with most of the departments could be a harrowing experience for the citizens as recently as one year ago whether it was for paying taxes or for obtaining the simplest of services, the citizens had to put up with complex procedures, unnecessary delays, and occasionally corruption when dealing with the administration.

The Ahmedabad Municipal Corporation (AMC) in early 2000 implemented a major initiative in this area by setting up six City Civic Centers where citizens can transact with urban local body in a hassle-free environment. The initiative also promises major efficiency gains for the AMC along with significant savings. The initiatives at national as well as state level supporting e-governance and IT gave initial impetus to AMC.

Earlier people had to go to the ward office personally to register complaints and these could only be registered during office hours or at specific timings. There was no proper system for complaint registration and its monitoring due to which the entire process required excessive manual labor. All sectors of AMC were widespread with different contact numbers which made it tedious and extremely inconvenient for any local as they had to firstly track down the office and then register his/her complaint. Moreover, they were unaware of what genre of grievances could be registered and at which place. There was no single collated or combined report that gave an indication of the number of complaints received or resolved.

3. Details

With a vision to develop an effective and sustained complaint redressal system to achieve best civic standards in the country, AMC has launched a comprehensive complaint redressal system. The initiative was widely promoted through newspapers and website blogs (<http://theahmedabadblog.com/ahmedabad-municipal-corporations-complaint-call-centre-launched.html>) inviting citizens to participate in the pilot study. The complaints can be registered in the following modes:

1. Online public redressal system
2. Single number helpline
3. E-mail
4. SMS
5. Interactive Voice Response (IVR) system

3.1 Online public redressal system

A user can register complaint online through the municipal corporation website [http://www.amccrs.com/AMCPortal/V](http://www.amccrs.com/AMCPortal/View/AMCDetail.aspx)iew/AMCDetail.aspx. The online form prompts the user to register their complaint, specify ward and area. The form also asks for the personal information of the complainant so that AMC can revert back to the citizen and keep him/ her updated. On successful registration, a unique complaint code is generated. The online system not only keeps records of the registered complaints, but also allows citizens to track them.

AMDAVAD MUNICIPAL CORPORATION

PM, 11 Jul 2014
6:12 pm IST

HOME

Complaint Registration ... **Complaint Registration**

Online
Through Email
Through Phone/SMS
Re-Open Complaint ...
Through Email
Through Phone/SMS
Complaint Status...
Online
Through Phone/SMS
Citizen Opinion ...
Citizen Opinion
AMC Officer's Login
User Name:
Password:

Total Complaints Registered
As On Date
369982

All fields marked * are mandatory

Search

Enter your registered mobile number and click on go button
Mobile No.:

Problem Details

Problem Related To: Department:
Problem:
Select Your Ward:
Area / Society: * Enter min. 5 characters & Click on Search to select your area/society

Area / Society Selected:
☐ Copy to residential address
Remarks:

Complaint Registration

Enter Your Name: *
Enter your mobile no.: * This will be your registered mobile no. with us
Enter your email address:
Enter your residential address: *
Contact Person:

Online complaint registration page

3.2 Single number helpline

A user can dial the toll free number 155303 without prefixing digits from landline or mobile between 6.00 AM to 10.00 PM and get the complaint registered. AMC has launched the call center service to reach out to citizens without access to internet and those who are unable to go to the civic centers. The software generates a unique complaint code for every complaint. The complaint is then forwarded to the concerned department.

3.3 E-mail

A user can register complaint through an e-mail that can be sent for the AMC website (<http://www.amccrs.com/AMCPortal/View/QuickComplainRequest.aspx>)

AMDAVAD MUNICIPAL CORPORATION

Fri, 11 Jul 2014
6:12 pm IST

HOME

Complaint Registration ...

Online

Through Email

Through Phone/SMS

Re-Open Complaint ...

Through Email

Through Phone/SMS

Complaint Status...

Online

Through Phone/SMS

Citizen Opinion ...

Citizen Opinion

AMC Officer's Login

User Name:

Password:

**Total Complaints Registered
As On Date
369982**

Complaint Registration Through Email

All fields marked * are mandatory

Email US

You can send us an email, an excellent way to express your grievance. Just fill the details below and be assured to get your problems redressed properly.

Name :

Email ID :

Mobile No. :

Description:

▪

▪

▪

3.4 SMS

A user can also register the complaint by sending a text message 'AMCCRS NEW' on 56070. In this case, a call center operator will call back to take necessary details regarding the complaint.

AMDAVAD MUNICIPAL CORPORATION

Fri, 11 Jul 2014
6:12 pm IST

HOME

Complaint Registration ...

Online

Through Email

Through Phone/SMS

Re-Open Complaint ...

Through Email

Through Phone/SMS

Complaint Status...

Complaint Registration Through Phone/SMS

Complaint Registration Through Phone

Contact our dedicated call center by dialling 155303 from landline or mobile between 6:00 AM and 10:00 PM to raise complaint. AMC assures to provide a seamless support.

Complaint Registration Through SMS

Send text "AMCCRS NEW" to 56070. A Call Centre operator will call back to take necessary details to register the complaint.

3.5 Interactive Voice Response (IVR)

There is also an option to register a complaint post 10.00 PM. The IVR system guides users to register their complaint.

The system covers more than 204 different types of complaints including footpath renovation, water logging, overflowing dustbins, illegal connections, fused street lights, property tax issues, lack of public toilets, birth and death certificates etc. Once the complaint is registered the concerned official is information regarding the complaint through SMS.

The CCRS automates entire complaint process right from registration to closure. Once a complaint is registered with the system, it is assigned to a concerned area officer dealing with the reported problem. The system automatically sends an SMS to the officer alerting him on the complaint for taking required action. The officer calls up the complainant, if necessary, to seek specific details. The officer is expected to resolve the complaint within a specified period. Once a complaint is resolved, the officer marks the complaint closed in the system. The citizen receives an SMS confirming resolution of the complaint. If the complaint is not resolved and closed within the specified period, the same gets escalated to higher authorities.

The system provides data of frequent complaints and average turnaround time for each kind of problem. It helps AMC to focus on the areas to improve the services by enhancing the manpower and infrastructure. This also helps AMC to prioritize on their services.

4. Impact

In the course of its pilot run, 365,432 complaints have been registered till date. The system is sustainable and it offers transparent, efficient and user-friendly system to their citizens.

The model is replicable in any other large and medium cities having basic infrastructure to set up an online complaint redressal and management system. Other cities including Rajkot, Jamnagar and Vadodara have already implemented the model.

Decentralized Composting of Green Waste in a public garden, Ahmedabad

The city produces tones of green waste every day generated from domestic units, trade centers, commercial establishments, agriculture, institutions and public services; all of which is dumped at waste disposal sites. Around 60 percent of domestic waste is in the form of food left overs, vegetable peels and grass clippings. Such waste is also often thrown on streets, in abandoned sites or goes with the mixed waste to the dumping site. A decentralized composting plant promotes localized treatment of green waste which not only makes collection and segregation easier but also results in more effective disposal. This case study documents AMC's initiative on green waste composting focused at Lok Lok Manya Tilak Baug (Victoria Garden).

1. City Profile

With a population of 6.2 million, Ahmedabad is the largest city in Gujarat and the fifth largest metropolis in India. Located on the eastern banks of the Sabarmati River, Ahmedabad has always been an important city in the Gujarat-Maharashtra region. The city has emerged as an important economic and industrial sector, being a house to prestigious institutions like Ahmedabad Textile Industry's Research Association (ATIRA), Indian Space Research Organization (ISRO), Indian Institute of Management (IIM), Physical Research Laboratory (PRL), etc., making it an important center for higher education, science and technology. Ahmedabad has also been flourishing and advancing its importance in trade and commerce. The city is administered by the Ahmedabad Municipal Corporation (AMC), constituted in 1950.

AMC has set-up a decentralized waste converter machine in December 2013 at Lok Manya Tilak Baug (Victoria Garden) for composting garden waste.

2. Situation before the Initiative

Prior to the initiative, large quantities of green waste was either burnt or dumped at Pirana (Ahmedabad landfill dump yard). This thereby resulted in more waste reaching the dump site owing to the lack of any decentralized waste management option available. Expenditure was incurred not only on the transportation of the garden waste to the dumping site but also on the human resources involved in the same. The Garden Department of AMC sustained major expenses on the procurement of manure / compost for all the gardens in the city.

3. Details of the Initiative

Ahmedabad Municipal Corporation (AMC) has come up with a novel solution to reduce large quantities of green waste dumped at Pirana. The civic body in collaboration with Gujarat Consumer Industries (GCI) had set up a decentralized compost plant (waste converter machine) at Lok Manya Tilak Baug (Victoria Garden) in December 2013. The plant manufactures compost from green/ bio-

degradable waste on the Design Built Operate and Transfer (DBOT) model. AMC will bear the maintenance cost of the system. The compost plant covers an approximate area of 100 sq. m. AMC has made a capital investment of Rs. 11.11 lakh while the technical aspects with regard to the establishment of this plant have been taken care of by GCI.

Process

Around 1 metric ton of waste is collected from street sweeping and secondary collection bins near and around Victoria Garden. All the waste is then transported by AMC to this plant and subsequently processed. The process of compost generation is as follows:

Segregation and Shredding

Primarily, all the green waste like leaves, twigs, grass, tree bark, pruned branches, flowers, coconut shells and other garden waste is separated from the waste collected in the bins. The green waste is then put into the machine where the waste is shredded. Other non-degradable items like plastic, glass, rubber, etc. are disposed in the nearby municipal bin.



Process of segregation and shredding

Blending

The shredded waste is then put into blender. Here, 180 ml of microbial culture mixed with 150 ml water is added to 1 ton of waste. After the blending takes place, the raw compost is then piled up and dried for 7-8 days.



Blending process in the plant

Screening

Once the raw compost has finished drying, it is passed through the screener which from which results the fine compost. The remaining coarser waste is again mixed with fresh waste that goes into the shredder. The plant manufactures approximately 600 kg of compost every day. The fine compost generated is used as fertilizing manure in gardens of the city which helps increase the green patch of the city. The compost generated is under the sole ownership of AMC.



Screening process

4. Benefits of this drive

The initiative holds a potential to succeed as:

- a. The compost Plant is relatively an easy machine to operate.
- b. The process of treating green waste is quick and more importantly can be done at the local level.
- c. There is reduction in transportation cost as the garden waste is no longer needed to be transported to the Pirana landfill site.
- d. The plant not only treats the garden waste, but also produces compost out of religious offerings like flowers and coconuts. The system is a feasible solution to unnecessary waste accumulation at dumping sites.
- e. There is reduction in Green House Gas (GHG) emissions and carbon foot print leading to an overall improvement in the environment.

The initiative strives to move Ahmedabad towards a cleaner, greener and healthier city environment. It can be easily replicated in other wards and cities.

Developing a processing facility for slaughter house waste – an initiative by Vadodara Municipal Corporation

Numerous animal deaths occur daily due to either environmental factors like heat, cold, drought or man-made vehicular accidents. Careless animal carcass disposal can have a negative impact upon the environment. Carcasses should be disposed of within 24 hours which makes it an essential activity for a civic body because it spreads pollution and creates health hazards. Various quick solutions like on-site burial or incineration exist however scientific disposal of carcasses is by far the most preferred as it not only leads to healthy living conditions in a city but also has other resultant benefits. This case study documents VMC's initiative on developing a processing facility for slaughterhouse waste along with other bio-degradable waste.

1. City Profile

Vadodara is the third largest city in the state of Gujarat with 1.7 million population approximately and an area of 149 sq. km (Census 2011). It is often called the cultural capital of Gujarat. The city is managed and governed by the Vadodara Municipal Corporation (VMC). Vadodara Municipality was elevated to the status of a Municipal Corporation in the year 1966. The city runs through the golden corridor, from Ahmedabad to Vapi, and is one of India's foremost industrial centers with dominant groups of chemicals and pharmaceuticals, cotton textiles and machine tools. The city is sandwiched between two major growth magnets i.e. Ahmedabad and Surat.

VMC has set-up a bio-gas plant in December 2013 which uses carcass waste and the waste generated by slaughterhouses and hotels to produce methane and manure.

2. Situation before the Initiative

Prior to the installation of the bio-gas plant, there was no organized system for the disposal of carcasses. The slaughterhouse waste was buried. In case of dead animals found on roads, the bodies remain lying as they are for a long period of time. The skin is often removed for its market values, though the flesh is allowed to decay without any control. This attracts vultures and dogs, polluting the environment and creating health hazards. A nauseating stinking smell emanates from such sites which vitiates the whole ambience in the area. In the absence of an organized and scientific system of disposal of dead animals, it is slowly becoming a major environmental concern.

3. Details of the Initiative

Vadodara Municipal Corporation (VMC) has built an advanced facility to dispose dead animals and waste generated by slaughterhouses and hotels to produce methane and manure. The facility is a zero-waste plant, located in Gajrawadi area in the city. VMC installed the plant in December 2013 in collaboration with a Mumbai based company called Avni Enterprises. The approximate establishment cost of the bio-gas plant amounted to Rs. 70 lakh. The gas generation capacity of the plant is 5 MT per day after the input of around 3000-3500 kg of waste.

The bio-gas plant uses aerobic and anaerobic digestion technology to process the waste. The technology has been developed by Bhabha Atomic Research Centre (BARC) specifically to dispose urban waste. The bio-gas plant works on the principle of bio-methanation where thermophilic microorganisms treat the organic waste to generate methane gas and organic manure.

Process

Every morning, all the waste including dead animals, slaughterhouse and kitchen waste is brought to the bio-gas plant located at Gajrawadi by the Vadodara Municipal Corporation. Thus, every day 15-20 dead animals, slaughterhouse waste weighing 2000 kg and hotel waste approximately 1000-1500 kg are sent to the bio-gas plant. Thus, waste amounting to approximately 3000 - 3500 kg is put in the bio-gas plant for treatment. Once the dead animals are brought at the site, the bones and skin are removed and the flesh is used for further treatment. The bio-gas plant has the following units:

1. Mixer/ Crusher

Segregated organic waste (free from plastic, paper, metal, cloth, glass, skin and bones) is charged into mixer along with water. It is crushed to obtain uniform slurry.

2. Primary Digester

The organic waste slurry mixed with hot water is charged into primary digester. The primary digester serves mainly as hydrolysis cum acidification tank for treatment of suspended solids. Compressed air is used in the process which helps increase aeration. The primary digester is designed in such a way that after the system reaches equilibrium in initial 4-5 days, the fresh slurry entering the tank will displace equal amount of digested matter from the top into the main digester tank.



Abandoned animal carcasses



Gas holder dome

3. Main Digester

Main digester serves as Methane fermentation tank and the BOD reduction takes place here. The bio-gas is collected in a dome (gas holder). It fits like a cap on the mouth of digester and it is submerged in water. The bio-gas produced from slurry is collected in the gas holder and being lighter than air it rises upward.

4. Benefits

The plant operates on the basic principle of reduce, recycle and reuse. It is easy to operate and a very convenient way to treat bio-degradable waste. There is reduction in nuisance like odor, smell, flies and mosquitoes to neighboring citizens, resulting in clean, hygienic and pollution free environment.

E-payment of taxes – a case study on Vadodara Municipal Corporation

1. City Profile

Vadodara is the third largest city in the state of Gujarat with 1.7 million population approximately and an area of 149 sq. km (Census 2011). It is very often called the cultural capital of Gujarat. The city is managed and governed by Vadodara Municipal Corporation (VMC). Vadodara Municipality was elevated to the status of a Municipal Corporation in the year 1966. The city runs through the golden corridor, from Ahmedabad to Vapi, and is one of India's foremost industrial centers with dominant groups of chemicals and pharmaceuticals, cotton textiles and machine tools. The city is sandwiched between two major growth magnets i.e. Ahmedabad and Surat.

Vadodara Municipal Corporation opened up diverse options for payment of taxes in 2014. Property tax, water charge, safai charge bills can now be paid using e-payment options.

2. Situation before the Initiative

Prior to the adoption of the online system, citizens had to pay taxes by going in person to the respective ward office and stand in long queues. It was especially inconvenient for senior citizens as well as NRIs having properties in the city. Since taxes could be paid only in offices, time constraints were also an issue.

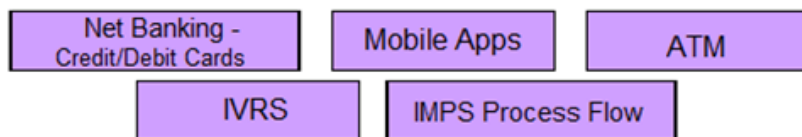
3. Details of the Initiative

Vadodara Municipal Corporation opened up diverse options for payment of taxes in 2014. However, option of online payment via VMC website has been operational since April 2012. Property tax, water charge, safai charge bills can be paid using e-payment options. The process to be followed for using any of the services is described in the official website of Vadodara Municipal Corporation. The bills have a barcode which at the time of payment can be read by a barcode reader and the payee details get filled automatically. It saves time and prevents errors. Banks like ICICI, HDFC and Axis have collaborated with VMC and provide services free of cost as a part of their corporate social responsibility. The options include:

1. Payment in bank branches
2. Net banking – credit card/ debit card
3. Mobile app – ATOM
4. ATM
5. IVRS (Interactive Voice Response)
6. IMPS (Immediate Payment Service)
7. Tax collection from homes

વડોદરા મહાનગરપાલિકા

વડોદરા મહાનગરપાલિકા દ્વારા પ્રોપર્ટી ટેક્સ (મિલકત વેરો) ભરવા માટે નીચે મુજબના ઇ-વિકલ્પો છે.



સીનીયર સીટીઝન તેમજ મહિલાઓ માટે ICICI BANK ના સહયોગ થી પ્રોપર્ટી ટેક્સ ઘરે બેઠા સ્વીકારીને રીસીપ્ટ આપવામાં આવશે. આ માટે કોલ સેન્ટરના Toll Free **1800 233 0265** પર સંપર્ક કરવાનો રહેશે.



બેન્ક શાખામાં પેમેન્ટ : **ICICI Bank Ltd., AXIS Bank, HDFC Bank** ની વડોદરા શહેરની કોઇપણ શાખામાં પ્રોપર્ટી ટેક્સ ભરી શકશે.

IVRS થી પેમેન્ટ : **Axis Bank** ના સહયોગથી કરદાતા દ્વારા Toll Free **1800 123 0265** ડાયલ કરીને સૂચના મુજબ **Credit Card** થી ફક્ત ફોન દ્વારા પ્રોપર્ટી ટેક્સ ભરી શકશે.



ICICI Mobile Payment: **ICICI Bank** ના સહયોગથી 3૨ બેન્કના ખાતાધારકો મોબાઇલ વડે પણ પ્રોપર્ટી ટેક્સ ભરી શકશે.

એન્ડ્રોઇડ મોબાઇલ એપ્લિકેશન : **Axis Bank** ના સહયોગથી મોબાઇલ પર **ATOM Mobile App** ડાઉનલોડ કરીને **Credit/Debit Card/Net Banking** થી ચુકવણું કરી શકશે.




ATM વડે પેમેન્ટ : **ICICI Bank** માં રજીસ્ટ્રેશન કરાવીને **ICICI Bank**ના કોઇપણ **ATM** પરથી પ્રોપર્ટી ટેક્સ ભરી શકશે.


વડોદરા મહાનગરપાલિકાની વેબસાઇટ **www.vmc.gov.in** પરથી **Credit/Debit Card/Net Banking** થી પ્રોપર્ટી ટેક્સ ભરી શકશે. આ લિંક **Property Tax Online** ની મુલાકાત લો.



વડોદરા મહાનગરપાલિકાની કોઇપણ વોર્ડ ઓફીસમાં પ્રોપર્ટી ટેક્સ ભરી શકાશે. (**Cash, Cheque, D.D., Dropbox, Credit Card, Debit Card** ની સુવિધા)



VADODARA
 MUNICIPAL CORPORATION
 VADODARA CITY



e-Payment of Property-Tax, Water-Charge and Safai-Charge Bills

Home	Name of Owner	Name of Occupier	Census Number
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Instructions for E-Payment

- Do not use(press) F5 key / Refresh option during transaction process
- Once you have completed transaction process, kindly login to your Net Banking account or Credit/Debit card transaction option provided by bank for balance deduction details.
- After transaction If you are not able to see receipt online, kindly do not directly make another transaction verify that balance in your account is deducted or not.

CHECK YOUR NEW CENSUS NO

CURRENT CENSUS NO:

SUBMIT
CLEAR
HIDE

Search by Census No.		NEW CENSUS NO
Census No	<input style="width: 90%;" type="text"/> Search Clear	
		Ex : XX-XX-XXX-XXX-XXX-XXX
Owner Information		
Census No		
Occupier		
Owner		
Local Address		
Postal Address		
Property Tax Dues (e-Payment)		
Old (Rental Base) System		Rs. 0
Area Base Sytam		
Select Payment Mode		
<input checked="" type="radio"/> Debit / Credit Banking <input type="radio"/> NET BANKING		
Pay		

3.1 Payment in bank branches

Citizens can pay property tax in any of the branch of Axis, HDFC or ICICI bank located in Vadodara. It makes it convenient for the users as the number of tax collection windows increase.

3.2 Net banking/Credit Card/ Debit Card

Users can pay property tax, water charge, Safai-charge bills online using credit/ debit card or net banking options. A user can know his/ her property tax dues by searching either by name & address of owner or name of occupier or by the census number. This service can be accessed by going to the link 'property tax online' in the official website of Vadodara Municipal Corporation.

(<http://www.vmcegov.com/proptax/frmsrcbycensusno.aspx>)

There has been a 25% increase in payments made online from the financial year 2012-13 to 2013-14. It has increased from Rs. 6 crores to Rs. 8 crores.

3.3 Mobile app – ATOM

With the help of Axis bank, citizens can also pay taxes via mobile based payment application- ATOM. User needs to download the application on his/her phone. Steps to use the service have been described in detail on the website.

3.4 ATM

Payment can be done by logging in to ICICI website.

3.5 IVRS (Interactive Voice Response)

Axis bank has collaborated to provide payment services via IVRS. For IVRS facility, citizens can call on toll free number, 1800 123 0265. Service is available in 2 languages (English & Gujarati). Payment is enabled through credit cards. Users need to get OTP (one time password) from their respective banks. A list showing how to obtain OTP from various banks is available on the website. Payment slip can be printed from the corporation website.

3.6 IMPS (Immediate Payment Service)

In collaboration with ICICI bank, citizens can also pay taxes via their mobile phones using IMPS. IMPS offer an instant, 24x7, interbank electronic fund transfer service through mobile phones. IMPS facilitate customers to use mobile instruments as a channel for accessing their bank accounts and put high interbank fund transfers in a secured manner with immediate confirmation features. All necessary information related to the process of payment has been clearly specified in detail on the website. After the payment, receipt gets generated in T+2 days.

3.7 Tax collection from homes

ICICI bank has collaborated with VMC and provides facility of tax collection from home for senior citizens as well as women. The bank officials visit homes to receive payment and give them payment receipts. Citizens have to call on the toll free number to request for this service. The call centre receives such requests and forwards it to the designated official from ICICI.

Other than these, citizens can pay taxes in any ward office of Vadodara Municipal Corporation via cash/D.D./dropbox/cheque/debit card/ credit card.

4. Shortcomings of the initiative

Lack of dissemination of information related to diverse payment portals is one of the major shortcomings of the model.

5. Results

The service was opened up in April 2012. By December 2014, only 1% of taxed paid (both in amount and no. of receipts) were paid using the e-payment services. (Sachin).

Property tax being the major source of an urban local body's revenue needs to be collected efficiently. The model is working in collaboration with many private sector banks. It has given diverse options to the citizens and efficiency to the process of tax collection. As banks contribute to

fulfill their corporate social responsibility and provide services free of cost, the model is economically sustainable.

6. Transferability

Looking at the overwhelming support from private sector banks, the model can be transferred to other ULBs as well.

Measures taken for efficient record keeping and data management – A narrative of Mansa & Dehgam

Data management is the process of collection, storage, processing/ analysis, dissemination and efficient use of information. Robust data system allows cities to take timely and correct decisions. Cities invest tremendous time, energy and finances to provide basic amenities to its citizens. However, their information systems are not in place. This case study documents the total transformation of record keeping and data management in the cities of Mansa and Dehgam.

Mansa

Mansa is a Class 'C' municipality in the district of Gandhinagar in Gujarat state. It is a historical city with a population of 30,476 as per the Census 2011.

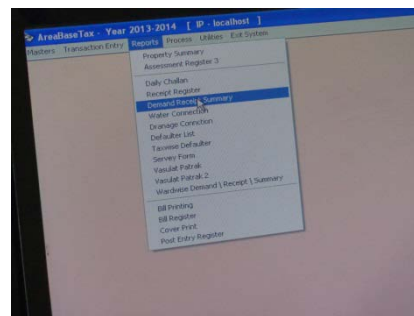
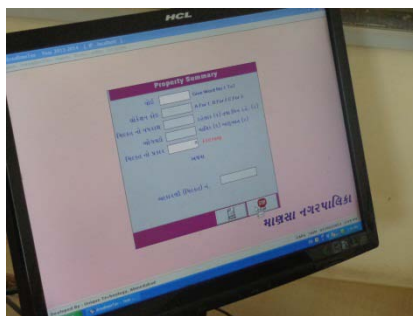
The municipality of Mansa has recently made rigorous efforts in improving its record keeping system.

1. Systematic tracking of Property tax

During 2008-09, Mansa used property tax software (Silver Touch Technologies Limited) that was centrally managed by the state government. The state government managed the capital and operational cost for 5 years. Thereafter, the city was supposed to manage it on its own.

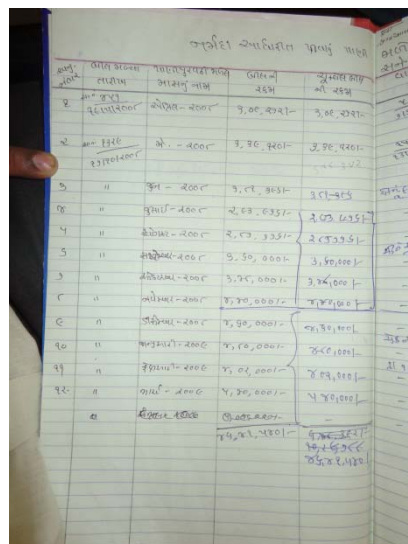
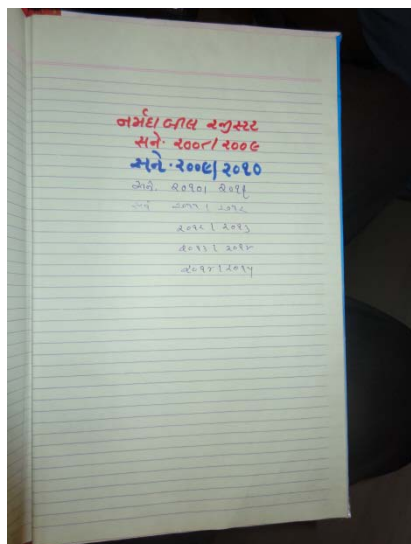
Mansa, in 2011 developed customized property tax software at the cost of Rs. 1 lakh through a private technology provider. The municipality retains its ownership however it pays an annual maintenance charge of 18.5%.

The software is customized to collate accurate information on population, total number of properties – residential/ non-residential, water and drainage connections – residential/ non-residential, tax charges details, age-wise defaulter list, ward-wise information of number of properties and water and drainage connections, etc. The automated system has improved efficiency and reduced error. The software also has an inbuilt SMS system, wherein an SMS is sent to the individual paying tax, immediately as the tax receipt is generated. Besides property tax, the software also records and generates information on birth-death registration, marriage registration fees, shop & establishment, tanker rent, development fund/ chargers and land rent.



Software for tracking property tax

A very minute but unique practice initiated by the municipality is that the income certificate it generates mentions information on pending property tax at the end. The income certificate is required by individuals to avail loans, for any registration, etc. Information on status of property tax helps the individual to apply for a loan.



2. Data systems in solid waste management

The municipality maintains a manual logbook for solid waste activity. Vehicle-wise information on garbage collection and transportation to the treatment plant is recorded daily. Weighing of garbage at weighbridge is done every 2 months. Regular garbage collection in residential areas is done in the morning while in commercial areas it's done in the evening.

3. Bulk flow meters for water supply

Mansa municipality has installed ultrasonic flow meters for measuring inflow of Narmada water. A manual register for the same is maintained on daily basis. This gives very accurate information on water purchased by the municipality and thus helps in proper billing and payment.

4. Systematic data recording

Recently, Mansa has initiated scanning of data of last 40 years. All the information relating to taxation, court cases, grant-wise schemes, project details and many more have been scanned and saved in a digital format. The city will no longer have to preserve age old files, which are getting withered. The electronic version of the data is generated.

Thus, Mansa Municipality is trying hard to put systems in place and has succeeded in doing it.

Dehgam

Dehgam is a Class 'C' Municipality. Being a small city, Dehgam has made efforts in improving its information system. The municipality maintains a systematic register for new water and drainage connections, water quality tests, solid waste and complaint registration.

Information on new water and drainage connection with name, area, and ferrule size etc. is compiled accurately. Thereafter, separate registers are maintained for water quality tests done in-

house and at an accredited regional lab. The physical, chemical and bacteriological tests are done in the same lab, for which a separate file is maintained. Residual chlorine (RC) test are done in-house at WDS and consumer end on a regular basis. Information / reports along with date, name of individual are well recorded by the city.

The municipality measures garbage dumped at the local dumpsite on a regular basis and is recorded on a printed form. The log sheet is updated on daily basis. The complaints register records complaints on water supply and solid waste only. The municipality also has property tax software but it is not updated.

Thus, smaller cities like Mansa and Dehgam, even with little effort will be able to make substantial improvement in their information systems.
